



COGSWELL
POLYTECHNICAL
COLLEGE SILICON VALLEY

2020 COLLEGE CATALOG

MISSION STATEMENT

The mission of Cogswell Polytechnical College is to prepare students for success in the creative-technology industries by providing an extraordinary, real-world education inspired by the entrepreneurial spirit of our Silicon Valley location.

Cogswell Polytechnical College | 191 Baypointe Parkway | San Jose, California 95134

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2020 COLLEGE CATALOG

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This catalog is intended to provide general information regarding the courses, programs, services, and requirements of Cogswell Polytechnical College for the 2020 calendar year. Most of the policies and regulations affecting students are described in this catalog, and each student is responsible for becoming familiar with this information. As a prospective student, you are encouraged to review this catalog prior to signing an enrollment agreement. You are also encouraged to review the School Performance Fact Sheet, which must be provided to you prior to signing an enrollment agreement. More current and complete information may be obtained from the appropriate department or administrative office or from our website at www.cogswell.edu.

Cogswell Polytechnical College reserves the right to make changes to this catalog to reflect changes to federal and state regulations, and any other changes the College deems necessary, which may be in the form of an addendum. The catalog will be distributed in hard copy (limited quantities) and available online. Catalog corrections and addendums will be in the online version.

Any questions a student may have regarding this catalog that have not been satisfactorily answered by the College may be directed to:

The Bureau for Private Postsecondary Education
2535 Capitol Oaks Drive
Suite 400
Sacramento, CA 95833

or

P.O. Box 980818
West Sacramento, CA 95798-0818

Website: www.bppe.ca.gov

Telephone: (888) 370-7589 or (916) 431-6959

Fax: (916) 263-1897

A student or any member of the public may file a complaint about this institution with the Bureau for Private Postsecondary Education by calling (888) 370-7589 or by completing a complaint form, which can be obtained on the bureau's internet website www.bppe.ca.gov.

For important regulatory information, please visit our website at <https://cogswell.edu/disclosures/>.

Cogswell Polytechnical College has no pending petition in bankruptcy, is not operating as a debtor in possession, has not filed a petition within the preceding five years, or has not had a petition in bankruptcy filed against it within the preceding five years that resulted in reorganization under Chapter 11 of the United States Bankruptcy Code (11 U.S.C. Sec. 1101 et seq.).

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WELCOME MESSAGE

Dear Students,

On behalf of our incredible faculty, staff and administration, we're delighted to welcome you to Cogswell Polytechnical College!

This catalog describes the various programs of study and the specific courses at Cogswell, and explains numerous procedures and policies relevant to your time as a student here. Although all of the information in this catalog is extremely valuable, we especially urge you to read (and save!) the sections related to your specific program of study (**Educational Programs**) and its relevant classes (**Course Descriptions**). Degree programs periodically change, and the catalog is updated regularly to reflect those changes. However, as with all colleges, the catalog that is in effect when you enter your degree program will be the one that is used to define your degree program, even if the program changes while you are still in attendance.

As one of the oldest colleges in California, Cogswell has a long and distinguished history of preparing students for careers in a continuously evolving world. Cogswell students are educated broadly in the digital arts, technology, and business to prepare them for new and converging professions in multimedia, gaming, technology, design, and business. By combining professional, industry-based coursework with a core foundation of science and math, arts and humanities, critical thinking and communication, we help students reach their professional goals and become lifelong learners with the needed flexibility to adapt to the rapidly changing work environments of the future.

At Cogswell, you'll find yourself surrounded by an incredibly dedicated group of faculty and staff all working to create a welcoming, stimulating and supportive environment in which you can thrive as you pursue your educational goals. Our faculty have relevant industry experience and networks, and our alumni comprise a great resource for jobs, internships and workshops. Our students are focused and talented—in fact, all the artwork in this catalog is student work—and they are eager to make their mark on the world.

During your time here, we strongly encourage you to explore all that Cogswell has to offer. Get involved in one of our clubs, participate in our many social activities, and definitely take advantage of our Career Services Center. We are thrilled that you have decided to pursue your education with us, and we are committed to helping you achieve those goals and dreams in every way we can!

We wish you all the very best,



A handwritten signature in black ink, appearing to read 'B. Shepard'.

Brian K. Shepard, DMA
Provost and Chief Academic Officer



A handwritten signature in black ink, appearing to read 'J. Solomon'.

Jerome Solomon
Dean of Education

INTRODUCTION

Cogswell Polytechnical College prepares students for careers in the Silicon Valley economy by combining an industry-focused curriculum with a fully-accredited, student-centered approach. Our students enjoy small, intimate classes where they are immersed in technology, design, and business using hands-on, project-based learning taught by a faculty of industry professionals.

COLLEGE HISTORY

Dr. Henry Daniel Cogswell, born in Tolland, Connecticut, March 3, 1820, was a man of both vision and distinguished heritage. The Cogswell family was descended from Alfred the Great and Charlemagne and immigrated to America in 1635 from England. Dr. Cogswell cherished his family crest and motto, “NecSpernoNecTimeo,” which means, “I neither despise nor fear.”

As his ancestors numbered among America’s pioneers, so was Dr. Cogswell’s own life one of pioneering and service. Henry D. Cogswell had a humble childhood. It was necessary for young Cogswell to go to work at an early age in the New England cotton mills. After a day’s work in the mills, he spent the evening hours reading, writing, and learning arithmetic. Eventually he became a teacher, but after one year, he decided to enter the dental profession. Upon completion of his training at the age of 26, Dr. Cogswell began the practice of dentistry in Providence, Rhode Island.

In 1846, Dr. Cogswell married Caroline E. Richards, daughter of Ruel Richards, a manufacturer in Providence. When gold was discovered in California, Dr. Cogswell followed the pioneering urge he had inherited from his ancestors. He left for California by sea and after 152 days aboard the clipper ship “Susan G. Owens” landed in San Francisco on October 12, 1849. Rather than enter the rugged and uncertain business of mining, he practiced dentistry and established a mercantile business in the mining region.

After several successful years of dental practice and real estate investments, and buoyed by his ever-present strength of purpose, Dr. Cogswell became one of San Francisco’s first millionaires. Dr. Cogswell was a pioneer in his profession as well. In 1847, he designed the vacuum method of securing dental plates. In 1853, he performed the first dental operation in California using chloroform.

On March 19, 1887, Dr. and Mrs. Cogswell executed a trust deed setting apart real property (valued at approximately one million dollars) to establish and endow Cogswell Polytechnical College. It was, as far as is known, the first school of its kind west of the Mississippi River. The purpose of the College as a charitable trust is well expressed in the words of Dr. Cogswell in his presentation address to the first Board of Trustees, which he and Mrs. Cogswell had selected. It is remarkable that his reference to the immediate need for technical training is as true now as it was at that time. He spoke, in part, as follows: “Educated working men and women are necessary to solve the great labor problems that will arise in the future. For the purpose of this education, there is room and need for technical schools in all quarters of our country. For the purpose, then, of providing boys and girls of the state a thorough training in mechanical arts and other industries, we have made the grant, as set forth in these papers, providing for the founding and maintaining of Cogswell Polytechnical College.”

The school was opened in August 1888 in the Mission District in San Francisco, California as a high school with well-equipped departments of technical education for boys and business education for girls. The school operated in this capacity until June 30, 1930, when its status was changed to that of a technical college offering a college-level two-year program. Cogswell Polytechnical College was granted candidacy for accreditation from the WASC Senior College and University Commission (WSCUC) in 1975 and first became accredited in 1977.

In 1985 the college moved to Cupertino, CA and in 1993 the college purchased a campus in Sunnyvale, CA, which it moved to in 1994. In 1992, the college began offering Bachelor’s Degrees and Master’s Degrees in 2012. In 2015 the college moved to its current location of 191 Baypointe Parkway in San Jose, California.

FACILITIES

Cogswell Polytechnical College is located in the Silicon Valley at 191 Baypointe Parkway, San Jose, CA 95134. It is conveniently housed in a 45,000 square foot, single story building that supports our culture of collaboration and the fusion of arts and engineering. The College has free parking and is within walking distance of bus routes and the VTA light rail.

Classes are held at Cogswell Polytechnical College, and many classes are also offered online as well. Our modern facilities contain the requisite equipment and materials that make it possible for students to create games; render and animate short films; develop complex computer software; track, edit, mix and master soundtracks, and more—all while collaborating with peers and faculty.

COLLEGE OFFICE HOURS OF OPERATION

Monday through Thursday	9:00am to 6:00pm
Friday	9:00am to 5:00pm
Saturday*	9:00am to 1:00pm
Sunday	Closed

**Saturday hours are for Admissions and Financial Aid*

ACCREDITATION AND APPROVALS

Cogswell Polytechnical College is accredited by the WASC (Western Association of Schools and Colleges) Senior College and University Commission (WSCUC). WSCUC, 985 Atlantic Avenue, #100, Alameda, CA 94504, (510)748-9001, www.wscuc.org. WSCUC is a regional accrediting agency that is recognized by the United States Department of Education.

Cogswell Polytechnical College is a private institution and is approved to operate by the Bureau for Private Postsecondary Education (BPPE) in the State of California. Approval to operate means the institution is compliant with the minimum standards contained in the California Private Postsecondary Education Act of 2009 (as amended) and Division 7.5 of Title 5 of the California Code of Regulations.

Cogswell Polytechnical College is:

- Approved to participate in the US Department of Education's federal student aid programs. For a listing of those programs please refer to the Financial Aid section of this catalog.
- Approved to participate in the California Student Aid Commission's State Grant program (Cal-Grant).
- Certified with the Student and Exchange Visitor Program (SEVP) to issue the Form I-20 to nonimmigrant students seeking admissions under an F-1 Student Visa.
- A participating institution in the Department of Defense (DOD) Voluntary Education Partnership Memorandum of Understanding (MOU) program.
- Approved for the training of veterans by the California State Approving Agency for Veteran's Education (CSAAVE) for the following educational programs. For benefit eligibility information, call 1-888-GIBILL1.
 - Bachelor of Business Administration
 - Bachelor of Science in Computer Science
 - Bachelor of Arts in Digital Art and Animation
 - Bachelor of Science in Digital Audio Technology
 - Bachelor of Arts in Game Design Art
 - Bachelor of Science in Game Design Engineering
 - Master of Arts in Entrepreneurship and Innovation

EDUCATIONAL PROGRAMS

Cogswell Polytechnical College is approved to offer the following educational programs:

CERTIFICATE PROGRAMS

- Virtual Reality/Augmented Reality Certificate Program

UNDERGRADUATE DEGREE PROGRAMS

- Bachelor of Business Administration (BBA)
- Bachelor of Science in Computer Science (CS)
- Bachelor of Arts in Digital Art and Animation (DAA)
- Bachelor of Science in Digital Audio Technology (DAT)
- Bachelor of Arts in Game Design Art (GDA)
- Bachelor of Science in Game Design Engineering (GDE)

GRADUATE DEGREE PROGRAMS

- Master of Arts in Entrepreneurship and Innovation (MA ENT)

BOARD OF TRUSTEES

- Dr. Charles Cook, Chairman
Retired
Career in Accreditation & University Administration
- Gareth Chang
Chairman & Managing Partner
GC3 Associates International
- Richard Chuang
Founder
d1nO
- Dr. Fardad Fateri
President/CEO & Board Director
International Education Corporation
- Pablos Holman
Futurist, Hacker & Inventor
Intellectual Ventures Lab
- Dr. Charles MacCormack
Senior Fellow
Interaction
- Scott McKinley
Managing Director
McKinley Strategy Group
- Brad Palmer
Chairman
Palm Ventures, LLC
- John Seely Brown
Independent Co-Chairman, Deloitte
Center for the Edge
Advisor to the Provost, University of Southern California
- Jason Woody
Senior Managing Director
Palm Ventures, LLC
- Robert Wrubel
CEO
Hot Chalk Education

EXECUTIVE COMMITTEE

- Charles Restivo, Chief Executive Officer and President
- Dr. Brian Shepard, Provost and Chief Academic Officer
- Ilona Kreynis, Chief Financial Officer
- Dr. Reba Smith, Chief Compliance Officer
- Sheri Stein, Vice President of Admissions
- Eric Rajasalu, Vice President of Marketing
- Leslie Anderson, Director of Human Resources

ACADEMICS

- Jerome Solomon, Dean of Education
- Carolus Brown, Dean of Students
- Dr. Adam Ruch, Director of Program Development
- Milla Zlatanov, Vice President of Institutional Research and Quality Assurance

DEPARTMENT DIRECTORS

- Dr. Bobbi Makani, Professor, Director of Business, Entrepreneurship, and Innovation Department
- Mohan Shah, Associate Professor, Director of Computer Science and Engineering Department
- Monica Cappiello, Associate Professor, Director of Digital Art and Animation Department
- Ricardo Kayanan, Assistant Professor, Director of Game Design Development Department
- Soma Frasier, Assistant Professor, Chair of English and Humanities Department
- Xo Xinh Nguyen, Associate Professor, Associate Professor, Director of Audio and Music Technology Department
- Karen Keister, Assistant Professor, Chair of Art Department
- Nirmal Singh, Associate Professor, Chair of Math and Science Department

ADMINISTRATION

- Dr. Andrey Fedin, Vice President of Information Technology and Campus Services
- Sean Porter, Controller
- OPEN, Director of Financial Aid
- OPEN, Director of Career Services
- Kari Edwards, Assistant Director of Outreach
- Angela Acuna, Registrar

ACADEMIC CALENDAR

Cogswell Polytechnical College operates on a trimester calendar. The trimester calendar allows students to attend the College year-round, giving them the opportunity to graduate sooner, potentially save money on living expenses while attending college, and providing a head start on their career. The calendar year consists of three 15-week academic terms with start dates in Spring, Summer, and Fall. There are also mid-sessions that begin on the 8th week of each trimester. New students may start at the beginning of the trimester and at the mid-session of the trimester. Students graduating high school may normally start in the Summer Mid-Session or in the Fall.

Spring Trimester

January 3, 2020	New Students Orientation
January 6, 2020	First Day of Classes
January 12, 2020	Last Day to Add/Drop Classes
January 20, 2020	Martin Luther King Day (Holiday) - College Closed
February 17, 2020	Presidents Day (Holiday) - College Closed
March 9-15, 2020	Spring Break - No Classes
March 22, 2020	Last Day to Withdraw from Classes
April 26, 2020	Last Day of Classes
April 26, 2020	Commencement Ceremony

Spring Mid-Session

February 21, 2020	New Students Orientation
February 24, 2020	First Day of Classes
March 1, 2020	Last Day to Add/Drop Classes
March 9-15, 2020	Spring Break - No Classes
April 5, 2020	Last Day to Withdraw from Classes
April 26, 2020	Last Day of Classes

Summer Trimester

May 8, 2020	New Students Orientation
May 11, 2020	First Day of Classes
May 17, 2020	Last Day to Add/Drop Classes
May 25, 2020	Memorial Day (Holiday) - College Closed
July 3, 2020	Independence Day (Holiday) - College Closed
July 19, 2020	Last Day to Withdraw from Classes
August 23, 2020	Last Day of Classes

Summer Mid-Session

June 26, 2020	New Students Orientation
June 29, 2020	First Day of Classes
July 5, 2020	Last Day to Add/Drop Classes
July 3, 2020	Independence Day (Holiday) - College Closed
August 2, 2020	Last Day to Withdraw from Classes
August 23, 2020	Last Day of Classes

Fall Trimester

September 4, 2020	New Students Orientation
September 7, 2020	Labor Day (Holiday) - College Closed
September 8, 2020	First Day of Classes
September 14, 2020	Last Day to Add/Drop Classes
November 11, 2020	Veterans Day (Holiday) - College Closed
November 15, 2020	Last Day to Withdraw from Classes
November 25-29, 2020	Thanksgiving Day (Holiday) - College Closed
December 20, 2020	Last Day of Classes

Fall Mid-Session

October 23, 2020	New Students Orientation
October 26, 2020	First Day of Classes
November 1, 2020	Last Day to Add/Drop Classes
November 11, 2020	Veterans Day (Holiday) - College Closed
November 25-29, 2020	Thanksgiving Day (Holiday) - College Closed
November 29, 2020	Last Day to Withdraw from Classes
December 20, 2020	Last Day of Classes

**This calendar is subject to change.*

ADMISSIONS POLICIES

All applicants for admission to Cogswell Polytechnical College must have a high school diploma (this can be from a foreign school if it is equivalent to a U.S. high school diploma); the recognized equivalent of a high school diploma, such as a general education development (GED) certificate; a passing score on a state-authorized test, such as the High School Equivalency Test or the Test Assessing Secondary Completion; completed homeschooling at the secondary level as defined by state law; or successfully completed an Associates or Bachelor's Degree. The College does not accept Ability-to-Benefit students.

Cogswell Polytechnical College maintains a rolling admissions process whereby the College continuously accepts and reviews completed applications, rendering admission decisions to applicants throughout the calendar year. Students considering enrolling at Cogswell Polytechnical College must review the admissions requirements listed below as requirements may vary by program and/or degree level.

ADMISSIONS REQUIREMENTS FOR AVOCATIONAL CERTIFICATE PROGRAMS

In general, admission decisions are based on the evaluation of the applicant's professional and/or educational experience, application, and recommendations. The following are the general admissions requirements for all avocational certificate program students:

- Professional Experience
 - Two (2) or more years of experience in related fields: i.e., Media Arts, Programming, Game Development, or Engineering.
 - Recommendation Form completed by a current or prior supervisor, personal reference or business colleague.

Students who do not have the desired professional experience may meet the admissions requirements by providing proof of the appropriate educational background, or a combination of professional experience and education.

- Educational Background
 - Two (2) or more years of post-secondary educational background in related fields: i.e., Technical Artist, Media Arts, Programming, Game Development, or Engineering.
 - Recommendation Form completed by current or prior faculty.

ADMISSIONS REQUIREMENTS FOR UNDERGRADUATE DEGREE PROGRAMS

Applicants for admission to undergraduate programs must:

- Interview with a Cogswell Polytechnical College Admissions Advisor.
- Complete an Application for Admissions Form.
- Submit an essay describing interest in one of the College’s educational programs.
- Submit SAT or ACT scores (recommended for all first-time freshman students).
- Provide a minimum of one (1) academic or professional letter of recommendation (preferred).
- Provide samples of original work for the Digital Art and Animation (DAA), the Digital Audio Technology (DAT), and Game Design Art (GDA) programs. For instructions on submitting work for specific programs, please see the “Admissions Process” section of the Admissions page on the College website at: <https://cogswell.edu/admission/>.
- Complete placement tests in English, Mathematics, and Music Theory, if applicable, to assess the student’s competency level in each subject.
 - Passing Scores:

Subject	Engineering Programs	Non-Engineering Programs
English	70%	70%
Mathematics	75% - Online Test 70% - Paper-based Test	65% - Online Test 70% - Paper-based Test
Music Theory	N/A	60% for DAT (Non-Engineering)

- Acceptable scores to determine placement in English and Math for students who do not achieve the minimum passing scores listed above.

Subject	Engineering Programs	Non-Engineering	Placement
English	<70%	<70%	ENG050
Mathematics	40-74% - Test Version-2	NA	MATH116
Mathematics	< 40% Test Version-2	<45% Test Version-1	MATH050
Mathematics		45% to 64% Test Version-1	MATH060 & MATH112
Mathematics		>64% Test Version-1	MATH112
Mathematics	>74% Test 2	NA	MATH143

- Students may waive English placement testing based on ACT or SAT scores. Below are the acceptable scores to determine placement in English. Placement is based on the student’s highest score from all test dates.

ACT English Score	SAT Critical Reading Score	Placement
6 or lower if taken in or after September 2016 17 or lower if taken prior to September 2016	479 or lower if taken in or after March 2016 499 or lower if taken prior to March 2016	ENG050
7 or higher if taken in or after September 2016 18 or higher if taken prior to September 2016	480 or higher if taken in or after March 2016 500 or higher if taken prior to March 2016	ENG100

- Provide proof of secondary school completion with a minimum unweighted GPA of 2.7 is recommended.
 - Acceptable documentation includes:
 - Final, official high school transcript that includes the date of graduation (unofficial transcripts may be used to begin the application process).
 - Official report of passing scores earned on the General Education Development (GED).
 - Certification of a passing score on a state-authorized high school equivalency test.
 - Official transcript signed by the parent or guardian of a homeschooled student that lists the secondary

school courses the student completed and documents the successful completion of a secondary school education in a home school setting. Home school documents are only acceptable if state law recognizes homeschooling to be equivalent to public school or treats the home school as a private school.

- A copy of a secondary school completion or leaving credential or similar document for students who completed secondary education in a foreign country. All foreign high school completion documents must be translated and/or evaluated by an evaluation agency to determine equivalency to that of a U.S. high school diploma or its equivalency.
- Official college transcript that indicates completion of a high school diploma, an Associate's or Bachelor's Degree from an approved, accredited 4-year college or university.
- Unofficial transcripts must be received prior to the start of the term, however official transcripts must be received no later than 30 calendar days from the start of the term.
- All transcripts should be mailed to:

Cogswell Polytechnical College
Attn: Registrar's Office
191 Baypointe Parkway
San Jose, CA 95134

In the event an applicant fails to provide official documentation showing completion of secondary education, the student's status will be canceled. Any monies paid will be refunded according to the cancelation policy.

ADMISSIONS REQUIREMENTS FOR GRADUATE DEGREE PROGRAMS

To enroll in a graduate degree program, applicants must have earned an undergraduate degree from an approved, accredited college or university. Applicants for admission to graduate degree programs must:

- Interview with a Cogswell Polytechnical College Admissions Advisor.
- Complete an Application for Admissions Form.
- Submit an essay describing interest in the Master's degree program and career goals.
- Provide a minimum of one (1) letter of recommendation.
- Provide proof of completion of a four-year Bachelor's degree. A minimum unweighted GPA of 2.7 is recommended.
 - Acceptable documentation includes:
 - Final, official college transcript that includes the date of graduation (unofficial transcripts may be used to begin the application process)
 - If the degree was earned outside the United States, transcripts have to be translated, if applicable, and assessed by a member of the National Association of Credential Evaluation Services (NACES) or Association of International Credential Evaluators (AICE) to determine that it is equivalent to a Bachelor's degree earned in the United States.
 - Unofficial transcripts must be received prior to the start of the term, however official transcripts must be received no later than 30 calendar days from the start of the term.
 - All transcripts should be mailed to:

Cogswell Polytechnical College
Attn: Registrar's Office
191 Baypointe Parkway
San Jose, CA 95134

In the event an applicant fails to provide official documentation showing completion of an undergraduate degree, the student's status will be canceled. Any monies paid will be refunded according to the cancelation policy.

Desired qualifications:

- Comfort with everyday mathematics; exposure to economics and statistics a plus.
- Familiarity with Microsoft Office Suite software or similar software.
- Results from standardized graduate admissions tests, such as the Graduate Record Examination (GRE) or the Graduate Management Admission Test (GMAT).

ADMISSIONS REQUIREMENTS FOR INTERNATIONAL STUDENTS

Cogswell Polytechnical College welcomes students from other countries. International applicants for admission must:

- Interview with a Cogswell Polytechnical College Admissions Advisor.
- Complete an International Students Application for Admissions Form.
- Submit an essay describing interest in one of the College's educational programs.
- Provide a copy of a current valid passport with an expiration date of at least six (6) months beyond the intended period of stay and is valid for travel to the United States.
- Submit SAT or ACT scores (if applicable).
- Provide a minimum of one (1) academic or professional letter of recommendation (preferred).
- Provide bank statements and/or other supporting documents demonstrating adequate financial support to cover all educational and living expenses while in school.
- Provide samples of original work for the Digital Art and Animation (DAA), the Digital Audio Technology (DAT), and Game Design Art (GDA) programs. For instructions on submitting work for specific programs, please see the "Admissions Process" section of the Admissions page on the College website at: <https://cogswell.edu/admission/>.
- Provide proof of secondary school completion with a minimum unweighted GPA of 2.7 is recommended.
 - Acceptable documentation includes:
 - Final, official high school transcript that includes the date of graduation.
 - Official report of passing scores earned on the General Education Development (GED).
 - Certification of a passing score on a state-authorized high school equivalency test.
 - A copy of a secondary school completion or leaving credential or similar document for students who completed secondary education in a foreign country. All foreign high school completion documents must be translated and/or evaluated by an evaluation agency to determine equivalency to that of a U.S. high school diploma or its equivalency.
 - Official college transcript that indicates completion of a high school diploma, an Associate's or Bachelor's Degree from an approved, accredited 4-year college or university in the United States.
- Provide proof of English language proficiency since all instruction is conducted in English.
 - Acceptable documentation includes:
 - Test of English Foreign Language (TOEFL) Exam results with the minimum accepted score of 525 (paper-based), 197 (computer-based), or 69 (internet-based)
 - International English Language Testing System (IELTS) – Academic Version results with minimum accepted score of 6.5 for undergraduate and 7.0 for graduate students.
 - TOEFL and IELTS test scores are valid for two (2) years after the test date. There is no limited amount of times a student can take either test, but tests cannot be taken more than once in a 12-day period.
 - The official scores become part of the permanent student record once the student has enrolled with the College.
 - TOEFL or IELTS not required if:
 - The high school diploma was issued in the United States.
 - The applicant's Native language is English and the foreign diploma is in English and was not translated.
 - The applicant can provide evidence of receiving at least four (4) years of educational training in the English language. These students will need to only take the placement exam to assess English competency.
- Provide a copy of an official transcript from each college attended.
 - All transcripts must be translated, if applicable, and assessed by a member of the National Association of Credential Evaluation Services (NACES) or Association of International Credential Evaluators (AICE).
- Complete placement tests in English, Mathematics, and Music Theory, if applicable, to assess the student's competency level in each subject.

- Passing Scores:

Subject	Engineering Programs	Non-Engineering Programs
English	70%	70%
Mathematics	75% - Online Test 70% - Paper-based Test	65% - Online Test 70% - Paper-based Test
Music Theory	N/A	60% for DAT (Non-Engineering)

- Acceptable scores to determine placement in English and Math for students who do not achieve the minimum passing scores listed above.

Subject	Engineering Programs	Non-Engineering	Placement
English	<70%	<70%	ENG050
Mathematics	40-74% - Test Version-2	NA	MATH116
Mathematics	< 40% Test Version-2	<45% Test Version-1	MATH050
Mathematics		45% to 64% Test Version-1	MATH060 & MATH112
Mathematics		>64% Test Version-1	MATH112
Mathematics	>74% Test 2	NA	MATH143

- Students may waive English placement testing based on ACT or SAT scores. Below are the acceptable scores to determine placement in English. Placement is based on the student's highest score from all test dates.

ACT English Score	SAT Critical Reading Score	Placement
6 or lower if taken in or after September 2016 17 or lower if taken prior to September 2016	479 or lower if taken in or after March 2016 499 or lower if taken prior to March 2016	ENG050
7 or higher if taken in or after September 2016 18 or higher if taken prior to September 2016	480 or higher if taken in or after March 2016 500 or higher if taken prior to March 2016	ENG100

International applicants must complete and submit application materials approximately 60 days before the desired start date in order to provide adequate time for the College to process documents required for the U.S. Citizenship and Immigration Services (USCIS). The College currently does not provide visa services or vouch for student status and any associated charges; however it will provide acceptance letters as required. If accepted, international students must enroll as full-time students only.

International applications, official transcripts, and all supporting documents should be mailed to:

Cogswell Polytechnical College
Attn: Designated School Official (DSO)
191 Baypointe Parkway
San Jose, CA 95134

In the event an international applicant fails to provide proof of official documentation showing completion of an undergraduate degree, the student's status will be canceled. Any monies paid will be refunded according to the cancelation policy.

NOTIFICATION OF ADMISSION

Cogswell Polytechnical College will notify all applicants of the status of their application. Applicants will receive an acknowledgement of admission status approximately two (2) weeks after their application and supporting documents have been received and processed. Notification will include information regarding the enrollment process, the registration process, academic advising and student services.

CONDITIONAL ADMISSIONS

The conditional admissions process allows students who have met all of the standards of the institution to begin their first term with additional support, and students who have not satisfied all of the requirements to complete them prior to beginning their coursework at Cogswell Polytechnical College.

- **Conditional Acceptance** – Students who receive a conditional acceptance with the College are matriculated students who have an enrollment restriction of 10 units during their first term. This restriction allows a student to transition into a college environment.

What does it mean to be conditionally accepted to Cogswell Polytechnical College?

Conditional acceptance allows students who have met most of the standards of the institution to begin their first term coursework with additional support to achieve their learning goals. Conditionally accepted students should satisfy all of the standards or requirements prior to beginning their coursework as a matriculated student here at the College.

- **Provisional Acceptance** – Students who receive a provisional acceptance are non-matriculated students who will need to complete requirements as outlined on the Notification of Acceptance. The requirements include, but are not limited to: providing proof of secondary school completion or English language proficiency.

What additional items are required for provisionally accepted students?

Specific conditions will be stated in the acceptance letter. If pre-matriculation conditions such as completion of coursework or language proficiency apply, those steps need to be completed by the student prior to beginning at the College. Once completed, the student must provide updated documentation.

ENROLLMENT PROCESS

Upon acceptance, an Enrollment Agreement and a School Performance Fact Sheet for the degree of choice will be provided to the student, outlining the policies and rights of a student during enrollment. These documents should be reviewed, signed and returned to the Admissions Office before registering for classes. Students who are accepted and confirm Cogswell Polytechnical College's offer of admission must submit an enrollment fee of \$100 (for resident students) or \$500 (for international students). The enrollment fee is nonrefundable. Please keep in mind that Cogswell Polytechnical College has the right to withdraw its offer for admission for the following reasons: any part of the admissions application contains misrepresentations; or you do not complete the requirements for high school graduation by the end of the current school year.

STUDENT'S RIGHT TO CANCEL

You have the right to cancel your enrollment without any penalty or obligation and obtain a refund of charges paid through attendance at the first class session from the start of the program, or the seventh day after enrollment, whichever is later. All cancellations must be made in writing and delivered to the institution. If you have received a Student ID/Access Badge, it must be returned within 30 calendar days of the date you signed your notice of cancellation. If you cancel, any payment you have made and any negotiable instruments signed by you shall be returned to you within 30 calendar days following the receipt of your notice to withdraw from the program.

ENROLLMENT STATUSES

The following are the College's classifications of different types of students:

- **Matriculated Degree Student** – A degree candidate who has applied, been admitted and registered, and is actively pursuing a degree. Matriculated degree students are further classified as follows:
 - First Time Freshman – A degree-seeking student for the first time at the undergraduate level who has no prior experience attending any post-secondary institution. Students who entered with advanced standing (college credits earned before graduation from high school) are also included.
 - Transfer Student – A degree-seeking student with prior experience attending any post-secondary institution. Transfer students may or may not transfer credits from another institution.
 - Returning Student (Re-enrolled) – A degree-seeking student who reapplies to continue an education at the college after not attending for more than one (1) year.
 - Re-entry Student - A degree-seeking student who re-enters to continue an education at the college after not attending for less than one (1) year.
 - International Student – a) A student who does not hold U.S. citizenship or permanent residency in the U.S.; or b) A student who is enrolled for credit at an accredited higher education institution in the U.S. on a temporary visa, and who is not an immigrant (permanent resident with an I-551 or Green Card), or an undocumented immigrant or refugee. (UNESCO)
- **Non-matriculated Student:** A domestic student who is not seeking a degree at the time of admission, is not interested in receiving financial aid, and who wishes to waive placement testing and academic advisement. Non-matriculated students do not follow the admission requirement of matriculated students.
 - The Non-matriculated student status is designed to allow any interested individual to attend college credit courses without declaring a major or seeking a degree. Students who register under this status for a given term may not matriculate until the following term.

- This status is most suited to students who wish to enroll in courses for personal enrichment, learning/upgrading job skills or fulfilling degree requirements for another institution.
- Non-matriculated students will earn credits for coursework taken at the College. Matriculated students take precedence over non-matriculated students for classes with limited class size. A non-matriculated student who wishes to become a matriculated student must follow the admission requirement for matriculated students.

Both matriculated and non-matriculated students will be classified as one of the following:

- **Full-time:**
 - Undergraduate Programs: A student who is enrolled for 12 or more credits during a term.
 - Graduate Program: A student who is enrolled in 6 or more credits during a term.
- **Part-time:**
 - Undergraduate Programs: A student who is enrolled in fewer than 12 credits during a term.
 - Graduate Program: A student who is enrolled in fewer than 6 credits during a term.
- **Auditor:** A student who is enrolled in a class, but who is not taking the course for credit. This option must be declared at the time of registration. Degree students, as well as non-matriculated students, may audit courses. Students taking the course for credit will take precedence when classseats are limited.

REQUIREMENTS FOR NON-MATRICULATED STUDENTS

Non-matriculated students may enroll and register for classes by following the steps below:

- Complete an Enrollment Agreement;
- Complete a Registration Form; and
- Pay the appropriate tuition and fees prior to starting classes.

Current matriculated students have priority seating and non-matriculated students will be registered one (1) week prior to the term. A non-matriculated student may only attend Cogswell Polytechnical College for up to total of 12 semester credits. In certain circumstances, non-matriculated students may appeal the limit to the Dean of Education. A non-matriculated student may decide to apply for a degree-seeking status upon completion of admission requirements as listed in the current Catalog and Addendum.

REQUIREMENTS FOR AUDITING STUDENTS

Students will need to complete a Registration Form in person. The form is available at the Registrar's Office. Students may then be required to interview with a faculty, or with the Department Director, for approval prior to registration. The Registration Form must be submitted to Registrar's Office for processing after fees have been paid with the Financial Aid/Business Office and approval from faculty or a Department Director has been received.

Students will be responsible for any fees associated with auditing the course(s). Refer to the Financial Information section for prices. Once students register into course(s) under audit status, they cannot switch to any other status during the term in which they are auditing.

REQUIREMENTS FOR READMISSION

Students who have withdrawn/dropped from the College for 12 months or more since their last day of attendance must reapply by following the application procedures for admissions, as listed in this catalog.

Students who have withdrawn/dropped from the College less than 12 months since their last day of attendance may request in writing to be readmitted. The request must address the reason(s) the student stopped attending and include an action plan that the student will follow to ensure satisfactory completion of a program of study, if applicable.

If readmitted, students will return under any current academic, admission, curricular or academic procedures, and degree plans listed in the College Catalog and/or Addendum at the time of readmission. However, students who return within 12 months may have the option to re-enter under a previous degree plan at the College's discretion, if the College remains approved to confer the degree.

RIGHT TO REVOKE ACCEPTANCE OR ENROLLMENT

Cogswell Polytechnical College reserves the right to revoke acceptance or continued enrollment if:

- Any application materials are false or misrepresented.
- The student imposes any risk to the health, safety or welfare of others.

- The student disrupts the orderly processes or violates any of the of the College’s policies.
- The student does not sign an Enrollment Agreement.

RESIDENCY REQUIREMENTS

At a minimum, a student enrolled in an undergraduate program must complete at least 25% of the program of study in residence with Cogswell Polytechnical College (example: a student in a program of study with 120 credits must complete a minimum of 30 credits in residence at the College).

At a minimum, a student enrolled in a graduate program must complete at least 75% of the program of study in residence with Cogswell Polytechnical College (example: a student in a program of study with 30 credits must complete a minimum of 22 credits in residence at the College).

CREDITS EARNED AT THE U.S. ARMED FORCES INSTITUTE

Credit will be awarded, at the sole discretion of the College, for U.S. Armed Forces Institute (USAFI) courses if in compliance with the Guide to the Evaluation of Educational Experiences in the Armed Forces, published by the American Council on Education (ACE).

ARTICULATION AGREEMENTS

Cogswell Polytechnical College established articulation agreements with the following academic institutions:

- Ohlone College
- San Jose City College
- Cañada College
- Evergreen Valley College
- West Valley College
- Cabrillo College

To see the full text of the Articulation Agreements between us and these institutions, please visit our website at: <https://cogswell.edu/admission/admissions-requirements-transfer>.

COLLEGE LEVEL EXAMINATION PROGRAM (CLEP) AND DANTES SUBJECT STANDARDIZED TESTS (DSST)

Students may receive college credit for certain courses through exams administered by the College Level Examination Program (CLEP) and the Defense Activity for Non-Traditional Education System (DANTES) Subject Standardized Tests (DSST). Minimum passing scores are detailed in the tables below.

CLEP Subject	Score	Cogswell Equivalent
American Government	49+	GE: Social Sciences
American Literature	49+	GE: Humanities and Arts
Analyzing and Interpreting Literature	49+	GE: Humanities and Arts
Biology	49+	GE: Physical and Biological Sciences (Non-Engineering)
Calculus	49+	MATH143 Calculus 1
Chemistry	49+	GE: Physical and Biological Sciences (Non-Engineering)
College Algebra	49+	MATH115 College Algebra and Trigonometry
College Composition	49+	GE: Basic Skills
English Literature	49+	GE: Humanities and Arts
Financial Accounting	49+	DMM250 Financial Models and Management 1 BUS250 Finance
College Composition modular	49+	GE: Basic Skills
History of the US I: Early Colonization to 1877	49+	GE: Social Sciences
History of the US II: 1865 to the Present	49+	GE: Social Sciences
Humanities	49+	GE: Humanities and Arts
Introductory to Business Law	49+	BUS125 Business Law
Introductory Psychology	49+	GE: Social Sciences
Introductory Sociology	49+	GE: Social Sciences
Natural Sciences	49+	GE: Physical and Biological Sciences (Non-Engineering)
Pre-Calculus	49+	MATH116 Pre-Calculus
Principles of Management	49+	BUS110 Principles of Management

Principles of Marketing	49+	BUS141 Principles of Marketing
Principles of Microeconomics	49+	GE: Social Sciences
Social Sciences and History	49+	GE: Social Sciences
Western Civilization I: Ancient Near East to 1648	49+	GE: Social Sciences
Western Civilization II: 1648 to the Present	49+	GE: Social Sciences

DSST Subject	Score	Cogswell Equivalent
Art of Western World	400+	GE: Arts
Business Ethics and Society	400+	DMM365 Ethics, Development and Responsibility Management BUS365 Personal and Organizational Ethics
Ethics in America	400+	GE: Social Science
Principles of Finance	400+	DMM250 Financial Models and Management 1 BUS250 Finance
Principles of Physical Science I	400+	GE: Physical and Biological Sciences (Non-Engineering)
Technical Writing	400+	GE: Written Communication II

ADVANCED PLACEMENT (AP) PROGRAM

Students may receive college credit for certain courses based on Advanced Placement (AP) exam scores. Credit in appropriate courses will be given for examinations passed with a score of three (3) or higher. These tests are administered by national testing organizations and test results must be sent directly to the College by the organization in order to be valid. The following Advanced Placement exam scores transfer directly into Cogswell as credit for the following courses:

AP Test	Cogswell Class
AP Art History	GE: Humanities +Arts
AP Biology	GE: Physical and Biological Sciences (Non- Engineering)
AP Calculus AB	MATH143 Calculus 1
AP Calculus BC	MATH144 Calculus 2, MATH145 Calculus 2
AP Chemistry	GE: Physical and Biological Sciences (Non-Engineering)
AP Chinese Language and Culture	GE: Humanities and Arts – Letters, or Social Science – Social Issues
AP Comparative Government and Politics	GE: Social Sciences – Comparative Systems or Social Issues
AP Computer Science A	CS 212 Java Programming
AP English Language and Composition	GE: Basic Skills – Written Communication
AP English Literature and Composition	GE: Humanities and Arts – Letters or Written Communication II
AP European History	GE: Social Sciences – Comparative Systems or Social Issues
AP French Language and Culture	GE: Social Sciences – Social Issues
AP German Language and Culture	GE: Humanities and Arts – Letters, or Social Science – Social Issues
AP Italian Language and Culture	GE: Humanities and Arts – Letters, or Social Science – Social Issues
AP Japanese Language and Culture	GE: Humanities and Arts – Letters, or Social Science – Social Issues
AP Latin	GE: Humanities + Arts – Letters
AP Macroeconomics	GE: Social Sciences – Comparative Systems or Social Issues
AP Microeconomics	GE: Social Sciences – Comparative Systems or Social Issues
AP Music Theory	DAT102 Music Theory 1
AP Physics 1, or AP Physics 2	GE: Physical and Biological Sciences
AP Psychology	GE: Social Sciences – Human Behavior
AP Spanish Language and Culture	GE: Social Sciences – Social Issues
AP Spanish Literature and Culture	GE: Humanities and Arts – Letters, or Social Science – Social Issues
AP Studio Art 2D Design Portfolio	ART100 2D Design
AP Studio Art Drawing Portfolio	ART110 Sketching
AP United States Government and Politics	GE: Social Sciences – Comparative Systems or Social Issues
AP United States History	GE: Social Sciences – Comparative Systems or Social Issues
AP World History	GE: Social Sciences – Comparative Systems or Social Issues

CREDIT BY EXAMINATION

Under certain circumstances, as determined by the appropriate Department Director/Chair, students may demonstrate competency and receive course credit by successfully completing associated examinations and/or assignments rather than attending class and meeting the course learning outcomes. Credit by examination is only available for lower division courses, excluding preparatory courses. A course previously failed, withdrawn from, audited, enrolled in, or one in which a student has received an Incomplete grade may not be challenged.

Students who desire to challenge a course must see the Registrar's Office to obtain a Credit by Examination Form. Please note that challenge examinations are not counted when determining full- or part-time status for the term. Upon approval, there is a \$75.00 nonrefundable fee for taking a challenge examination. Examinations may only be taken one (1) time per course. The student will have 30 calendar days from the date of approval to complete an examination.

See course listings below for challenge examination availability.

Department	Course
Digital Art and Animation	ART100 2D Design
Digital Art and Animation	ART105 Color Theory
Digital Art and Animation	DAA106 Digital Imaging Concepts
Digital Art and Animation	ART108 Introduction to Photography
Digital Art and Animation	DAA109 Web Design
Digital Art and Animation	ART110 Sketching
Digital Art and Animation	ART115 Figure Drawing 1
Digital Art and Animation	DAA240 Introduction to 3D Modeling
Audio and Music Technology	DAT102 Music Theory 1
Audio and Music Technology	DAT110 Desktop Production Fundamentals
Audio and Music Technology	DAT115 Desktop Audio Production
Audio and Music Technology	DAT210 Digital Sound Synthesis 1
Audio and Music Technology	DAT220 Studio Production 1
General Education	ENG100 English Composition
General Education	ENG227 Scriptwriting
General Education	ENG228 Creative Writing
General Education	HUM120 The Nature and History of Western Art
General Education	HUM122 World Music
General Education	HUM125 Music in Western Culture
General Education	HUM130 Modern Art History
General Education	HUM200 History of the Modern World
General Education	HUM227 Film History
General Education	MATH115 College Algebra and Trigonometry
General Education	MATH116 Pre-Calculus
General Education	MATH143 Calculus 1
General Education	MATH144 Calculus 2, MATH145 Calculus 2
General Education	MATH245 Calculus 3
General Education	SSC200 U.S. Government
Computer Science and Engineering	CS100 Introduction to Scripting: Python
Computer Science and Engineering	CS110 C Programming
Computer Science and Engineering	CS115 Web Programming: HTML5, CSS, and JavaScript
Computer Science and Engineering	CS212 Java Programming

NOTICE CONCERNING TRANSFERABILITY OF CREDITS AND CREDENTIALS EARNED AT OUR INSTITUTION

The transferability of credits you earn at Cogswell Polytechnical College is at the complete discretion of an institution to which you may seek to transfer. Acceptance of the degree you earn in the educational program is also at the complete discretion of the institution to which you may seek to transfer. If the credits or degrees that you earn at this institution are not accepted at the institution to which you seek to transfer, you may be required to repeat some or all of your coursework at that institution. For this reason, you should make certain that your attendance at this institution will meet your educational goals. This may include contacting an institution to which you may seek to transfer after attending Cogswell Polytechnical College to determine if your credits or degree will transfer.

TRANSFER OF CREDIT POLICY

Cogswell Polytechnical College has developed and implemented a transfer credit policy and executes practices for consistent application to all students. Full and accurate disclosure of policies and practices is important, to ensure to all incoming transfer applicants that the transfer process is built on a strong commitment to fairness and effectiveness.

Award of transfer of credit toward program completion is based upon 1) comparability of transfer credit to the requirements of a specific course in a selected program of study, and 2) compliance with stated criteria for this credit at Cogswell Polytechnical College.

Criteria for the consideration of transfer of credit are contingent on the following conditions:

- For undergraduate students, coursework completed must have a minimum grade of “C.” For graduate students, coursework completed must have a minimum grade of “B”. Courses taken for credit with a “P” grade may be transferred if a clearly defined institutional policy identifies the “P” grade as equivalent to a “C” or better for undergraduate work, or a grade of “B” or better for graduate study.
- Cogswell does not award credit for work experience, physical education, English as a second language (ESL) or Preparatory courses.
- Cogswell will consider foreign postsecondary official transcripts if evaluated and translated by a member of the National Association of Credential Evaluation Services (NACES) or Association for International Credential Evaluators, Inc. (AICE).
- Courses completed beyond ten (10) years prior are evaluated on a case-by-case basis.
- Coursework must have been completed at the same level (upper or lower division) as, or a higher level than, a Cogswell course deemed comparable.
- Coursework must be awarded for credit value equal to, or greater than, that required for the comparable Cogswell course (i.e., semester or quarter converted basis must equal or exceed that required by Cogswell).
 - Conversion of quarter credit to semester credits is as follows:
 - 3 semester credits equate to 4.5 quarter credits (multiply semester credits by 1.5)
 - 4.5 quarter credits are equal to 3 semester credits (divide credits by 2/3rds)
- Official Transcripts must be sent directly to the Registrar’s Office within 14 calendar days of the start of a term. Transcripts marked “Unofficial” or “Issued to Student” will not be considered for evaluation for transfer credit.

TRANSFER OF CREDIT AFTER MATRICULATION

A student who is requesting to attend another academic institution may do so by completing a Transfer of Credit after Matriculation Permission Form available from the Registrar’s Office. Students should not register at another academic institution until receiving confirmation that Cogswell Polytechnical College has approved the proposed transfer credit. Students may only transfer a maximum of 20 semester credits after matriculation. Approval requires the action of the Department Director and Registrar.

Students may need to provide the following information from the other institution:

- Name of Institution
- Course Numbering System
- Credit Hour Policy
- Course Description
- Cogswell Equivalency

Students who are attending another academic institution should consult with the Registrar. It is advised that students register for at least six credits with Cogswell Polytechnical College to be an active student. No transfer credits will be accepted during the last 12 semester units of course work.

REGISTRATION AND RECORDS

REGISTRATION

The College offers online registration. Students are notified via email when the registration period is open and are made aware of important deadlines. Students are responsible for reviewing the academic calendar for specific dates and deadlines. Open registration extends up to the week prior to the start of a term. Once open registration closes, students are no longer able to use the student portal to add/drop classes (see Add/Drop Period section).

All active students have access to the online Student Portal where they can find academic, financial, curricular, and textbook information, along with a degree audit and course schedules. For further registration assistance, a guide is available in the Student Portal. Students may consult with their designated Academic Advisors for assistance.

Continuing students who register during late registration may be subject to a late registration fee.

PREREQUISITES

A student may not enroll in a course for which all prerequisites have not been satisfied. A student may not register for a class and its prerequisites in the same term. For information on prerequisites and co-requisites, please see the course descriptions in this catalog.

PREPARATORY COURSEWORK

Preparatory coursework prepares students for college life and successful academic progress. These courses are prerequisites for other college courses. Students may not progress and register without completion of required preparatory courses within the specified time.

Students who do not pass the College's placement tests must register and satisfactorily complete preparatory coursework as prescribed. Preparatory coursework must be completed within the first three (3) terms of enrollment. Students who are also required to register and satisfactorily complete any developmental coursework must do so within the first term. Freshman and Transfer students with twelve (12) credits or less will be required to meet this requirement. Students may confer with an Academic Advisor for additional information regarding this requirement.

ADD / DROP PERIOD

The Add/Drop period closes at the end of the first week of the term. Students wishing to add or drop classes after registration closes must obtain an Add/Drop Form from the Registrar's Office, and must submit the completed form to the Registrar's Office within the Add/Drop period.

Students who do not attend a course in which they have registered may be dropped from the course by the end of the first week. Once dropped from a course, seat availability is not guaranteed. An instructor may allow a student from the waitlist who has been in attendance during the Add/Drop period to enroll, as long as there is seat availability.

WAITLIST

Students on the waitlist for a course may sit in class during the Add/Drop period only if there are seats available. Students who are registered and listed on the class roster have priority. Below are items students should know about attending a course while on a waitlist:

- The faculty member for the assigned course must permit a waitlisted student to sit in class. Faculty may choose to disallow this on a per class basis, and/or based upon seat availability.
- If, by the end of the Add/Drop period, seats remain unavailable, a student will be removed from the
- Waitlist and cannot continue with the course.
- Sitting in class does not guarantee that a student will be registered into the course by the end of the Add/Drop period. Students should prepare by registering for other courses before the Add/Drop period.
- Students may be asked to leave, upon faculty request, at any time to accommodate students who are registered in the course.
- If seats become available, students will be registered into the course(s) by order listed on the waitlist.

TRANSCRIPTS AND OTHER OFFICIAL DOCUMENTS

Official transcripts, unofficial transcripts, and other College documents may be requested at the Registrar's Office. A \$10 fee will be assessed for each official transcript requested. Requests for unofficial transcripts or other official documents can be serviced by the Registrar's Office at no charge. Requests must be completed online or in writing by completing the Document Request Form and returning it to the Registrar's Office via fax, college email or mail.

DOCUMENT HOLD

No official documents, including official transcripts or diplomas, will be released until all financial obligations are met and library materials, equipment, or other College property is returned.

STUDENT RECORDS RETENTION

Conforming to State Regulation (5 CCR §71930), Cogswell Polytechnical College retains all required records for a minimum of five (5) years from the end of a student's award year. However, some financial aid documents and all transcripts are kept indefinitely.

CHANGE OF CONTACT INFORMATION

It is the student's responsibility to inform the school for any changes in contact information (phone, e-mail, mailing address). An Update to Student Information Form should be submitted to the Registrar's Office immediately after a change occurs.

FINANCIAL INFORMATION

TUITION AND FEES

Effective: Fall 2019

Tuition and Fees	
Tuition (per credit hour):	\$825
Fees (per term):	
Campus Fee (Undergraduate Students):	\$500
Technology Fee (Graduate Students):	\$50
Student Tuition Recovery Fee (STRF):	\$0
Books and Supplies (Estimated):	\$500
Housing Fee:	\$5,995
Other:	
Enrollment Fee:	\$100

Charges (for the first term)				
Tuition and Fees	Undergraduate Students		Graduate Students	
	w/o Housing	With Housing	w/o Housing	With Housing
Undergraduate Tuition (based on 15 credits):	\$12,375	\$12,375		
Graduate Tuition (based on 9 credits):			\$7,425	\$7,425
Enrollment Fee:	\$100	\$100	\$100	\$100
Campus Fee:	\$500	\$500	\$0	\$0
Technology Fee:	\$0	\$0	\$50	\$50
Student Tuition Recovery Fee (STRF):	\$0	\$0	\$0	\$0
Books and Supplies (Estimated):	\$500	\$500	\$500	\$500
Housing Fee:	\$0	\$5,995	\$0	\$5,995
Total Charges for the First Term:	\$13,475	\$19,470	\$8,075	\$14,070

Total Program Costs		
Program	Current Period	Total Costs
BA in Digital Art and Animation	\$25,850	\$110,575
BA in Game Design Art	\$25,850	\$107,100
Bachelor of Business Administration	\$25,850	\$107,100
BS in Computer Science	\$25,850	\$115,525
BS in Digital Audio Technology	\$25,850	\$116,350
BS in Game Design Engineering	\$25,850	\$118,000
MA in Entrepreneurship and Innovation	\$17,975	\$26,500

Effective: Fall 2020

Tuition and Fees	
Tuition (per credit hour):	\$850
Fees (per term):	
Campus Fee (Undergraduate Students):	\$500
Technology Fee (Graduate Students):	\$50
Student Tuition Recovery Fee (STRF):	\$0
Books and Supplies (Estimated):	\$500
Housing Fee:	\$5,995
Other:	
Enrollment Fee:	\$100

Charges (for the first term)				
Tuition and Fees	Undergraduate Students		Graduate Students	
	w/o Housing	With Housing	w/o Housing	With Housing
Undergraduate Tuition (based on 15 credits):	\$12,750	\$12,750		
Graduate Tuition (based on 9 credits):			\$7,650	\$7,650
Enrollment Fee:	\$100	\$100	\$100	\$100
Campus Fee:	\$500	\$500	\$0	\$0
Technology Fee:	\$0	\$0	\$50	\$50
Student Tuition Recovery Fee (STRF):	\$0	\$0	\$0	\$0
Books and Supplies (Estimated):	\$500	\$500	\$500	\$500
Housing Fee:	\$0	\$5,995	\$0	\$5,995
Total Charges for the First Term:	\$13,850	\$19,845	\$8,300	\$14,295

Total Program Costs		
Program	Current Period	Total Costs
BA in Digital Art and Animation	\$26,600	\$113,650
BA in Game Design Art	\$26,600	\$110,100
Bachelor of Business Administration	\$26,600	\$110,100
BS in Computer Science	\$26,600	\$118,750
BS in Digital Audio Technology	\$26,600	\$119,600
BS in Game Design Engineering	\$26,600	\$121,300
MA in Entrepreneurship and Innovation	\$18,500	\$27,250

Other Fees	Amount
Late Payment Fee	\$25 per Payment Due Date (non-refundable)
Official Transcript	\$10 per transcript (non-refundable)
Graduation Fee	\$100 (non-refundable)
Credit by Examination Fee	\$75 per examination (non-refundable)
Audit Fee (waived for Cogswell graduates)	\$500 per course (refundable per refund policy)
Diploma Reprint Fee	\$25 (non-refundable)
Student ID Card Replacement Fee	\$10 (non-refundable)
Student Housing Application Fee (yearly)	\$100 (non-refundable)
Replacement VTA Pass Fee	\$25 (non-refundable)
International Students Enrollment Fee	\$500 (non-refundable)
Non-sufficient Funds (NSF) Fee	\$20 (non-refundable)
Late Equipment Return Fee	\$5 per day (non-refundable)

Tuition and Fees are subject to change.

TUITION INFORMATION FOR REGISTRATION

Students are not officially registered unless their account balances are current as determined by the Business Office of the College. Tuition may be paid in several ways, including, but not limited to, payment in full according to the tuition schedule and through financial aid. The Financial Aid Office can provide a detailed explanation of payment methods and plans.

Tuition payments may be paid by credit card through the on-line student portal, over the phone, or via individual Pay Pal account by sending payment to paypal@cogswell.edu and referencing the student's first and last name. Visa, MasterCard, American Express and Discover cards are accepted. Payments may also be made by personal check, money order or cashier's check made payable to Cogswell Polytechnical College.

All payments should be sent to:

Cogswell Polytechnical College
Attn: Business Office
191 Baypointe Parkway
San Jose, CA 95134

The name of the student, the student's college ID number and the purpose for any amount paid must be included with the payment.

AUDIT POLICY FOR COGSWELL GRADUATES

Cogswell Polytechnical College permits its graduates to return as non-degree-seeking students by allowing them to audit undergraduate courses at no charge. Graduates taking courses under this program are allowed to register during the late registration period, provided they obtain the approval of the instructor for the course being taken and the approval of the Dean of Education. Graduates must follow the regular registration process. Class availability is on a space-available basis and degree-seeking students have precedence over graduates.

STUDENT TUITION RECOVERY FEE (STRF)

The State of California established the Student Tuition Recovery Fund (STRF) to relieve or mitigate economic loss suffered by a student in an educational program at a qualifying institution, who is or was a California resident while enrolled, or was enrolled in a residency program, if the student enrolled in the institution, prepaid tuition, and suffered an economic loss. Unless relieved of the obligation to do so, you must pay the state-imposed assessment for the STRF, or it must be paid on your behalf, if you are a student in an educational program, who is a California resident, or are enrolled in a residency program, and prepay all or part of your tuition.

You are not eligible for protection from the STRF and you are not required to pay the STRF assessment, if you are not a California resident, or are not enrolled in a residency program.

It is important that you keep copies of your enrollment agreement, financial aid documents, receipts, or any other information that documents the amount paid to the school. Questions regarding the STRF may be directed to the Bureau for Private Postsecondary Education, 2535 Capitol Oaks Drive, Suite 400, Sacramento, CA 95833, (916) 431-6959 or (888) 370-7589.

To be eligible for STRF, you must be a California resident or are enrolled in a residency program, prepaid tuition, paid or deemed to have paid the STRF assessment, and suffered an economic loss as a result of any of the following:

1. The institution, a location of the institution, or an educational program offered by the institution was closed or discontinued, and you did not choose to participate in a teach-out plan approved by the Bureau or did not complete a chosen teach-out plan approved by the Bureau.
2. You were enrolled at an institution or a location of the institution within the 120 day period before the closure of the institution or location of the institution, or were enrolled in an educational program within the 120 day period before the program was discontinued.
3. You were enrolled at an institution or a location of the institution more than 120 days before the closure of the institution or location of the institution, in an educational program offered by the institution as to which the Bureau determined there was a significant decline in the quality or value of the program more than 120 days before closure.
4. The institution has been ordered to pay a refund by the Bureau but has failed to do so.
5. The institution has failed to pay or reimburse loan proceeds under a federal student loan program as required by law, or has failed to pay or reimburse proceeds received by the institution in excess of tuition and other costs.
6. You have been awarded restitution, a refund, or other monetary award by an arbitrator or court, based on a violation of this chapter by an institution or representative of an institution, but have been unable to collect the award from the institution.

7. You sought legal counsel that resulted in the cancellation of one or more of your student loans and have an invoice for services rendered and evidence of the cancellation of the student loan or loans.

To qualify for STRF reimbursement, the application must be received within four (4) years from the date of the action or event that made the student eligible for recovery from STRF.

A student whose loan is revived by a loan holder or debt collector after a period of noncollection may, at any time, file a written application for recovery from STRF for the debt that would have otherwise been eligible for recovery. If it has been more than four (4) years since the action or event that made the student eligible, the student must have filed a written application for recovery within the original four (4) year period, unless the period has been extended by another act of law.

However, no claim can be paid to any student without a social security number or a taxpayer identification number.

TEACH-OUT POLICY

In the event that Cogswell Polytechnical College determines that a program is no longer viable, once it has begun, no new students will be admitted and all current students will be notified. If the program closes, the College will honor its commitment to students and a teach-out plan for juniors, seniors, and/or graduate students will be implemented.

Freshmen and Sophomore students will be encouraged to transfer to institutions offering a similar degree. A list of those institutions will be provided along with admissions requirements and deadlines. It is anticipated that a teach-out would take a minimum of two years to complete for an undergraduate program and six months to complete for a graduate program due to the length of those programs. If students elect to transfer to another institution, every effort will be made to support students to enable a smooth transition.

CANCELLATION, WITHDRAWAL, AND REFUND POLICIES

STUDENT'S RIGHT TO CANCEL

You have the right to cancel your enrollment without any penalty or obligation and obtain a refund of charges paid through attendance at the first class session from the start of the program, or the seventh day after enrollment, whichever is later. All cancellations must be made in writing and delivered to the institution. If you have received a Student ID/Access Badge, it must be returned within 30 calendar days of the date you signed your notice of cancellation. If you cancel, any payment you have made and any negotiable instruments signed by you shall be returned to you within 30 calendar days following the receipt of your notice to withdraw from the program.

To cancel your enrollment with Cogswell Polytechnical College you must mail or hand-deliver a signed and dated copy of your written notice to:

Cogswell Polytechnical College
Attn: Registrar's Office
191 Baypointe Parkway
San Jose, CA 95134

PROCESS FOR WITHDRAWING FROM THE COLLEGE

Students should provide written notice to the Registrar's Office of intent to withdraw from the College. All College property—ID Badge, library books, equipment, etc.—must be returned, or the student may be billed at reasonable costs for the unreturned item. Students requesting to officially withdraw from the College must complete an Exit Form. Exit Form can be obtained through the Registrar's Office.

WITHDRAWAL FROM COLLEGE AND THE IMPACT ON FINANCIAL AID

You have the right to withdraw from the College at any time. In addition, you may be withdrawn by the College at any time if you fail to meet the academic and attendance policies or you do not return from an approved leave of absence on the scheduled date. Your official withdrawal date will be the date the College determines you will no longer be attending ("Date of Determination" or "DOD"). The date of determination is the date that you notify the College of your intention to withdraw or the date that you failed to meet the academic or attendance policies of the College; whichever is earlier. A refund will be calculated through your last date of attendance per the Refund Calculation policy.

REFUNDS FOR DROPPED CLASSES

Students may add and drop a class only within the first week of a term without any academic penalty. Any drop after the Add/Drop period is considered a withdrawal and the student will receive a withdrawal grade (W) if it is within the withdrawal period.

Students who drop classes within the designated add/drop period are entitled to a full refund of tuition charges for each class dropped. Students who drop classes after the Add/Drop period but do not withdraw from the college (remaining enrolled in other courses) are not eligible for a refund of tuition for the dropped classes.

Please refer to the Academic Calendar for deadlines.

REFUNDS FOR STUDENTS WHO WITHDRAW FROM THE COLLEGE

If you should find it necessary to discontinue or withdraw from the college, you must provide notice to the Registrar's Office of intent to withdraw by means of the Exit Form. Notice must be made in writing and students must return any College property: i.e., ID Badge, library books and equipment, etc. Once you begin classes, if you should withdraw without notice, your withdrawal date will be your last date of attendance. If a student is absent fourteen (14) consecutive calendar days without notice, he/she may be considered withdrawn from the program.

Students who withdraw from all classes on or after the start of the term, as well as students who withdraw from the College after the Add/Drop period will be subject to a pro-rata refund of institutional charges. The calculation will be based on the student's last date of attendance, up to the 60% completion point in the term. Institutional charges include tuition, the campus fee, and the housing fee as shown in the Tuition and Fees section. Students who withdraw after the 60% completion point in the term are not eligible for a refund. For example, the 55th percentile point will be equivalent to a 45% refund of tuition charges.

Students receiving DoD Tuition Assistance (TA) who withdraw from the College after the Add/Drop period will be subject to a pro-rata return of unearned TA funds, based on the last day of attendance, up to the 60% completion point in the term. Students who withdraw after the 60% completion point in the term are not eligible for a refund or return of TA funds.

Institutional scholarship recipients who withdraw from the college are subject to a pro-rata charge for any unearned portion of the scholarship using the same percentage calculation as defined above for institutional charges.

State Grant recipients who withdraw from the college are subject to a pro-rata return of funds using the same calculation as defined in the Return of Title IV section and in accordance with the California Student Aid Commission.

Veteran Benefit recipients who withdraw from the college, unless requested by Veterans Affairs, will not be subject to a return of Veteran Benefits. Any Veteran Benefit received in excess of earned Institutional Charges and all other final adjustments will be refunded to the student.

If a student's payments by way of cash, checks, credit card(s), financial aid, agencies, or other methods exceeds the amount the school may retain based upon the refund policy, a refund for this difference shall first be paid to the sponsoring agency, as required, prior to a student receiving these monies. With written permission from the student, refunds may be returned to the loan programs to reduce the student's loan debt. If monies applied to a student's account are less than the amount the school may retain, the student must make arrangements with the school to pay this difference. Other Charges and Fees listed in the Tuition Pricing Schedule may be non-refundable. Any balance remaining on account after the refund calculations have been applied must be paid by student.

Return of unearned funds and/or refunds owed to agencies, private loans, scholarships, and to the student will be paid within 30 days of the date of determination of withdrawal. Notification will be sent to withdrawn students of all returns and funds made.

RETURN OF CREDIT BALANCES

A credit balance occurs whenever a student's payments exceed their charges for the term. In such cases, refund checks will be issued directly to the student or parent as soon as possible, but no later than 30 days, or within 14 days if the credit balance was caused by Federal Student Aid (Title IV) Funding. Students may choose to authorize the college to retain these funds to pay for a future term or to return these funds to the lender in lieu of receiving a check. The college will notify students via email when refund checks have been issued.

RETURN OF TITLE IV FUNDS

Cogswell Polytechnical College is approved by the U.S. Department of Education as an eligible participant in the Federal Student Aid (FSA) programs established under the Higher Education Act of 1965 (HEA), as amended.

Students receiving federal student financial aid funds (grants and/or loans) are entitled to a refund of moneys not paid from federal student federal program funds. Additionally, a portion of these funds must be returned to the federal student aid programs if a student completes 60% or less of a payment period. A payment period represents one-half of an academic year. Federal student aid is generally disbursed in two payment periods for each academic year. If applicable, returns to Title IV programs will be made within 45 days of the date the student is determined to have withdrawn from school

If the student (or parent, in the case of a PLUS Loan) is eligible for additional funds at the time of withdrawal, the student may receive additional Federal Student Aid (Title IV) funds. If the student received more FSA funds than he or she earned under the Federal Return of Title IV Funds Policy, the College, and in some cases the student, is required to return the unearned funds to the federal program(s) or lender, as applicable.

Any balance remaining on the account after the refund calculation has been applied must be paid by student.

RETURN OF TITLE IV CALCULATION

The formula for calculating the percentage of Title IV funds earned is based on the Federal Return of Title IV Policy as follows:

For students who withdraw or are dismissed from the institution, the number of days from the start date of the term to the student's last date of attendance in the term from which the student withdrew. This is then divided by the total days in the term to determine the completion percentage and the percentage of aid earned for the term. If the percentage attended is greater than 60%, 100% of the aid for the term is earned, as well as 100% is earned for those who completed previously attended terms. The percentage of aid earned is then multiplied by the combined total of the Title IV Aid disbursed or could have been disbursed during the term to determine the amount of aid the student actually earned for the term. Scheduled breaks of five (5) consecutive calendar days or more are excluded from the return calculation.

All unearned portions of federal aid are returned to the appropriate programs in the following order:

- Unsubsidized Direct Stafford Loans
- Subsidized Direct Stafford Loans
- Direct PLUS Loans (Parents)
- Federal Pell Grant
- Federal Supplemental Educational Opportunity Grant (FSEOG)
- Other Title IV programs

If applicable, refunds to Title IV programs will be made within 45 days of the date the student is determined to have withdrawn based on the institution's withdrawal policy. Notification will be sent to withdrawn students of all refunds made. Examples of return of funds calculations that may be made in accordance with Federal regulations and College policy may be obtained from the Financial Aid Office.

POST-WITHDRAWAL DISBURSEMENTS

Students who have earned more aid than had been disbursed at the time of withdrawal may be eligible for a Post Withdrawal Disbursement. The Financial Aid Office will notify the student within 30 days of the date of determination of withdrawal of the availability of Post-Withdrawal funds. The student will have 15 calendar days to respond to the notice. It is at the discretion of the College to allow a Post-Withdrawal Disbursement for a student who fails to respond to the school within the prescribed 15-day period. Once the student accepts the Post-Withdrawal Disbursement, the College has 180 days from the date of determination of withdrawal to disburse those funds to the student's account.

FINANCIAL AID

The primary responsibility for meeting college costs rests with the student and the student's family. However, we recognize that many students are not able to pay the full costs of a college education. For this reason, Cogswell Polytechnical College offers programs that provide financial assistance for students who need or would like help in funding their college education. The Financial Aid Office is available to help students and their families in developing a financial plan and exploring funding options to meet educational costs.

All students who receive federal- or state-sponsored financial assistance must maintain satisfactory academic progress (SAP) as defined in the academic policies. Students are encouraged to call or visit the Financial Aid Office for more information.

GRANTS, LOANS, AND WORK-STUDY PROGRAMS

Financial aid consists of programs that are funded and regulated by federal and state governments. The programs consist of two different types of aid: Gift Aid and Self-Help. A grant is money for college that does not have to be repaid. Students with bachelor's degrees are not eligible for grants. For federal grants, students must possess a high school diploma, GED or its equivalent. Self-help is either money borrowed that must be repaid (loans) or money earned through institutional work (FWS). Cogswell Polytechnical College participates in the following financial aid programs:

FEDERAL GRANTS

The U.S. Department of Education offers a variety of grants to students who can demonstrate financial need, to assist them in paying for educational costs.

- **Federal Pell Grant** – This grant provides federal money for students with financial need. The federal government uses the information from the FAFSA to determine who is eligible and how much each student is eligible to receive.
- **Federal Supplemental Education Opportunity Grant (FSEOG)** – This grant provides supplemental federal money for students with exceptional need who are eligible for the Pell Grant.

STATE GRANTS

The State of California, through the Student Aid Commission, offers and administers several grant programs for undergraduate students.

- **Cal Grant** – Recipients must meet both academic and financial requirements. Cogswell Polytechnical College is eligible for and accepts Cal Grant A and Cal Grant B.
- **Chafee Grant** – This grant provide financial assistance to students who are/were foster youth.

FEDERAL LOANS (DIRECT LOANS)

These loans are from the U.S. Department of Education and usually offer borrowers lower interest rates and have more flexible repayment options.

- **Direct Subsidized Loans** – These loans are for undergraduate students who demonstrate financial need. Interest charges and payments begin six months after the student’s last day of attendance or when the student has reached 150% of the direct subsidized loan limit.
- **Direct Unsubsidized Loans** – These loans are for undergraduate students. Students are not required to demonstrate financial need to be eligible for these loans. Interest charges begin thirty days after loan funding and payments are not required while still attending college, up to six academic years.
- **Direct Plus Loans** – These loans are for parents of dependent undergraduate students. The parent is legally responsible for repayment of the loan. These loans charge interest and are subject to credit check.

PRIVATE LOANS

These loans are non-federal loans made by a private lender such as a bank, credit union, or state agency.

FEDERAL WORK-STUDY (FWS)

Provides partial funding to colleges to assist in employing students with financial need. Eligibility is based on available funds.

APPLYING FOR FINANCIAL AID

Students who want to apply for federal and/or state financial aid must first complete the Free Application for Federal Student Aid (FAFSA) by the mandated deadlines. The FAFSA can be completed using the website www.fafsa.ed.gov and entering the Cogswell Polytechnical College school code of 001177. If required, additional documents must be submitted to the Financial Aid Office.

VERIFICATION

The U.S. Department of Education randomly selects some federal student aid applicants for Verification, which is the process used to check the accuracy and validity of information provided to them during the application process. All students selected for verification will be notified and will be provided with a clear explanation of the documentation that is needed to satisfy the verification requirements, such as proof of income and household members. The submission deadline is generally 30 days from notification, and the consequences of failing to provide the requested information is thoroughly discussed. Students are periodically reminded of any requirement that has not yet been met. This advising may occur whether the student’s application is selected for verification or not.

Since verification is requested to be completed within 14 days after notification, if the school is not supplied with needed documents by this deadline, the student may be required to make tuition arrangements other than federal student aid (FSA) funding. If a change is required as a result of verification, corrections to the Free Application for Federal Student Aid (FAFSA) must be made. Corrections can be processed electronically by either the school or the student.

Students are to comply with the verification request noted in the comment section of the Student Aid Report (SAR) and any additional requests made by the school for completing the verification forms provided. Once the student has received a corrected Student Aid Report (SAR) or the school has received a corrected Institutional Student Information Record (ISIR), the Financial Aid Office will notify the student if there is a change in eligibility or funding. Income information used in determining eligibility is confidentially maintained in the student’s financial aid file.

STUDENT LOAN OBLIGATION

If a student obtains a loan to pay for an educational program, the student has the responsibility to repay the full amount of the loan plus interest, less the amount of any refund.

STATEMENT OF EDUCATIONAL PURPOSE

All recipients of Federal Student Aid are required to sign a Statement of Educational Purpose stating that all federal aid received will be used solely for College-related expenses.

SUSPENSION AND REINSTATEMENT OF FINANCIAL ASSISTANCE

Students who are suspended from a program of study or terminated from Cogswell Polytechnical College are ineligible for financial aid until they regain admission and comply with satisfactory academic progress requirements.

COST OF ATTENDANCE

Financial Aid eligibility is based on enrollment status and the cost of attendance (COA) as determined by the Higher Education Act (HEA). COA establishes a student's financial need and sets limits on the total aid that a student may receive based on geographic region.

COA criteria include:

- Tuition and Fees (charged by the institution)
- Housing (charged by the institution or allowance calculated by the government)
- Allowances for Expenses (Books, Transportation, Personal, Loan Fees etc.)

"Financial Need" is then calculated using the following formula: Cost of Attendance – Expected Family Contribution (determined by the FAFSA) = Financial (Remaining) Need

VETERANS EDUCATION BENEFITS

The Department of Veterans Affairs provides education benefits to veterans and eligible service members and/or their families. Cogswell Polytechnical College participates in multiple VA programs based on the student's specific eligibility.

YELLOW RIBBON PROGRAM

Cogswell Polytechnical College participates in the Veterans Affairs (VA) Post-9/11 GI Bill® Yellow Ribbon program. This program allows approved degree-granting institutions and the VA to partially or fully fund tuition and fee expenses that exceed the established thresholds under the Post-9/11 GI Bill®. It assists in making additional funds available for veterans' education programs without an additional charge to their GI Bill® entitlement. The maximum school contribution under this program is \$5,000 per calendar year. For more questions relating to this program, veterans may contact the Financial Aid Department for assistance.

GI Bill® is a registered trademark of the U.S. Department of Veterans Affairs (VA). More information about education benefits offered by VA is available at the official U.S. Government Website at <https://www.benefits.va.gov/gibill>.

ADDITIONAL INFORMATIONAL RESOURCES ABOUT THE GENERAL FINANCIAL AID PROCESS

- www.mappingyourfuture.org – Mapping Your Future – Learn about financial aid and the application process.
- <http://www.studentaid.ed.gov> - U.S. Department of Education's Student Aid Programs information.
- www.fafsa.gov – Complete the Free Application for Federal Student Aid (FAFSA) online, add Cogswell Polytechnical College's school code (001177), make FAFSA corrections, and electronically sign the FAFSA.
- www.fsaidth.gov – To create a new FSA ID and gain access to various federal Student Aid online systems.
- www.studentloans.gov – To obtain more information or apply for Federal Direct Loans.
- www.benefits.va.gov – To obtain more information about Veterans benefits.
- www.csac.ca.gov – To obtain more information about the Cal Grant.
- www.chafee.csac.ca.gov – To obtain more information about the Chafee Grant.
- Federal Student Aid Information Center: 1-800-4-FED-AID, (1-800- 433-3243) or 319-337-5665

RIGHTS AND RESPONSIBILITIES OF STUDENTS RECEIVING FINANCIAL ASSISTANCE

STUDENTS HAVE THE RIGHT TO:

- Know what financial aid programs are offered at Cogswell Polytechnical College.
- Know the criteria for continued student eligibility under each program.
- Know how the College determines whether the student is making satisfactory academic progress (SAP), what the consequences are of failing to make SAP, and how to reestablish eligibility for financial assistance.
- Know the method of disbursement of financial aid funds and the frequency of the disbursements.
- Know the terms of any loans received as part of the financial aid package; receive a sample loan repayment schedule, and explanation of the necessity for repaying the loans.
- Know the general conditions and terms applicable to any employment provided as part of the financial aid package.
- Be supplied with exit counseling information upon graduation, dropping below half-time status or exiting the College.
- Know how financial need is determined.
- Know how cost of attendance is determined.
- Know the institutional policy and the Title IV policy for withdrawals refunds.
- Know the terms and conditions under which students receiving federal education loans may obtain deferments and/or loan forgiveness.

STUDENTS HAVE THE RESPONSIBILITY TO:

- Complete the financial aid forms accurately and submit them on time to the right place. Intentional misrepresentation on an application for federal financial aid is a violation of law and a criminal offense subject to penalties.
- Submit a FAFSA and other required documents every award year for continued eligibility in the federal and state aid programs.
- Maintain satisfactory academic progress to continue receiving financial aid.
- Check their Cogswell e-mail account for important financial aid information.
- Complete loan entrance counseling prior to receiving the first disbursement of a Stafford loan for first-year, first-time borrowers.
- Understand the College's refund policy and Title IV refund policy.
- Repay any student loans borrowed.
- Complete loan exit counseling when a student is exiting or graduating from the College and has federal education loans.
- Notify the Financial Aid Office of a change in name, address or attendance status.
- Submit all documentation including verification requests, corrections and new information requested by the Financial Aid Office.
- Understand that all financial aid is contingent on the individual student's continued eligibility and the availability of funds.
- Understand all forms and agreements the student signs and keep copies.
- Complete financial aid forms accurately and on time.
- Contact the Financial Aid Office with any questions or for assistance.
- Understand that intentional misrepresentation on an application for federal financial aid is a violation of law and a criminal offense subject to penalties.

INSTITUTIONAL SCHOLARSHIPS AND GRANTS

Cogswell Polytechnical College offers and accepts several scholarships to help undergraduate students pay for their education. These scholarships may come from federal, state and private sources; unlike loans, there are funds that do not have to be repaid.

Cogswell Polytechnical College institutional scholarships and grants are awarded by academic year and are reserved for students meeting established eligibility criteria as outlined on the specific scholarship application information pages. A summary of the available institutional scholarships and grants is listed below. For more information on our institutional scholarships, please contact the Financial Aid Office. You may also visit our website at: <https://cogswell.edu/admission/scholarships/>.

Scholarship / Grant	Maximum Amount per Term	Eligibility Criteria
15 to Finish Scholarship	\$1,500	This scholarship program is designed to provide tuition assistance to eligible students who are enrolled for and taking 15 or more credits per term throughout their educational program here at Cogswell.
Business, Entrepreneurship and Innovation Scholarship	25% of tuition	This scholarship program is designed to provide tuition assistance to students who are seeking careers as entrepreneurial innovators in business and are enrolled in the MA in Entrepreneurship and Innovation degree program. Candidates must have completed an undergraduate degree program at an accredited college or university. Eligible students have the opportunity to receive 25% tuition scholarships. Must be enrolled with full-time status of 6+ credits per term and maintain a GPA of 3.0 or higher.
CEO Leadership of Tomorrow Scholarship	50% of tuition	The CEO of Cogswell College awards scholarships annually to qualified candidates who are alumni of the college and demonstrate an interest in business leadership. This scholarship program is designed to provide tuition assistance to students who are enrolled in the MA in Entrepreneurship and Innovation degree program. Eligible recipients will be selected in order of merit with preference given to applicants who have completed an undergraduate degree program at Cogswell Polytechnical College. Eligible students have the opportunity to receive 50% tuition scholarships. Must be enrolled with full-time status of 6+ credits per term and maintain a GPA of 3.0 or higher.
Dragon Scholarship	\$1,000	This scholarship program is designed to provide tuition assistance to eligible students with demonstrated academic merit. It is available to students who have and continue to maintain a cumulative grade point average (GPA) of 3.0 or higher based on a 4.0 grading scale. All new students must provide a copy of their high school and/or college transcript that validates academic merit achievement.
Esports Scholarship	\$2,000	Cogswell Polytechnical College offers athletic scholarships to qualified members of the Cogswell Dragons e-Sports collegiate team. Students who make the esports team, and apply and qualify for the Dragon Scholarship are allowed to apply for this scholarship. Eligible students must have and continue to maintain a cumulative grade point average (GPA) of 3.0 or higher based on a 4.0 grading scale. Esports scholarship amounts are based on game rank and other performance factors and level of academic achievement.
Family Member Grant	\$1,000	Available to students with immediate family members attending Cogswell Polytechnical College. Immediate family members are defined as parents or stepparents; children or stepchildren; spouses or domestic partners; and siblings by blood, marriage, or adoption. Applicants must provide proof of familial relationship (i.e. marriage license or birth certificate) for each family member attending Cogswell.

Scholarship / Grant	Maximum Amount per Term	Eligibility Criteria
Golden-Age Scholarship	\$500	Available to students who are 45 years of age or older. Candidates must provide valid, unexpired government issued identification that validates the candidate's age.
Native American Scholarship	\$500	Available to students who are of Native American, Native Alaskan, or Native Hawaiian heritage. Applicants must provide proof Certification of Indian Blood (CIB) or other acceptable documentation that validates their Native American heritage. Students who are eligible for tribal funding are not eligible to apply.
Realize Your Dream Scholarship	\$1,500	This scholarship program helps to provide tuition assistance to students who are considered "Dreamers" who are not U.S. citizens, permanent residents, or hold valid non-immigrant visas and are eligible for the California Dream Act / Cal Grant. Candidates must demonstrate need based on information provided by a completed Free Application for Federal Student Aid (FAFSA) or CA Dream Act Application.
Salute to Military Service Scholarship	\$2,500	This scholarship program available to students who either they, their spouse, or their parent have or are currently serving in a branch of the US military, including the Air Force, Army, Coast Guard, Marine Corps or Navy. This includes those servicemembers who are retired, honorably discharged veterans, on Active Duty, Reservists, or National Guard members. Active Duty, Active Reservists, and Active National Guard servicemembers must have completed initial military training requirements. Must provide DD-214 for veterans and retirees, Letter from Commander certifying active military status and birth certificate or marriage license for proof of relationship for children or spouses of servicemembers. Student and/or parent who are currently eligible for GI Bill or Tuition Assistance benefits are not eligible to apply.
Transfer Grant	\$500	Available to transfer students who are not first-time freshmen and have prior experience attending any postsecondary institution. Eligible students must transfer at least 12 credits from another institution. Applicants must provide a copy of their college transcript that validates completion of postsecondary courses for which they seek transfer credit. Award of transfer of credit toward program completion is based upon comparability of transfer credit to the requirements of a specific course in a selected program of study, and compliance with stated criteria as outlined in the Transfer of Credit Policy in the College Catalog.
Valor	\$3,000	The Valor Scholarship Program is available to assist qualified students to decrease their overall cost of tuition. This program is open to students who have been accepted, are enrolled, or attending Cogswell Polytechnical College. Students must have completed the Free Application for Federal Student Aid (FAFSA) prior to submitting a scholarship application. Candidates must apply for and accept all applicable state, agency, private, and/or federal student aid for which they or their parents qualify. Scholarship is based on need. Must demonstrate need as determined by the FAFSA application process, the financial aid awarding process, and other established guidelines.
Women in Business and Computer Science Scholarship	\$500	Available to female students who are enrolled in either our Bachelor of Business Administration or BS in Computer Science degree program. Candidates must provide valid, unexpired government issued identification that validates the candidate's gender as female.

Institutional scholarships and grants are available to those who qualify. All applications will be reviewed by the Scholarship Committee for the College. Scholarship and grant awards may vary due to specific conditions and eligibility criteria. Please see the respective application information pages for more details.

GENERAL POLICIES

FAMILY EDUCATION RIGHTS TO PRIVACY ACT (FERPA)

Cogswell Polytechnical College complies with the Family Education Rights and Privacy Act (FERPA) regulations (also known as the Buckley Amendment (1974)). This act gives eligible students certain rights to their education records.

These rights include:

- The right to inspect and review the student's education records within 45 days of the day the College receives the request.
- The right to request the amendment of the student's education records if the student believes the records are inaccurate.
- The right to consent to disclosures of personally identifiable information contained in the student's education records, except to the extent that FERPA authorizes disclosure without consent.
- The right to prevent disclosure of directory information (name, degree received, major and dates of attendance). If you wish to withhold the disclosure of all of the items of directory information (listed below), complete the Directory Information Opt-Out Form and submit it to the Registrar. This form must be received by the Registrar prior to the close of the Add/Drop period in any given term or term to ensure that the above information is not released for the remainder of the term.
- The right to be annually reminded of the student's rights under FERPA.
- The right to file a complaint with the U.S. Department of Education concerning alleged failures by the College to comply with the requirements of FERPA.

The name and address of the Office of Education that administers FERPA is as follows:

Family Policy Compliance Office
U.S. Department of Education
400 Maryland Avenue, SW
Washington, DC 20202-5901

The Buckley Amendment grants the College the authority to release directory information to any person upon request—unless a student requests, in writing, that directory information be kept private. College directory information will be disclosed at the College's discretion. The College regards the following as directory information:

- Student's name
- Dates of attendance
- Degrees/awards earned
- Major field of study

It is important that parents/eligible students have the opportunity to make informed decisions about the use of the student's directory information. However, there are times when schools must be allowed to implement policies that will permit them to effectively protect their students. As such, the Department of Education has also changed the directory information exception to state that parents may not, by opting out of directory information, prevent a school from requiring a student to wear or present a student ID badge.

A copy of the Family Education Rights and Privacy Act may be requested from the College or viewed at the following website <http://www2.ed.gov/policy/gen/guid/fpco/ferpa/index.html>.

COMMUNICATIONS AND PRIVACY GUIDELINES

In accordance with Cogswell's compliance with the Family Educational Rights and Privacy Act (FERPA), student information and records are held and communicated only via verified, compliant digital systems sanctioned by the college. These include: the student management system, CampusNexus; learning management system, Canvas; the Cogswell email system; and directly by telephone to the student. No other digital communications systems should be used to store or communicate specific, personally identifiable educational records. This includes in-class technologies used to support group project work, and email addresses outside the @cogswell.edu domain.

Students are advised not to discuss their personal information including grades, attendance records, ADA accommodations or other similar information via any means other than those mentioned above. Faculty and administrators are reminded of their obligations towards FERPA, and must restrict their communications regarding students personal records to the systems mentioned above. Other communications technologies such as those used in project courses, can and should be

used only to support the work of the course, including discussing objectives, schedules, and creative or technical matters pertaining to the project or assignment.

For further details, refer to the Student or Faculty Handbooks, or contact the Chief Compliance Officer.

THE CLERY ACT

The Jeanne Clery Disclosure of Campus Security Policy and Campus Crime Statistics Act requires postsecondary institutions to provide timely warnings of crimes that represent a threat to the safety of students or employees and to make public their campus security policies. It also requires that crime data be collected, reported and disseminated to the campus community and to the Department of Education annually. The Clery Act is intended to provide students and their families with accurate, complete and timely information about safety on campuses so that they can make informed decisions. Such disclosures are permitted under FERPA. The following website provides more information about these and other provisions about campus safety: <http://www.ed.gov/admins/lead/safety/campus.html>.

CRIME AWARENESS AND CAMPUS SECURITY POLICY

Cogswell Polytechnical College holds that students (prospective and currently enrolled), faculty, staff and non-matriculated students have a right to be aware of the amount of criminal activity that occurs on its campus in accordance with Title II of the Student Right to Know Act of 1990. The College encourages all persons to report criminal activity that occurs on campus to the Campus Services and/or the appropriate law enforcement agency.

The Campus Safety and Security Report may be viewed in full at: https://cogswell.edu/wp-content/uploads/2019/09/Cogswell_Polytechnical_College_2019_Annual_Security_and_Fire_Safety_Report.pdf.

CRIME PREVENTION

The College will publicize crime prevention information through the College's official publications. The College urges all members of the campus community to be responsible for their own safety and to assist in the prevention of crime.

SECURITY SERVICES ON CAMPUS

Cogswell Polytechnical College personnel maintain a close working relationship with the local law enforcement agencies. The College will provide information on criminal activity to the law enforcement agency in whose venue the act occurs. The College will annually request from each law enforcement agency data indicating the criminal activity for each particular site in accordance with the Student Right to Know and Campus Security Act.

MAINTENANCE OF PHYSICAL PLANT FACILITIES WITH SECURITY CONSIDERATION

The College is mindful of security needs in the daily operation of campus facilities. The planning and maintenance of campus facilities takes into account the safety and security of persons on campus. The interior and exterior lighting systems on campus are constructed and maintained in such a manner as to provide a well-illuminated facility to help deter criminal activity. Locks and security devices are kept in working order.

Access to facilities is limited to those persons who have authority to use them. All students and employees are required to wear Cogswell ID badges. Visitors must sign in at the front desk and wear a "visitor badge." Campus buildings are locked and security systems activated when not in use, and are unlocked by designated College personnel for accepted use.

DRUG-FREE ENVIRONMENT STATEMENT

Consistent with state and federal law, Cogswell Polytechnical College will maintain a campus free from the unlawful manufacture, distribution, dispensation, possession or use of a controlled substance. The unlawful manufacture, distribution, dispensation, possession or use of controlled substances, illicit drugs and alcohol are prohibited on any College-owned or affiliated property. The following rules will be enforced uniformly with respect to all students:

- No alcoholic beverages will be brought to, or consumed on, College property or during College-sponsored events. Moderate consumption of alcohol will be permitted at designated Cogswell gatherings or under circumstances expressly authorized by the College.
- All students, while on campus, at a College-sponsored event, or while performing College activities, are prohibited from being under the influence of alcohol.
- The sale, possession, use, transfer or purchase of an illegal drug or controlled substance on College property, during a College-sponsored event, or while performing a College activity is strictly prohibited.
- No prescription drug will be brought to, or consumed on, College property during a College-sponsored event, or while performing a College activity, by any student other than the one for whom it is prescribed. Such drugs should be used only in the manner, combination and quantity prescribed.

The Drug and Alcohol Abuse Prevention Program may be viewed in full at: [https://cogswell.edu/wp-content/uploads/2019/09/Cogswell Polytechnical College 2019 Drug and Alcohol Abuse Prevention Program.pdf](https://cogswell.edu/wp-content/uploads/2019/09/Cogswell_Polytechnical_College_2019_Drug_and_Alcohol_Abuse_Prevention_Program.pdf)

STUDENTS WITH DISABILITIES / REQUESTING ACCOMMODATIONS

Cogswell Polytechnical College provides accommodations for students with disabilities. Students must initiate an Accommodations Request Form each term. It is recommended that students begin the accommodation registration process at least four weeks before the start of each term, although the College will consider the merits of each request at the time the request is received.

Students who request accommodations should contact the Dean of Students, who will assist and advise them in their registration and accommodation request procedures. Upon contacting the Dean of Students, the student will be required to submit reasonable medical documentation supporting the registration and accommodations request, in addition to completing internal forms related to the accommodation request. The College has the discretion to determine what type of professional documentation is necessary.

Once appropriate documentation has been received, the Dean of Students will determine the appropriate, reasonable accommodations or aids. The Dean of Students will notify affected faculty members and housing partners of the accommodation—and provide assistance and guidance to ensure appropriate implementation. The student will receive a copy of this notification. All records related to disability and accommodation registration are confidential and private.

STATEMENT ON NONDISCRIMINATION

Cogswell Polytechnical College is an equal opportunity institution of higher education and is firmly committed to nondiscrimination in its delivery of educational services. These practices include, but are not limited to, admission to, and participation in the benefits and services of, educational programs or related activities sponsored by the College. In compliance with all applicable federal and state laws, decisions will be made irrespective of the individual's sex, race, color, religion, religious creed, age (over 18 years), mental or physical disability, medical condition as defined by law, national origin, marital status, veteran status, sexual orientation, gender or any other basis prohibited by federal or state law or local ordinance. This policy is in accordance with Title VI of the Civil Rights Act of 1964, as amended; Executive Order 11246, as amended; Title IX of the Educational Amendments of 1972; Section 504 of the Rehabilitation Act of 1975; and any applicable state and local laws. When necessary, the College will reasonably accommodate individuals with disabilities if the individuals are otherwise qualified to meet the fundamental requirements of the College's educational program and/or able to safely perform all essential functions, without undue hardship to the College.

SEXUAL MISCONDUCT

Consistent with the standards set forth by Title IX of the Educational amendments of 1972, and the Jeanne Clery Disclosure of Campus Security Policy and Campus Crime Statistics Act (20 USC §1092 (f)) and the recent Violence Against Women Act, which dictates the standards by which colleges must educate, investigate, and report acts of sexual misconduct, Cogswell Polytechnical College's Sexual Harassment Education Committee offers educational programs throughout the duration of the academic year. These programs promote awareness of sexual assault, risk reduction strategies, and safe bystander intervention strategies. The Department of Student Life also provides personal counseling and referrals to outside agencies for victims of sexual assault.

Any instance of sexual assault should be reported to the Dean of Students, the Title IX Coordinator or Residence Life Staff as soon as possible after the incident occurs. The victim will be provided with the Reporting Options Handout and informed of the right to notify law enforcement agencies. In the event that the victim chooses to notify these authorities, the student will receive support and guidance in doing so by College and community personnel. The College will also provide interim protective measures, including but not limited to changing academic or living assignments and enacting no-contact orders when reasonably able. Interim protective measures will be in place whether the victim decides to initiate an investigation or not.

Designated Title IX Coordinators are as outlined below:

Name	Title IX Position	Room #	Phone Number
Carolus Brown, Dean of Students	Title IX Student Coordinator	108	(408) 498-5137
Leslie Anderson, Director of Human Resources	Title IX Employee Coordinator	188	(408) 498-5148
Reba Smith, Chief Compliance Officer	Confidential Reporting Agent	191	(408) 498-5125

Alleged sexual assault will be investigated and adjudicated through the process outlined in the Harassment Policy within this catalog. In cases of sexual assault, both the complainant and the respondent shall be informed of the judicial outcomes of any campus disciplinary hearings pertaining to sexual assault.

HARASSMENT POLICY

Cogswell Polytechnical College strives to cultivate an educational, employment and business environment free of unwelcome harassment of any kind. It is the policy and commitment of the College not to discriminate or harass on the basis of sex, race, color, religion, religious creed, age (over 18 years), mental or physical disability, medical condition as defined by law, national origin, marital status, veteran status, sexual orientation, gender or any other basis prohibited by federal or state law or local ordinance in its educational programs, activities, admissions, or employment policies. Cogswell Polytechnical College actively complies with the requirements of Federal Executive Orders 11246 and 11375 as amended; the Civil Rights Act of 1973 as amended; Title IX of the Educational Amendments of 1972; Section 503 and 504 of the Rehabilitation Act of 1973; Section 402, Vietnam Era Veterans Readjustment Assistance Act of 1974, the Age Discrimination Act of 1975; the Americans with Disabilities Act of 1990 (as amended by the ADA amendments Act of 2008); and pertinent law and regulations of the State of California, as well as other applicable state and federal statutes. For a more detailed explanation of the policy, reporting options and investigative procedures please refer to the Student Handbook.

STUDENT GRIEVANCE AND COMPLAINT POLICY

The purpose of the Student Grievance Policy is to provide an opportunity for students to seek redress for an action by a member of the faculty, administration or staff. Unless the grievance alleges discrimination, the Student Grievance Policy does not apply to decisions rendered by individuals, the Campus Judicial Committee, or Administrative Hearing Officers regarding violations to the Code of Conduct. Furthermore, this is not the appropriate procedure to follow when appealing an academic decision, such as a final grade. Appeals of academic decisions are explained elsewhere in the College Catalog.

Cogswell Polytechnical College is committed to maintaining a stimulating environment for work, study and recreation for its students, faculty, administration and staff. The College will not tolerate any behavior by students, staff or faculty members that constitutes sexual or other unlawful harassment, discrimination, or other inappropriate action.

STEPS TO REDRESS

- **Step One:** Cogswell Polytechnical College recognizes that problems, complaints or grievances may arise in the daily relationships between faculty, staff and students. Individuals are encouraged to first attempt to resolve their differences directly with one another. Informal discussion between persons directly involved in a grievance is an essential first step in attempting to informally resolve the dispute—and is encouraged.
- **Step Two:** If a satisfactory solution is not reached at Step One or if the student is legitimately apprehensive about pursuing Step One, the grievance should be taken to the individual's supervisor (i.e. Department Director, head of department, Dean). Grievances can be submitted in oral or written form. The supervisor is responsible for tracking the reported grievance and providing the student and impacted employee with written feedback regarding the resolution within five (5) business days.
- **Step Three:** If a satisfactory solution is not reached at Step Two, or if the student is legitimately apprehensive about pursuing Step Two, the grievance should be taken to the Dean of Education or the Dean of Students. The student must explicitly state that the communication constitutes initiation of a formal grievance. Formal grievances can be submitted in oral or written form. The Dean of Education or the Dean of Students is responsible for documenting the grievance by using the Student Grievance Documentation Form. The Dean of Education or Dean of Students will inform the student of the timeline for resolution and to whom the report will be sent. If the Dean of Education or the Dean of Students is the individual against whom the student is initiating a grievance, the grievance should be presented directly to Human Resources.

Within three (3) business days of receipt of the report, and in order to provide appropriate support for the resolution process, the Dean of Education or the Dean of Students will provide simultaneous notification to Human Resources *and* the executive team member who has oversight of the reported individual's department.

The corresponding executive team member will then work with the department head, faculty/staff/administrator, and student, to reach an agreeable resolution. Written feedback regarding the resolution will be provided to the student within ten (10) business days of receipt of the report from the Dean of Education or Dean of Students. The Student Grievance Documentation will only be kept in the employee file if repercussive action is taken. The Student Grievance Documentation Form will always be maintained by the Dean of Students.

- **Step Four:** If the student deems the resolution to be unsatisfactory, the student may submit a written request to the Dean of Students in order to petition the convening of the Campus Judicial Committee. The request to convene the Campus Judicial Committee must be submitted within three (3) business days of the date of the written resolution provided in Step Three. The petition shall include information regarding the previous attempts at resolution and an indication of why the results are not satisfactory.

Upon receipt of the petition to convene the Campus Judicial Committee, the individual against whom the student has initiated a grievance and that individual's supervisor shall be informed, in writing, of the student's request to pursue Step Four remediation.

The Campus Judicial committee shall meet to review the case within five (5) business days after the receipt of the petition to convene the committee. The Campus Judicial Committee shall be convened based on the guidelines set forth in the Conduct Proceedings and Judicial Committee section of the Student Handbook.

Three members of the Campus Judicial Committee shall satisfy themselves first that the committee has a general understanding of the basic facts of the dispute. The committee shall follow the procedures outlined below. All other rights applicable to the student are available equally to the employee. Any written grievance filed with the Campus Judicial Committee or a designee must be given simultaneously to the employee.

DECISION OF THE CAMPUS JUDICIAL COMMITTEE

1. The Campus Judicial Committee shall transmit its written recommendation to the Provost and CAO within three (3) business days after the hearing.
2. The recommendation shall include:
 - a. A statement of the grievance
 - b. The dates Step One, Two and Three were satisfied
 - c. Summary of the information presented at the hearing
 - d. Findings and rationale for the recommendation
3. The committee's recommendation may include, but is not limited to, a verbal or written warning, probation, suspension, or termination.
4. After reviewing the recommendation, the Provost and CAO shall decide as follows:
 - a. Affirm and seek implementation of the committee's recommendation, or
 - b. Refer the case with additional information back to the committee with a new recommendation
5. If the case is referred back to the committee, the committee, after reviewing the recommendation of the Provost and CAO, shall revisit and if in agreement revise its recommendation to the Provost and CAO.
6. The Provost and CAO shall implement, after affirming or modifying, the final recommendation of the committee. Written notification of the conclusion of the grievance process must be sent to the student, by the Provost and CAO, within five (5) business days after the receipt of the Judicial Committee's recommendations.
7. The decision of the Provost and CAO is final and binding on the student and the college and shall be communicated in writing to all appropriate persons.

STUDENTS REQUESTING TOTAL CONFIDENTIALITY

If the student requests not to be identified, but wishes to make a report, the student may report a grievance to the Dean of Education or the Dean of Students. The Dean of Education or Dean of Students will intake and document the report; however, it will be addressed outside of the grievance policy. The report will be sent, without the student's identifying information, to the letusknow@cogswell.edu email address to allow the College to address the grievance in a general, student-nonspecific manner.

If, after completing the steps in the grievance policy outlined above, the student is still unsatisfied with the result a complaint may be filed with the following agencies:

- The Bureau for Private Postsecondary Education by calling 888-370-7589 or by completing a complaint form, which can be obtained on the bureau's internet website: www.bppe.ca.gov.
- The Department of Consumer Affairs by writing the Consumer Information Division, 1635 North Market Blvd., Suite N 112, Sacramento, CA 95834 or by calling 916-574-7720.
- The State of California, Department of Justice, Office of the Attorney General at <https://oag.ca.gov/contact>.

The Office of Institutional Research and Quality Assurance and the Compliance Department provide students with alternate methods by which they can file a concern or comment with the College, outside of the Student Grievance Policy. Alternate methods include the following:

- Emailing the letusknow@cogswell.edu email address with information regarding a comment, concern, or suggestion.
- Entering a comment or suggestion into the Suggestions & Concerns Box, located above the sink in the Dragon's Den. Comments entered into the Suggestions & Concerns Box are checked on a weekly basis. Comments can be entered anonymously.
- Completing annual student surveys or course evaluations.

COPYRIGHT INFRINGEMENT

Copyright infringement is the act of exercising, without permission or legal authority, one or more of the exclusive rights granted to the copyright owner under section 106 of the Copyright Act (Title 17 of the United States Code). These rights include the right to reproduce or distribute a copyrighted work. In the file-sharing context, downloading or uploading substantial parts of a copyrighted work without authority constitutes an infringement. Penalties for copyright infringement include civil and criminal penalties, and may result in disciplinary action, up to and including dismissal from the College.

Civil and criminal penalties for copyright infringement may include the following:

Persons found liable for civil copyright infringement may be ordered to pay either actual damages or “statutory” damages affixed at not less than \$750 and not more than \$30,000 per work infringed. For “willful” infringement, a court may award up to \$150,000 per work infringed. A court can, in its discretion, also assess costs and attorneys’ fees. For details, see Title 17, United States Code, Sections 504, 505. Willful copyright infringement can also result in criminal penalties, including imprisonment of up to five years and fines of up to \$250,000 per offense.

For more information, please see the website of the U.S. Copyright Office at www.copyright.gov. For more information on copyright and legally acceptable alternatives, please contact the College’s Information Technology Department.

VOTER REGISTRATION

Cogswell Polytechnical College encourages all eligible students to exercise their right to vote. Links to register to vote will be made available on the College website and students are notified annually via email each Fall. For more information on participating in elections, go to: <http://www.usa.gov/Voting>. For information on voting in California, go to: <http://www.sos.ca.gov/elections/voter-registration/>.

ACADEMIC POLICIES

ACADEMIC FREEDOM

Institutions of higher education are founded for the common good, and not to further the interests of merely the individual teacher or the institution itself. The common good depends upon the free search for truth and its free exposition.

Academic freedom is essential for these purposes, and applies to both teaching and research. Freedom in research is fundamental to the advancement of truth. Academic freedom in teaching is fundamental in protecting of the rights of a teacher, as well as the student’s freedom in learning. It carries with it both rights and responsibilities.

Cogswell Polytechnical College endorses the 1940 Statement of Principles and 1940 and 1970 interpretive comments of the American Association of University Professors on academic freedom, which includes in substance, but is not limited to, the following:

ACADEMIC FREEDOM

- The teacher is entitled to full freedom in research and in publication of the results, subject to the adequate performance of his/her other academic duties.
- The teacher is entitled to freedom in the classroom in discussing his/her subject, but he or she should be careful not to introduce into his/her teaching controversial matter that bears no relation to the subject.
- The college or university teacher is a citizen, a member of a learned profession and a member of the educational community. When an individual teacher speaks or writes as a citizen, that individual should be free from institutional censorship or discipline—but the teacher’s position in the community imposes special obligations. As a person of learning and an educator, a teacher should remember that the public may judge the academic profession by its members’ written or verbal statements. Hence, a teacher should at all times be accurate, should exercise appropriate restraint and should show respect for the opinions of others.

ACADEMIC LEADERSHIP

Cogswell Polytechnical College prides itself on providing our students with highly-qualified faculty. Our faculty's academic credentials and theoretical knowledge are often complemented by years of industry experience—equipping them with a firm practical understanding of the tools and techniques that they teach. Our faculty's resources and teaching methodologies are directly aligned with supporting student success. The institution's curriculum is guided by industry advisory boards that seat current professionals in notable companies.

Working closely with faculty in their target industries, students learn from supportive and caring professionals. Our faculty challenge and coach students to put forth their best effort. In turn, our students bring focus, hard work and dedication. This is Cogswell Polytechnical College.

Faculty information, including biographies, backgrounds and links to each educator's projects and portfolios are located on our website at: <https://cogswell.edu/academics/faculty/>.

INSTRUCTIONAL DELIVERY METHODS

ON-CAMPUS (RESIDENTIAL)

Residential courses meet on campus in a traditional classroom and/or laboratory environment.

ONLINE

Online courses are offered through an online learning management system (LMS). Students have access to their online courses 24 hours a day; 7 days a week. Online faculty are responsive: the institution's best practice is to respond within 48 business hours, and students receive feedback on submissions in no more than 5 business days as certain project-based assignments and examinations may require in-depth feedback.

NOTE: On-campus students must have a minimum cumulative grade point average (CGPA) of 2.0 to register for an online course. Incoming new students (i.e. freshmen, transfer students) will be assessed based on grades earned at the last attended academic institution.

HYBRID

Hybrid courses are offered as a combination of traditional classroom and/or laboratory environment learning and via the use of an online learning management system (LMS). Typically, instructional time consists of 50% of on campus meeting while the other 50% of instruction time is via LMS. Percentages may vary depending on class, student and/or instruction needs.

MAXIMUM ACADEMIC LOAD

The maximum load for undergraduate degree students is 17 semester credit hours, including audited courses. An undergraduate student who under special circumstances wishes to take more than 17 credit hours must obtain written permission by the Dean of Education and register for classes using the Add/Drop process.

CREDIT HOUR DEFINITION

A credit hour is an amount of work represented in intended learning outcomes and verified by evidence of student achievement that is an institutionally established equivalency reasonably approximating not less than:

- One hour of classroom or direct faculty instruction and a minimum of two hours of out-of-class student work each week for approximately fifteen weeks for one term, or the equivalent amount of work over a different amount of time; or
- At least an equivalent amount of work as required in paragraph one (1) of this definition for other academic activities as established by the College, including laboratory work, internships, practica, studio work and other academic work leading to the award of credit hours

One (1) hour of classroom or direct faculty instruction is defined by one (1) hour of class meeting time comprised of 50 minutes of lecture plus 10 minutes of "break time".

LECTURE CREDIT HOUR

Given a 15-week term, one lecture credit hour represents one hour per week of scheduled class time and two hours of out-of-class preparation time. A three-credit-hour class represents 45 hours of class time and 90 hours of student preparation during a term.

LABORATORY CREDIT HOUR

Given a 15-week term, one laboratory credit hour represents two (2) hours per week of laboratory work.

INTERNSHIP/PRACTICUM CREDIT HOUR

Internship/practicum hours are determined by the supervising faculty and the work supervisor at the cooperating site if applicable, both of whom must judge and certify different aspects of the student's work. This in turn represents between 45 and 60 hours of work per term. Three (3) credit hours represents between 135 and 180 total hours of academic work per term.

COURSE REQUIREMENT SUBSTITUTION

Course substitution requires approval of the Department Director or Chair and Dean of Education. An Academic Advisor initiates a course substitution request for a student. A student may substitute a maximum of 16 credit hours of coursework. All prerequisites must be met.

ADDITIONAL DEGREES

A student may receive more than one degree from Cogswell Polytechnical College. To enroll for an additional degree, current students must submit an approved Change of Program Form with the required signatures to the Registrar's Office. A student must complete all graduation requirements for each degree received.

CHANGE OF PROGRAM

A student may change programs by completing a Change of Program Form available from the Registrar's Office and obtaining the required signatures. All course and admissions requirements for the new program must be satisfied to qualify for the degree sought. A change of program does not change the student's academic standing (satisfactory academic progress, or SAP). The transaction is not official until the Change of Program Form is processed by the Registrar's Office and a new degree plan is assigned. Students are limited to a maximum of three (3) changes of program.

ATTENDANCE POLICIES

ON-CAMPUS (RESIDENTIAL) ATTENDANCE POLICY

Cogswell students are expected to attend every class session scheduled for each course in which they enroll. Students who miss a class must arrange with the instructor to take any examination or complete any make-up work at an alternate time. The following are the attendance policies that apply to all students at Cogswell:

- A student who does not attend an individual class for 14 consecutive calendar days may be withdrawn from the class by the College. A withdrawal ("W") grade will be given if withdrawal occurs on or prior to the last day to withdraw deadline. A withdrawal after the last day to withdraw will be assigned a withdrawal fail ("WF") grade.
- A student who is absent from all classes for 14 consecutive calendar days may be withdrawn from the College and subject to the refund policies. For each registered course, a withdrawal ("W") grade will be given if withdrawal occurs on or prior to the last day to withdraw deadline. A withdrawal after the last day to withdraw will be assigned a withdrawal fail ("WF") grade for each registered course.

ONLINE / HYBRID ATTENDANCE POLICY

Cogswell provides two distance learning delivery methods with the utilization of a learning management system (LMS): "online" and "hybrid." Online courses are held Monday through Sunday.

Cogswell students registered for online courses must participate in each course in which they enroll. At a minimum, a student must submit a gradable item each week. A gradable item is defined as a threaded discussion, assignment, test or quiz.

Cogswell students registered for hybrid courses must attend, at the least, a once-a-week in class lecture while submitting assignments via the LMS.

The following are the attendance policies that apply to all students at Cogswell enrolled in any distance learning delivery method:

- A student who does not participate in an individual class for 14 consecutive calendar days (two (2) weeks) may be withdrawn from the class by the College. A withdrawal ("W") grade will be given if withdrawal occurs on or prior to the last day to withdraw deadline. A withdrawal after the last day to withdraw will be assigned a withdrawal fail ("WF") grade.
- A student who is absent from all classes for 14 consecutive calendar days (two (2) weeks) may be withdrawn from the College and subject to the refund policies described below. For each registered course, a withdrawal ("W") grade will be given if withdrawal occurs on or prior to the last day to withdraw deadline. A withdrawal after the last day to withdraw will be assigned a withdrawal fail ("WF") grade for each registered course.

HOLIDAYS AND SCHEDULED BREAKS

Holidays and college breaks are not included in the 14 consecutive calendar days. If the 14th consecutive day falls on a day that class is not in session, the following regularly scheduled class day will be used. For a listing of holidays or scheduled breaks, refer to the academic calendar available in this catalog or on the College website at <https://cogswell.edu/academics/academic-calendar/>. Students may appeal the attendance policy to extenuating circumstances as described in the Attendance Appeal Policy.

ATTENDANCE APPEAL POLICY AND REINSTATEMENT

Students seeking to be readmitted to class after having been withdrawn for excessive absences must complete an Appeal Form. The form must be approved by the faculty, indicating successful academic progress, and acknowledged by an Academic Advisor. The form can be obtained from the Registrar's Office. Students will have three (3) business days from the date of the withdrawal to submit form. If the form is not submitted, the student will not be reinstated and allowed to continue.

Students may only file up to two (2) appeals per course. Second appeals must be reviewed by the student's Department Director and Academic Advisor. Students may continue to attend the course(s) while awaiting the completion of the Request to be Reinstated Form.

LEAVE OF ABSENCE (LOA) POLICY

In limited circumstances, the College allows a student to take an approved leave of absence (LOA). An approved LOA is a temporary interruption in a student's education and is not considered a withdrawal from the college. An unapproved LOA will be treated as a withdrawal from the college. A leave of absence must meet the following requirements to be an approved LOA:

- All requests for leave must be submitted in advance and in writing by the student. The LOA request must include the reason for the leave and be signed and dated by the student. The request should be submitted to the Registrar's Office for approval. In rare circumstances, the student may not be able to apply for the LOA in advance (i.e. car accident, incapacitation); however, with proper documentation the LOA may be granted by the College.
- The leave is for a specified period of time with a scheduled return date not to exceed 180 days in any 12-month period. All leaves in a 12-month period are combined when calculating adherence to the 180 day rule.
- Approval may be denied if the reason for the leave is not justification for interrupting the student's education, or if there is not a reasonable expectation of return.

If a student fails to return from the LOA on the specified return date, the student will be considered withdrawn from college, which may have an impact on the student's loan repayment terms, including the expiration of the student's grace period. Students on leave, whether approved or unapproved, are not eligible to live in student housing.

STANDARD PERIOD OF NON-ENROLLMENT (SPN) POLICY

Students intending to request one term (trimester) off from attending Cogswell Polytechnical College must submit a written request for a Standard Period of Non-Enrollment (SPN) to the Registrar's Office. The SPN request form is available on the student portal or in the Registrar's Office. SPN's can be requested for one term (trimester) only during any 12-month period. A Standard Period of Non-Enrollment (SPN) must be requested prior to the end of the term preceding the term the student is requesting to be away from the College. Requests submitted after the end of term will not be considered. The request must be approved by the Registrar, Dean of Education, Business Office, and the Financial Aid Director before a student's status is changed.

Students approved for an SPN are expected to return at the beginning of the term following the SPN. While on an approved SPN, students will not be considered to have withdrawn from the College, no additional charges will be generated, and Financial Aid funds will not be disbursed. Students must register for the intended return term during the registration period as outlined in the Academic Calendar and must meet with a Financial Aid Advisor before they will be allowed to resume attending classes. Students who fail to return to the College by the expected date will be considered to have withdrawn from school and will therefore be responsible for any balance due. If withdrawn, the official withdrawal date will be retroactive to the student's last day of attendance and the date of determination will be the day the student was expected to have returned to the College.

An SPN extends a student's expected graduation date. Students on SPN may not be able to maintain their course sequencing. Students on SPN are not eligible to live in student housing.

INTERNSHIP PROGRAM

An internship is expected to add to the educational experience of the student. Therefore, to register for the course students are required to obtain authorization from their Academic Advisor, Department Director and the designated internship coordinator. The Department Director reviews the internship to determine whether various factors ensure that the experience fits within the academic needs of the student. The Academic Advisor reviews the internship request to determine applicability to degree plan. The responsibility of the internship coordinator is to provide input regarding the viability of the internship site.

CLASS STANDING

The class standing of an undergraduate student is determined as follows:

- **Freshman** 0–30 semester credits successfully completed
- **Sophomore** 31–60 semester credits successfully completed
- **Junior** 61–90 semester credits successfully completed
- **Senior** More than 90 semester credits successfully complete

GRADING SYSTEM AND GRADE POINTS

The College uses the following four-point grading system:

Grade Scale					
Letter	Grade Point Value	Cutoff Percentage	Description	Calculated in GPA?	Credit Earned?
A+	4.0	97.0	Letter Grade	Yes	Yes
A	4.0	94.0	Letter grade	Yes	Yes
A-	3.7	90.0	Letter grade	Yes	Yes
B+	3.3	87.0	Letter grade	Yes	Yes
B	3.0	84.0	Letter grade	Yes	Yes
B-	2.7	80.0	Letter grade	Yes	Yes
C+	2.3	77.0	Letter grade	Yes	Yes
C	2.0	74.0	Letter grade	Yes	Yes
C-	1.7	70.0	Letter grade	Yes	Yes
D+	1.3	67.0	Letter grade	Yes	Yes
D	1.0	64.0	Letter grade	Yes	Yes
D-	0.7	60.0	Letter grade	Yes	Yes
F	0.0	< 60.0	Letter grade	Yes	No
Other Grades					
Letter(s)	Grade Point Value	Cutoff Percentage	Description	Calculated in GPA?	Credit Earned?
AF	N/A	N/A	Administrative Fail. Administration or Faculty unable to issue a grade.	No	No
AU	N/A	N/A	Audit	No	No
CR	N/A	N/A	Credit earned, C or better	No	Yes
I	N/A	N/A	Incomplete. This is a temporary grade.	No	No
NP	N/A	< 74.0	No pass. Unsatisfactory, "C-" or below.	No	No
P	N/A	74	Pass. "C" or better	No	Yes
T	N/A	N/A	Transfer credit awarded	No	Yes
W	N/A	N/A	Withdrawal	No	No
WF	0	0	Withdrawal Fail	No	No

ACADEMIC HONESTY

Academic honesty is a fundamental principle of the educational process. It is essential to maintaining the value of the academic degrees that students receive and the credibility of the College. Academic honesty is vital to the proper evaluation of the level of knowledge and understanding a student acquires in a course. This evaluation may be based on quizzes, exams, reports, homework, projects, discussions and any other assignments used by faculty to ascertain the student's command of the course material. Any act that invalidates the process of evaluation is an act of academic dishonesty. Cogswell forbids all forms of academic dishonesty, including cheating and plagiarism.

Examples of academic honesty include, but are not limited to:

- Copying from another student's exam, enabling unauthorized access to test or assignment answers, submitting work from a previous class, use of false identity online, and accessing unauthorized materials during a closed-book exam.
- Plagiarism: representing another's academic or creative work as your own, and incorporating another's ideas, words or phrasing without giving credit to the author.
- Alteration of grades or official records.
- Changing already-graded documents.
- Use of purchased or acquired papers.
- Submission of homework, take-home exams, reports or projects mostly prepared by another student.
- Facilitation or assistance in any act of academic dishonesty.

Students caught engaging in academic dishonesty may be subjected to failure for the assignment, failure for the class and/or additional disciplinary procedures as outlined in the Student Handbook.

ACADEMIC HONORS

THE PRESIDENT'S HONOR ROLL

The President's Honor Roll recognizes undergraduate students who have completed fifteen (15) or more credits of coursework during the term with a 3.80 grade point average or better.

THE DEAN'S HONOR ROLL

The Dean's Honor Roll recognizes undergraduate students who have completed fifteen (15) or more credits of coursework in a term with a 3.50-3.79 grade point average.

INCOMPLETE

An Incomplete ("I") grade may be assigned if the student has essentially completed the course except for a missing examination, project or paper due to circumstances beyond the student's control. An Incomplete is not considered a passing grade, and will not satisfy the prerequisite requirement of any subsequent course.

It is the responsibility of the student to bring pertinent information to the instructor regarding why all work cannot be completed during the current term, and to reach agreement on the means by which the remaining course requirements will be satisfied. If the instructor agrees, the instructor will submit a Petition for Incomplete Grade Form with an "I" grade for that course for that term.

It is a student's responsibility to follow up with the instructor to remove an Incomplete. The instructor will assign a final grade when the work agreed upon has been completed and evaluated. The instructor will then submit a Change of Grade form to the Registrar for processing.

Incomplete grade changes must be cleared within 30 calendar days from the last day of a term. Failure to meet deadlines will result in the incomplete grade being changed to the default grade for work completed prior to the term's end. Exceptions may be considered under mitigating circumstances if supporting documentation is provided.

PASS / NO PASS

Any Preparatory or internship coursework completed will be evaluated on a pass ("P") or no pass ("NP") basis. Preparatory coursework does not apply towards requirements for graduation. For the purpose of determining whether a student has successfully met satisfactory academic progress (SAP) standards, pass/no pass grades do not count towards the cumulative grade point average (CGPA), a qualitative standard; however, they will be factored into the quantitative standard in determining pace of completion.

AUDIT

A student may choose to audit a nonrequired course. An auditor is allowed to participate in class discussions and take exams, but does not receive unit credit or a grade. The grade report and official transcript for the course will indicate “AU” rather than a letter grade. An audit grade may not be changed to a letter grade. An audited course does not satisfy a prerequisite requirement, cannot be subsequently challenged, and may not be used to waive a graduation requirement or for determining financial aid awards.

WITHDRAWALS

Students who withdraw after the Add/Drop period and within the last day to withdraw will receive a withdrawal (“W”) grade. Students who withdraw from a course after the withdrawal deadline will receive a withdrawal fail (“WF”) grade. A student must complete an Add/Drop Form and submit to the Registrar’s Office for processing.

In documented mitigating circumstances (e.g., accident, illness, death of an immediate family), a student who withdraws after the withdrawal deadline may receive a withdrawal (“W”) grade. Supporting documentation or verification of circumstances is required. This documentation must be provided to the Registrar’s Office for processing and recordkeeping. The request form and documentation must be submitted no later than the last day of the term. The form and request must be approved by both the Registrar and the Dean of Education.

REPEATED COURSES

A student may repeat a course that he or she previously passed with a low grade or failed. Only the highest grade will be used to calculate the cumulative grade point average. A student may not repeat a course more than twice without written approval from the Dean of Education.

GRADE CHECKPOINTS

Grade checkpoints are conducted three times a term, during the fourth, eighth, and twelfth weeks in order to monitor student academic progress. Grade checkpoints are a resource for students to ensure that they are aware of their progress and have the resources necessary to promote academic success. Academic Advisors meet with students that are not maintaining a C average to discuss strategies for improving academic success, campus and community resources, current and future schedules, and create a success plan. Student academic performance will continue to be monitored at all successive grade checkpoints throughout the term.

GRADE APPEAL

If a student believes an incorrect grade for a course has been issued, the matter should first be discussed with the instructor, who has the ability to modify an incorrect grade. If a student is not satisfied with the instructor’s explanation and action, the student may initiate a grade appeal by following the process outlined below.

1. Submit a Grade Appeal form to the Dean of Education, presenting a complete description and explanation of the reason(s) for the appeal along with any supporting documents and evidence. The electronic form can be requested by emailing registrarsoffice@cogswell.edu.
2. All Grade Appeal forms must be submitted within 30 calendar days of the grade being issued. Appeals submitted after 30 calendar days of the grade being issued will not be considered.
3. Once the Grade Appeal form and supporting documentation are received, the Dean of Education will form a Grade Appeal Committee to review the case and make a recommendation to the Dean of Education. The committee will be composed of two to three faculty members and one administrative employee. The committee will not include the original instructor.
4. Within ten business days of the Grade Appeal form being received, the student will be notified of the date on which the committee will meet to review and resolve the matter.
5. Within five business days of deciding the outcome, the Dean of Education will notify both the student and the instructor, in writing, of the decision and reasoning.
6. If the student is not satisfied with the result of the Grade Appeal Committee’s decision, the student may appeal directly to the Dean of Education who will review the Grade Appeal Committee’s deliberation and issue a final decision. The Dean of Education’s decision is final and cannot be appealed.

In the event of the student’s grade is changed, the Dean of Education will submit a formal grade change request to the Registrar’s Office for processing, thus completing the grade appeal process. Note that a student’s grades may increase or decrease through the grade appeal process.

INDEPENDENT STUDY

In Independent Study, with the supervision and guidance of faculty, a student develops a research project, field study, practicum or special readings proposal that centers on an area of study not included in the regular course(s). Independent Study cannot replace a course that was not successfully completed. In some cases, it may be used as a substitute course. A student may enroll for one course of independent study in a term. Students will be required to keep log of time, and submit assignments once or twice a week as required by faculty.

Independent Study presupposes a developed competency and maturity; consequently, participation in the program is restricted to students who have accrued a cumulative point average of 3.0 in their majors. A student who does not meet the qualifying criteria, but develops a proposal that merits Independent Study status, should consult with prospective faculty to assess the possibilities for successful completion of the project.

Procedures to be followed are below:

1. Students requesting the opportunity to take an Independent Study must obtain a Permission Form from the Registrar's Office. The form must be completed prior to review with a faculty member
2. The student reviews the proposal of an Independent Study with the appropriate faculty member
3. With the agreement of the faculty sponsor, the proposal is submitted to the Dean of Education for approval
4. Students must meet/submit assignments no less than once or twice per week.

SATISFACTORY ACADEMIC PROGRESS (SAP)

It is necessary to measure satisfactory academic progress (SAP) to be eligible for federal student aid (FSA) and to become a Cogswell Polytechnical College graduate. SAP is measured at the end of each evaluation period. The evaluation period for all programs is one 15-week term. Failure to meet SAP standards may result in a student being placed on financial aid/academic warning or financial aid/academic probation, and/or dismissal from the College or dismissal of participation in financial aid programs. SAP is measured using qualitative (i.e., cumulative grade point average) and quantitative (i.e., pace of completion) standards.

QUALITATIVE STANDARD

Cogswell Polytechnical College measures its undergraduate students' academic progress at the end of each evaluation period to ensure students are maintaining a minimum cumulative grade point average (CGPA) of at least a 1.75 at the end of their first term and thereafter, a minimum of 2.0. Students in a graduate program must maintain a CGPA of at least 3.0. Preparatory coursework is included in the quantitative assessment of SAP; however, Preparatory courses are not included in the GPA.

QUANTITATIVE STANDARD

Cogswell Polytechnical College additionally measures students using a quantitative standard, pace of completion, to ensure successful completion of their programs of study. The pace of completion is based on the number of cumulative credits completed versus the number of cumulative credits attempted. All students must complete their programs of study without exceeding 150% of the published length of their program measured in credit hours.

The following chart presents the benchmarks that must be achieved at the end of each term:

Undergraduate Programs		
Term	Qualitative (CGPA)	Quantitative (Pace of Completion)
1	1.75	25%
2 to 4	2.0	50%
5 and After	2.0	66.67%

Graduate Programs		
Term	Qualitative (CGPA)	Quantitative (Pace of Completion)
All	3.0	66.67%

The following chart details how grades count toward calculating completion rates and CGPA for SAP:

Grade	Credits Attempted (Denominator)	Credits Completed (Numerator)	Calculated in CGPA
>D-	Yes	Yes	Yes
F	Yes	No	Yes
W	Yes	No	No
WF	Yes	No	Yes
AF	No	No	No
AU	No	No	No
CR	Yes	Yes	No
I	Yes	No	No
P	Yes	Yes	No
NP	Yes	No	No
T	Yes	Yes	No

FINANCIAL AID/ACADEMIC WARNING

If a student fails to meet SAP at the end of the evaluation period, the student is placed on Financial Aid/Academic Warning (FA/Academic Warning) for the next term. The college will reinstate financial aid for one meet only. Students who fail to meet SAP after the warning period will lose financial aid eligibility and may be dismissed unless they successfully appeal and are placed on Financial Aid/Academic Probation (FA/Academic Probation).

FINANCIAL AID/ACADEMIC PROBATION

Students who fail to meet SAP after the FA/Academic Warning period but successfully appeal the results (see SAP Appeals Process section) will be placed on FA/Academic Probation. FSA eligibility will be reinstated for one term while the student is on FA/Academic probation status.

ACADEMIC PLAN

Students who fail to meet SAP after the FA/Academic Warning Period may be placed on an Academic Plan designed to ensure they will be able to meet SAP, but it may take more than one term to meet progress standards. This plan will be student-specific and will be monitored at the end of each evaluation point to determine that the student is meeting the requirements of the academic plan. Students are eligible to receive federal student aid as long as they continue to meet these requirements. If at any time, it is determined that the student is no longer meeting the requirements of the academic plan, he/she may be terminated from school and may no longer be eligible for federal student aid.

PLAN OF ACTION

The following are possible items to be included in a plan of action:

- Reduction in number of hours attempted
- Change in program (major)
- Enrollment in specific courses prescribed by the Academic Advisor
- Re-enrollment in courses in which the student previously received a low or failing grade
- Other measures recommended by the Academic Advisor

SAP APPEALS PROCESS

Students who lose FSA eligibility due to SAP may appeal the result on the basis of injury or illness, death of a relative, or other special circumstances. The appeal must be submitted the Monday of the week prior to the next term's start. The SAP Appeal Committee will meet and provide a response to the student within one (1) week of receiving the appeal. At a minimum, the SAP Committee will consist of one staff member from each of the following departments: Registrar's Office, Student Life, Academic and Financial Aid. Students may be required to attend scheduled committee meetings to present appeals.

The appeal must include the reason for the student's failure to achieve SAP and the changed conditions/situation that will lead to making SAP at the next evaluation period. The student will be placed on FA/Academic probation during this period. If the student is denied the appeal, it will result in dismissal from the program. However, if it is likely that the student will not meet SAP standards by the end of the next evaluation period, the student will be placed on an academic plan. This plan will outline the steps the student needs to achieve in order to maintain eligibility. Achieving the objectives of the academic plan renders the student once again eligible for financial aid, to continue studies at the College, and be removed from FA Probation.

Students receiving VA educational benefits will be placed on probation if their GPA is below 2.0. A maximum of two terms on probation is allowed. If at the end of two terms the student's GPA remains below 2.0, benefits will be terminated.

REGAINING FINANCIAL AID ELIGIBILITY

Students who are dismissed and not reinstated will automatically be ineligible for future financial aid until such time that they are reinstated to the College by successfully appealing SAP ineligibility. A student whose appeal is approved, and who is placed on FA Probation, will be reinstated and must maintain a CGPA of 2.0 in undergraduate programs, or 3.0 for graduate programs, with a pace of completion above the metrics stated herein the SAP policy.

MAXIMUM TIME FRAME

Students enrolled at Cogswell Polytechnical College must complete their programs of study within 150% of the published program length measured in credit hours in order to graduate. For example, a student enrolled in a program that is 120 credits in length will only be allowed to attempt up to 180 credits ($120 \times 1.5 = 180$ hours). If students fail to meet the maximum timeframe permitted to complete the program, they may pursue completion of their programs of study if they submit a successful appeal to the College. If the appeal is approved, the student may remain enrolled at the College, but without eligibility for financial aid.

The following is an overview of other areas impacting SAP:

- Preparatory coursework is included in the qualitative assessment of SAP but is not included in the cumulative GPA.
- Transfer credits and credits earned through other institutionally accepted methods (i.e. CLEP) are included in units attempted and completed but not in the CGPA.
- Incomplete ("I") grades are not counted as credits completed; however, the "I" grade does count as credits attempted. Once the "I" grade is replaced, SAP will be reevaluated.
- Withdrawal grades are included in the credits attempted but not in the CGPA.
- Courses dropped within the Add/Drop period are included in either the qualitative or quantitative measurement of SAP.
- Students may repeat a course once, and the highest earned grade will be used to calculate CGPA. Grades will be included in the GPA calculation if a student chooses to repeat a course more than once. Any courses that are repeated will count towards pace of completion.
- Students who have officially withdrawn from the College or are on leave of absence are still subject to SAP standards.
- Returning students resume their studies at the point at which they left off. Students resume their studies under the same SAP statuses as when they left their original programs of study.
- When a student changes majors or seeks to earn additional degrees, only courses that apply toward the new degree will be counted in calculating the number of credits attempted. If the student changes majors, the student's SAP status remains the same as in the prior program of study.
- If a graduate of Cogswell Polytechnical College enrolls in a new program of study, only courses that apply toward the new degree will be counted in calculating the number of credits attempted.

GRADUATION REQUIREMENTS

UNDERGRADUATE PROGRAMS

To receive an undergraduate degree in a program of study, the student must achieve the following:

- Complete courses as prescribed in the academic catalog under which the student enrolled.
- Complete unit and course requirements with a minimum of a 2.0 cumulative GPA.
- Complete the program of study within 150% of the published length of the program.

GRADUATE PROGRAMS

To receive a graduate degree in the program of study the student must achieve the following:

- Complete the course as prescribed in the academic catalog under which the student enrolled.
- Complete unit and course requirements with a minimum of a 3.0 cumulative GPA.
- Complete their program of study within 150% of the published length of their program.

APPLICATION FOR GRADUATION PROCEDURE

The graduation audit is the official confirmation of the completion of all the requirements for a degree. A graduation audit is also necessary to ensure all appropriate documents have been submitted to the Registrar's Office, and to ensure the

student's academic file is complete before a diploma is awarded. Students should keep close track of all coursework completed and keep in regular contact with their Academic Advisors. A student may initiate a graduation audit when within eighteen (18) credits of graduation.

To initiate a graduation audit, a student must:

1. Request an Application for Graduation Form from the Registrar's Office (also available on the College website)
2. Submit appropriate fees to the Business Office
3. Return the completed Application for Graduation Form to Registrar's Office.

A verification letter with the results of the graduation audit will be sent within one month of applying for graduation.

FEES

Students must pay a one-time \$100.00 graduation fee.

GRADUATION WITH HONORS

A student who earns a cumulative GPA in one of the ranges below shall graduate with honors:

3.5–3.79	Cum Laude
3.8–3.99	Magna Cum Laude
4.0	Summa Cum Laude (highest honors)

STUDENT ACADEMIC RESPONSIBILITIES

It is the responsibility of students to:

1. Be aware of and comply with policies and procedures, deadlines and graduation requirements found within this catalog and the Student Handbook.
2. Monitor progress toward completion of graduation requirements.
3. Comply with the content of the Student Handbook and Student's Rights and Responsibilities.

COMMENCEMENT CEREMONY

The Commencement Ceremony is a celebration of the completion of one's degree program. Commencement is differentiated from graduation as graduation is the formal completion of the student's degree program (please refer to Undergraduate Graduation Requirements section).

As such, we welcome those who have graduated to participate in Commencement. To signal your interest in participating in Commencement, you must complete the Commencement section of the Graduation Application. The Graduation Application must be submitted by the spring deadline listed in the academic calendar.

All students who have completed their programs prior to Commencement, held annually, and who have completed the Commencement section of the Graduation Application, are qualified to participate in the Commencement Ceremony.

Exceptions may be made for those students who were scheduled to graduate in the spring, but due to extenuating circumstances were unable to complete some of their spring courses. Students seeking this form of an exception may have no more than six (6) remaining credits, must be registered for these credits in the next term that the student will attend (summer or fall), and must submit a formal appeal to the Dean of Students. This appeal will be reviewed by the Registrar, Dean of Students and Dean of Education, who will make a recommendation to the Provost and CAO.

STUDENT AFFAIRS

NEW STUDENT ORIENTATION

Cogswell hosts a mandatory orientation for new students prior to the start of class. Orientation provides an opportunity for students to meet with faculty and staff. It also orients the student with regard to College policy and procedures, and their own rights and responsibilities. During the orientation, students receive user IDs and passwords to access the Cogswell Student Portal.

ID CARDS

The IT Office issues student ID cards at the beginning of each term to new students. ID cards are required to gain access to the building, and check out books from the College Library and equipment from the audio/video lab.

STUDENT HOUSING

Cogswell Polytechnical College does not have dormitory facilities. The College utilizes local apartment complexes in which students are assigned to apartments with other students. Housing is for students who are enrolled in at least 12 credits per term. Alternatively, there are independent housing options available in the vicinity of the campus—but the College does not maintain relationships with these complexes and does not guarantee assistance to students in locating non-College-sponsored housing. Apartment complexes are within a five (5) mile radius and monthly rent ranges from \$2,400 to \$4,000 per month.

If you are interested participating in College housing, please contact the Dean of Students for more information. The College assumes no responsibility to assist, or find housing for, students who are ineligible for or not interested in participating in College-sponsored housing. Students attending mid-sessions may obtain housing at the cost of a full term.

TUTORING

Cogswell Polytechnical College provides free tutoring for students who request or require assistance with academic subject matter. Academic tutoring is provided by Cogswell Polytechnical College students who have both excellent academic records and a high degree of professionalism.

Students interested in receiving or providing tutoring services may do so by emailing tutoring@cogswell.edu or by visiting the office of the Student Services Coordinator's office to make an appointment.

ASSOCIATED STUDENT BODY (ASB)

The Associated Student Body (ASB) is the general student membership organization of the College. The purpose of the ASB is to give students the opportunity to plan and direct their own activities, to become involved with co-curricular campus activities, and to influence the decisions that affect the quality of education and student life at the College. All enrolled students are members of the ASB. The general student membership provides feedback to the Associated Student Body Executive Board. The Associated Student Body Executive Board is comprised of elected and appointed officers. In conjunction with the ASB Advisor, the Executive Board is responsible for administering the ASB budget and coordinating student activities.

STUDENT CLUBS

There are a number of active student clubs on campus. Club membership is open to all current students. Please see the Associated Student Body President for an application if you are interested in joining existing or starting a new club. Examples of clubs that have been active in the past include Cogswell's Game Development Club, Engineering Society, Audio Engineering Society, Animation Club and Friday Night Magic.

STUDENT LOUNGE (DRAGON'S DEN)

The student lounge features seating, tables, billiards and other games and recreational equipment. It offers a microwave oven and vending machines stocked with drinks and snack foods.

STUDENT HANDBOOK

The Student Handbook provides students with information about campus resources, student life and various College procedures. The College makes this handbook available online to each student. It is our students' responsibility to familiarize themselves with its contents. When a student enrolls at Cogswell, he or she agrees to comply with all rules and regulations. Ignorance of a policy or regulation will not be considered an excuse for failure to observe it. The College reserves the right to alter the regulations and policies through normal channels. The Student Handbook can be found on our website.

CAREER SERVICES

Cogswell's Career Services Department provides services and resources to students and alumni to assist in career preparation. Career workshops and coaching are offered on topics such as interviewing, resumes, cover letters, job search strategies and portfolio preparation. Website resources, magazines, books, bulletins, job descriptions and salary information are among the resources available to students and alumni.

Below are the Standard Occupational Classification (SOC) Codes associated with each degree program. For more information on SOC Codes, please see one of our Career Services professionals.

Program	SOC Code
Bachelor of Business Administration	11-9199 – Managers, All Others
BS in Computer Science	15-1131 - Computer Programmers 15-1132 - Software Developers, Applications
BA in Digital Art and Animation	27-1014 - Multimedia Artists and Animators
BS in Digital Audio Technology	27-4014 - Sound Engineering Technicians
BA in Game Design Art	27-1014 - Multimedia Artists and Animators
BS in Game Design Engineering	15-1131 - Computer Programmers 15-1132 - Software Developers, Applications 15-1133 - Software Developers, Systems Software
MA in Entrepreneurship and Innovation	11-1021 – General and Operations Managers

LIBRARY

The Cogswell Library connects the college to ideas and information through a variety of formats. The library holds print books, DVDs, magazines and e-books. In addition, the library subscribes to academic databases, serving as the gateway to thousands of scholarly articles, digital journals and electronic books. Wireless access, a scanner and a photocopier are also available, as well as a Librarian and staff to help the Cogswell community find the best resources. More information on our library can be found on our website at: <https://cogswell.edu/student-life/library/>.

ACADEMIC DEGREE PROGRAM INFORMATION

INSTITUTIONAL LEARNING OUTCOMES

ILO	Core Competency	Institutional Learning Outcome
ILO1	Written Communication	Cogswell graduates will be able to write correctly, accurately, and persuasively.
ILO2	Oral Communication	Cogswell graduates will be able to communicate professionally by connecting with their audience through effective oral presentations.
ILO3	Critical Thinking	Cogswell graduates will be able to critically analyze ideas, issues, content, and events to formulate conclusions and make decisions individually or collaboratively.
ILO4	Information Literacy	Cogswell graduates will be able to identify, locate, evaluate, and responsibly use information from a range of sources.
ILO5	Quantitative Reasoning	Cogswell graduates will be able to apply quantitative methods to solve a variety of problems.
ILO6	Creative Thinking	Cogswell graduates will be able to combine and synthesize ideas, content, and expertise in original and innovative ways.

BUSINESS ENTREPRENEURSHIP AND INNOVATION (BEI) DEPARTMENT



Bobbi Makani, Ph.D.

Director of Business, Entrepreneurship
and Innovation (BEI)



BACHELOR OF BUSINESS ADMINISTRATION (BBA)

The Bachelor of Business Administration (BBA) degree program is designed to provide students with a solid foundation in core business functions. Students in the BBA program develop the business acumen and skills needed to prepare them to meet challenges in the global marketplace. The BBA program offers two concentration areas: Project Management and Digital Media Management. Each of these concentrations allows students to focus their studies on a curriculum geared toward leadership and business management success in a wide variety of industries. The program offers hands-on, experiential project-based learning to help students develop the competencies and practical skills needed to hit the ground running after graduation. The curriculum encourages students to discover creative and business solutions to address common business issues. It also provides a framework for understanding the various functional areas that influence the successful performance of companies.

PROGRAM LEARNING OUTCOMES

Graduates in the Bachelor of Business Administration (BBA) program will:

- **BBA PLO1:** Critically analyze and synthesize information from diverse sources to inform business decision-making.
- **BBA PLO2:** Demonstrate professionalism in the presentation of evidence and findings both orally and in written documentation.
- **BBA PLO3:** Create effective management and planning within the context of available resources and goals.
- **BBA PLO4:** Innovate and creatively adapt to political, socio-economic and technological shifts in the marketplace.
- **BBA PLO5:** Interpret and apply ethical and professional standards in business.
- **BBA PLO6:** Demonstrate leadership skills in professional and business settings.

PROJECT MANAGEMENT CONCENTRATION

There is an increasing demand for project management expertise across different industries. The Project Management (PM) concentration develops mastery of hard and soft skills needed to lead projects that meet business objectives. Students learn how to deliver these projects in a timely manner while using an organization's resources efficiently. The PM concentration features courses that teach foundational concepts in project management designed to cover the project management life cycle in depth. The PM concentration helps students develop critical competencies that enable them to work in various industries.

Cogswell Polytechnical College is a Registered Education Provider (REP) for the Project Management Institute (PMI). As an REP, the College can offer courses that prepare students for accreditation for the various PMI professional certifications. The BUS270 Project Management Course is a PMI-certified course. Students taking this course satisfy the project management education requirement to take any of the PMP certification exams.

Bachelor of Business Administration (BBA) Curriculum		
Project Management Concentration		
Business Administration Core Courses - 51 Credits		
Course Number	Course Name	Credits
BUS100	Computer Applications for Business	3
BUS105	Financial Accounting	3
BUS110	Principles of Management	3
BUS120	Business Communications	3
BUS125	Business Law	3
BUS141	Principles of Marketing	3
BUS145	Data Analysis with Spreadsheets	3
BUS150	Principles of Economics	3
BUS235	Group Behavior in Organizations	3
BUS250	Finance	3
BUS270	Project Management	3
BUS275	Managerial Accounting	3
BUS280	Human Resources Management	3
BUS365	Personal and Organizational Ethics	3
BUS430	Fundamentals of E-Commerce	3
BUS450	Operations	3
BUS490	Strategic Management	3
Project Management Concentration Courses - 18 Credits		
Course Number	Course Name	Credits
BUS220	Advanced Cost Management	3
BUS310	Advanced Project Management	3
BUS350	Project Performance and Quality Assurance	3
BUS415	Project Risk Management	3
BUS480	Senior Project 1: Research and Planning	3
BUS485	Senior Project 2: Strategy and Implementation	3
Electives - 6 Credits		
Course Number	Course Name	Credits
Elective	Elective or Internship	3
Elective	Elective or Internship	3
General Education Courses for Non-Engineering Majors - 45 credits		
Total 120 Credits		

DIGITAL MEDIA MANAGEMENT CONCENTRATION

The Digital Media Management (DMM) concentration in the BBA program is designed to develop skills in managing different forms of digital media including, but not limited to, movies, games, social media, music and videos. The program is geared towards students interested in the intersection of arts, technology and business. Students learn practical skills such as critical thinking, problem-solving, working in teams and strategic planning while working on actual projects.

Bachelor of Business Administration (BBA) Curriculum		
Digital Media Management Concentration		
Business Administration Core Courses - 51 Credits		
Course Number	Course Name	Credits
BUS100	Computer Applications for Business	3
BUS105	Financial Accounting	3
BUS110	Principles of Management	3
BUS120	Business Communications	3
BUS125	Business Law	3
BUS141	Principles of Marketing	3
BUS145	Data Analysis with Spreadsheets	3
BUS150	Principles of Economics	3
BUS235	Group Behavior in Organizations	3
BUS250	Finance	3
BUS270	Project Management	3
BUS275	Managerial Accounting	3
BUS280	Human Resources Management	3
BUS365	Personal and Organizational Ethics	3
BUS430	Fundamentals of E-Commerce	3
BUS450	Operations	3
BUS490	Strategic Management	3
Digital Media Management Concentration Courses - 15 Credits		
Course Number	Course Name	Credits
BUS241	Consumer and Marketing Behavior	3
BUS340	Social Media, Engagement, and Analytics	3
BUS440	Business Storytelling and Brand Development	3
BUS480	Senior Project1: Research and Planning	3
BUS485	Senior Project 2: Strategy and Implementation	3
Electives - 9 Credits		
Course Number	Course Name	Credits
Elective	Elective or Internship	3
Elective	Elective or Internship	3
Elective	Elective or Internship	3
General Education Courses for Non-Engineering Majors - 45 credits		
Total 120 Credits		

MA IN ENTREPRENEURSHIP AND INNOVATION (MA ENT)



The MA in Entrepreneurship and Innovation (MA ENT) degree program provides graduate students an opportunity to learn startup business lessons, techniques and tools. It is designed for students seeking to pursue their own business ventures, transition to a new career, manage an entrepreneurial enterprise, or bring about innovations within a company. The courses cover the basic skills required to create, grow and manage business ventures and innovations. The practicum serves as the capstone of the program. Members of the faculty will lend direction to the students' entrepreneurial plans and mentor students so that they benefit from the instructors' practical experiences. The MA ENT program is hands-on and project-based, using the students' own entrepreneurial ventures, ideas and innovations as the springboard for learning.

LEARNING OUTCOMES

Graduates in MA in Entrepreneurship and Innovation (MA ENT) program will:

- **ENT PLO 1:** Communicate effectively, logically and compellingly in writing, meetings and presentations.
- **ENT PLO 2:** Apply management and leadership best practices in an entrepreneurial setting.
- **ENT PLO 3:** Integrate business analysis and various tools into the discovery and implementation of innovative solutions to business problems.
- **ENT PLO 4:** Develop entrepreneurial marketing plans, business and financial models.
- **ENT PLO 5:** Design a comprehensive strategic plan for a new venture and/or innovation.
- **ENT PLO 6:** Recognize and evaluate opportunities for promoting creativity and innovation in the global marketplace.

MA ENT Curriculum		
Course Number	Course Name	Credits
ENT520	Business Models and Planning	3
ENT525	Legal Structures, Contracts and Risk Management	3
ENT530	Finance and Accounting	3
ENT535	Entrepreneurial Marketing	3
ENT540	Negotiation, Sources and Uses of Power	3
ENT550	Digital Transformation and Social Media	3
ENT555	Leadership and Management	3
ENT570	Project Portfolio Management	3
ENT590 or	Entrepreneurship and Innovation Practicum I	3
ENT591 and	Entrepreneurship and Innovation Practicum 1	1.5
ENT592	Entrepreneurship and Innovation Practicum 2	1.5
ENT595 or	Entrepreneurship and Innovation Practicum II	3
ENT596 and	Entrepreneurship and Innovation Practicum 3	1.5
ENT597	Entrepreneurship and Innovation Practicum 4	1.5
Total 30 Credits		

Computer Science and Engineering (CSE) DEPARTMENT



Mohan Shah

Director of Computer Science
and Engineering (CSE)



BS IN COMPUTER SCIENCE (CS)

The BS in Computer Science (CS) degree program combines the hands-on, practical side of programming with a theoretical knowledge of the basic concepts of computer science. Cogswell students thrive in a project-based setting, working on multidisciplinary teams of artists, game designers, animators, coders and software architects with various backgrounds. They use essential, industry-standard open source and proprietary technologies and tools. In capstone project classes, upperclassmen develop their own ideas throughout two semesters. Capstone classes ground students solidly in real-world software development experience. Computer Science & Engineering students also have multiple concentration options: they can focus on Web and Mobile, Software Engineering, or Data Science; or, if they prefer, they can earn a generalist's degree with general concentration. The program's close-knit faculty consists of professionals with strong relationships in the software industry, who offer specialized, current and relevant courses.

PROGRAM LEARNING OUTCOMES

Graduates in the BS in Computer Science (CS) program will:

- **CSE PLO 1:** Identify, interpret and apply key STEM concepts and solve engineering problems.
- **CSE PLO 2:** Demonstrate and ability to design and develop software and hardware systems.
- **CSE PLO 3:** Create optimal solutions for computer-based software systems using advanced concepts of algorithms and computer science theory.
- **CSE PLO 4:** Acquire and develop new knowledge independently by conducting research and applying critical thinking.
- **CSE PLO 5:** Demonstrate effective collaboration in engineering or multidisciplinary team projects.
- **CSE PLO 6:** Successfully transform real-world customer specifications into software requirements and deliver a working solutions.

GENERAL CONCENTRATION

BS in Computer Science (CS) Curriculum General Concentration		
Computer Science and Engineering Core Courses - 50 Credits		
Course Number	Course Name	Credits
CS100	Introduction to Scripting: Python	3
CS110	C Programming	4
CS115	Web Programming: HTML5, CSS and JavaScript	3
CS190	Digital Systems	3
CS212	Java Programming	4
CS221	Linux Programming Environment	3
CS285	C++ Programming: Object Oriented Programming	4
CS295	Data Structures and Algorithms	4
CS320	Operating Systems Concepts	3
CS341	Network Systems	3
CS361	Introduction to Compilers	3
CS351	Computer Architecture	3
CS360	Database Management Systems	4
CSE480	Senior Project 1: Planning	3
CSE485	Senior Project 2: Execution	3
Math and the Sciences Core Courses - 7 Credits		
Course Number	Course Name	Credits
MATH145	Calculus 2	4
MATH295	Discrete Mathematics	3
CSE Program Approved Courses (PAC) - Select 24 credits from the list below		
Course Number	Course Name	Credits
MATH240	Applied Probability and Random Processes	3
MATH245	Calculus 3	3
MATH285	Abstract Algebra	3
MATH290	Linear Algebra and Transformations	3
CS316	Advanced Web Programming	3
CS375	Mobile Programming for iOS	3
CS376	Mobile Programming for Android	3
CS340	Software Engineering Methods and Project 1	3
SWE361	Software QA, Testing and Validation	3
SWE442	Software Engineering Methods and Project 2	3
CS457	Machine Learning	3
CS459	Data Mining and Visualization	3
CS446	High Performance Computing	3
CS352	Embedded Software Systems	3
CS445	Advanced C++ Programming	3
CS447	GUI and Graphics Programming	3
SWE449	Tools Programming	3
SCI345	College Physics 3	3
Elective	Elective or Internship	3
General Education Courses for Computer Science and Engineering Majors - 48 credits		
Total 129 Credits		

WEB AND MOBILE CONCENTRATION

Mobile devices, online apps and web browsers are primary tools for consuming information and entertainment today. Moreover, a large part of our interaction with others occurs through these channels, via social networks, sharing photos and videos, and more. This concentration teaches the basics of software engineering, while focusing on its application to these new mediums. From the first year, students are introduced to these programming paradigms, and are able to use them in projects throughout their studies.

BS in Computer Science (CS) Curriculum Web and Mobile Concentration		
Computer Science and Engineering Core Courses - 50 Credits		
Course Number	Course Name	Credits
CS100	Introduction to Scripting: Python	3
CS110	C Programming	4
CS115	Web Programming: HTML5, CSS and JavaScript	3
CS190	Digital Systems	3
CS212	Java Programming	4
CS221	Linux Programming Environment	3
CS285	C++ Programming: Object Oriented Programming	4
CS295	Data Structures and Algorithms	4
CS320	Operating Systems Concepts	3
CS341	Network Systems	3
CS361	Introduction to Compilers	3
CS351	Computer Architecture	3
CS360	Database Management Systems	4
CSE480	Senior Project 1: Planning	3
CSE485	Senior Project 2: Execution	3
Math and the Sciences Core Courses - 7 Credits		
Course Number	Course Name	Credits
MATH145	Calculus 2	4
MATH295	Discrete Mathematics	3
Web and Mobile Concentration Courses - 9 Credits		
Course Number	Course Name	Credits
CS316	Advanced Web Programming	3
CS375	Mobile Programming for iOS	3
CS376	Mobile Programming for Android	3
CSE Program Approved Courses (PAC) - Select 15 credits from the list below		
Course Number	Course Name	Credits
MATH240	Applied Probability and Random Processes	3
MATH245	Calculus 3	3
MATH285	Abstract Algebra	3
MATH290	Linear Algebra and Transformations	3
CS340	Software Engineering Methods and Project 1	3
SWE361	Software QA, Testing and Validation	3
SWE442	Software Engineering Methods and Project 2	3
CS457	Machine Learning	3
CS459	Data Mining and Visualization	3
CS446	High Performance Computing	3
CS352	Embedded Software Systems	3
CS445	Advanced C++ Programming	3
CS447	GUI and Graphics Programming	3
SWE449	Tools Programming	3
SCI345	College Physics 3	3
Elective	Elective or Internship	3
General Education Courses for Computer Science and Engineering Majors - 48 credits		
Total 129 Credits		

SOFTWARE ENGINEERING CONCENTRATION

The Software Engineering concentration offers an education covering the basics of computer science, together with the engineering aspects related to software development. Graduates will have the skills and experience to both undertake large-scale programming projects, as well as hands-on small-scale projects, as part of a larger team. In addition, graduates will be familiar with some of the tools used in digital arts and game programming.

BS in Computer Science (CS) Curriculum Software Engineering Concentration		
Computer Science and Engineering Core Courses - 50 Credits		
Course Number	Course Name	Credits
CS100	Introduction to Scripting: Python	3
CS110	C Programming	4
CS115	Web Programming: HTML5, CSS and JavaScript	3
CS190	Digital Systems	3
CS212	Java Programming	4
CS221	Linux Programming Environment	3
CS285	C++ Programming: Object Oriented Programming	4
CS295	Data Structures and Algorithms	4
CS320	Operating Systems Concepts	3
CS341	Network Systems	3
CS361	Introduction to Compilers	3
CS351	Computer Architecture	3
CS360	Database Management Systems	4
CSE480	Senior Project 1: Planning	3
CSE485	Senior Project 2: Execution	3
Math and the Sciences Core Courses - 10 Credits		
Course Number	Course Name	Credits
MATH240	Applied Probability and Random Processes	3
MATH145	Calculus 2	4
MATH295	Discrete Mathematics	3
Software Engineering Concentration Courses - 9 Credits		
Course Number	Course Name	Credits
CS340	Software Engineering Methods and Project 1	3
SWE361	Software QA, Testing and Validation	3
SWE442	Software Engineering Methods and Project 2	3
CSE Program Approved Courses (PAC) - Select 12 credits from the list below		
Course Number	Course Name	Credits
MATH245	Calculus 3	3
MATH285	Abstract Algebra	3
MATH290	Linear Algebra and Transformations	3
CS316	Advanced Web Programming	3
CS375	Mobile Programming for iOS	3
CS376	Mobile Programming for Android	3
CS457	Machine Learning	3
CS459	Data Mining and Visualization	3
CS446	High Performance Computing	3
CS352	Embedded Software Systems	3
CS445	Advanced C++ Programming	3
CS447	GUI and Graphics Programming	3
SWE449	Tools Programming	3
SCI345	College Physics 3	3
Elective	Elective or Internship	3
General Education Courses for Computer Science and Engineering Majors - 48 credits		
Total 129 Credits		

DATA SCIENCE CONCENTRATION

New applications rely heavily on huge amounts of data and a highly optimized computing paradigm that uses machine learning and AI. It is this that makes Google Assistant, driverless vehicles or Alexa possible and more usable. This concentration augments the basics of computer science, preparing students for jobs in newly emerging fields. The possible applications of newly learned data science techniques are limitless as AI, machine learning and IoT grow more and more pervasive.

BS in Computer Science (CS) Curriculum Data Science Concentration		
Computer Science and Engineering Core Courses - 50 Credits		
Course Number	Course Name	Credits
CS100	Introduction to Scripting: Python	3
CS110	C Programming	4
CS115	Web Programming: HTML5, CSS and JavaScript	3
CS190	Digital Systems	3
CS212	Java Programming	4
CS221	Linux Programming Environment	3
CS285	C++ Programming: Object Oriented Programming	4
CS295	Data Structures and Algorithms	4
CS320	Operating Systems Concepts	3
CS341	Network Systems	3
CS361	Introduction to Compilers	3
CS351	Computer Architecture	3
CS360	Database Management Systems	4
CSE480	Senior Project 1: Planning	3
CSE485	Senior Project 2: Execution	3
Math and the Sciences Core Courses - 10 Credits		
Course Number	Course Name	Credits
MATH240	Applied Probability and Random Processes	3
MATH145	Calculus 2	4
MATH295	Discrete Mathematics	3
Digital Media Management Concentration Courses - 9 Credits		
Course Number	Course Name	Credits
CS457	Machine Learning	3
CS459	Data Mining and Visualization	3
CS446	High Performance Computing	3
CSE Program Approved Courses (PAC) - Select 12 credits from the list below		
Course Number	Course Name	Credits
MATH245	Calculus 3	3
MATH285	Abstract Algebra	3
MATH290	Linear Algebra and Transformations	3
CS316	Advanced Web Programming	3
CS375	Mobile Programming for iOS	3
CS376	Mobile Programming for Android	3
CS340	Software Engineering Methods and Project 1	3
SWE361	Software QA, Testing and Validation	3
SWE442	Software Engineering Methods and Project 2	3
CS352	Embedded Software Systems	3
CS445	Advanced C++ Programming	3
CS447	GUI and Graphics Programming	3
SCI345	College Physics 3	3
SWE449	Tools Programming	3
Elective	Elective or Internship	3
General Education Courses for Computer Science and Engineering Majors - 48 credits		
Total 129 Credits		

Digital Art and Animation (DAA) DEPARTMENT



Monica Cappiello
Director of Digital Art and Animation (DAA)



Karen Keister
Chair of Art



BA IN DIGITAL ART AND ANIMATION (DAA)

The BA in Digital Art and Animation (DAA) degree program offers students preparation in four concentration areas: 3D Animation, 3D Modeling, Entertainment Design, and Technical Art. The coursework bridges traditional and digital arts classes and includes solid components of theory, production, and general education. Digital Art and Animation project classes provide many opportunities for collaborations with other programs at Cogswell, such as Digital Audio Technology. Portfolio classes provide a format for bringing together all of the elements of the concept-to-delivery pipeline as students collaborate on multidisciplinary teams to complete real world projects.

PROGRAM LEARNING OUTCOMES

Graduates in the BA Digital Art and Animation (DAA) program will:

- **DAA PLO 1:** Demonstrate an effective application of design principles and color theory in student projects.
- **DAA PLO 2:** Employ creative aspects of experimentation and iteration in their designs.
- **DAA PLO 3:** Recognize and differentiate the critical components of a project.
- **DAA PLO 4:** Create expressive characters, environments and props using traditional tools and techniques of the industry.
- **DAA PLO 5:** Integrate inventive principles, techniques and skills in student projects.
- **DAA PLO 6:** Contribute effectively their expertise to a collaborative project.

3D ANIMATION CONCENTRATION

The 3D Animation concentration encompasses character, non-character and experimental animation. Character animation fuses acting, performance and the principles of movement to create believable, genuine, emotive characters. Character design, story structure and strong animation fundamentals are used by students to create a short, animated film project in their senior year. Fundamentals and the development of the "craft" of animation are stressed. Students may produce animations fusing both traditional and computer techniques. Non-character animation focuses on visual effects, abstract animation, or the motion of inanimate objects. Students are encouraged to combine media to produce original, creative work and content.

BA in Digital Art and Animation (DAA) Curriculum		
3D Animation Concentration		
Digital Art and Animation Core Courses - 36 Credits		
Course Number	Course Name	Credits
ART100	2D Design 1	3
ART105	Color Theory	3
DAA106	Digital Imaging Concepts	3
ART110	Sketching	3
ART115	Figure Drawing 1	3
ART212	Perspective and Rendering	3
DAA240	Introduction to 3D Modeling	3
DAA244	Introduction to 3D Animation Principles	3
CS100	Introduction to Scripting: Python	3
DAA480	Portfolio 1	3
DAA 476 or DAA483	Animated Film Production or MediaWorks	3
DAA474 or DAA 476 or DAA477 or DAA483 or DAA485	Animated Film Pre-Production or Animated Film Production or Animated Film Post-Production or MediaWorks or Portfolio 2	3
3D Animation Concentration Courses - 36 credits		
Course Number	Course Name	Credits
DAA200	Acting	3
DAA221	Motion Graphics and Editing	3
DAA264	Drawing Animation 1	3
DAA265 or DAA312	2D Animation 1 or Animal Drawing and Motion	3
DAA267	Character Rigging	3
DAA310	Storyboarding	3
DAA321	Quadruped Animation	3
DAA360	3D Animation 1	3
DAA365	3D Animation 2	3
DAA465	3D Animation 3	3
DAA425	Advanced Motion Graphics	3
GAM360	Game Animation	3
Electives - 6 credits		
Course Number	Course Name	Credits
Elective	Elective or Internship	3
Elective	Elective or Internship	3
General Education Courses for Non-Engineering Majors - 45 credits		
Total 123 Credits		

3D MODELING CONCENTRATION

The Modeling concentration develops both 2D and 3D skills in modeling. It allows the student to focus on strong conceptual visual skills, hands-on model building, digitizing, texture mapping and other techniques necessary for model data set creation. These models find applications in movies, commercials, simulators and emulators, games, animation sequences, product design and product development.

BA in Digital Art and Animation (DAA) Curriculum		
3D Modeling Concentration		
Digital Art and Animation Core Courses - 36 Credits		
Course Number	Course Name	Credits
ART100	2D Design 1	3
ART105	Color Theory	3
DAA106	Digital Imaging Concepts	3
ART110	Sketching	3
ART115	Figure Drawing 1	3
ART212	Perspective and Rendering	3
DAA240	Introduction to 3D Modeling	3
DAA244	Introduction to 3D Animation Principles	3
CS100	Introduction to Scripting: Python	3
DAA480	Portfolio 1	3
DAA 476 or DAA483	Animated Film Production or MediaWorks	3
DAA474 or DAA 476 or DAA477 or DAA483 or DAA485	Animated Film Pre-Production or Animated Film Production or Animated Film Post-Production or MediaWorks or Portfolio 2	3
3D Modeling Concentration Courses - 36 credits		
Course Number	Course Name	Credits
ART230	Introduction to Sculpture	3
DAA250	Digital Sculpture	3
DAA267	Character Rigging	3
DAA245	Texturing	3
DAA248	Lighting and Layout 1	3
DAA340	Modeling 1	3
DAA345	Modeling 2	3
DAA370	Concept Design	3
DAA440	Modeling 3	3
DAA326 or DAA442	Advanced Texturing or Advanced Lighting and Layout	3
GAM250	Game 3D Asset Creation	3
GAM370	Environment Art	3
Electives - 6 credits		
Course Number	Course Name	Credits
Elective	Elective or Internship	3
Elective	Elective or Internship	3
General Education Courses for Non-Engineering Majors - 45 credits		

Total 123 Credits

3D ENTERTAINMENT DESIGN CONCENTRATION

The Entertainment Design concentration integrates a strong traditional art background with skills in digital imagery. The course of study includes drawing, painting, illustration, character design and concept art. It is geared toward students interested in concept design, storyboarding, digital painting and 3-D model texturing. Issues of presentation and delivery are addressed. The ability to transform verbal and written directions into visual representations of characters and scenes is emphasized.

BA in Digital Art and Animation (DAA) Curriculum Entertainment Design Concentration		
Digital Art and Animation Core Courses - 36 Credits		
Course Number	Course Name	Credits
ART100	2D Design 1	3
ART105	Color Theory	3
DAA106	Digital Imaging Concepts	3
ART110	Sketching	3
ART115	Figure Drawing 1	3
ART212	Perspective and Rendering	3
DAA240	Introduction to 3D Modeling	3
DAA244	Introduction to 3D Animation Principles	3
CS100	Introduction to Scripting: Python	3
DAA480	Portfolio 1	3
DAA 476 or DAA483	Animated Film Production or MediaWorks	3
DAA474 or DAA 476 or DAA477 or DAA483 or DAA485	Animated Film Pre-Production or Animated Film Production or Animated Film Post-Production or MediaWorks or Portfolio 2	3
Entertainment Design Concentration Courses - 36 credits		
Course Number	Course Name	Credits
ART210	Figure Drawing 2	3
DAA245	Texturing	3
DAA250	Digital Sculpture	3
DAA270	Illustration 1	3
DAA264	Drawing Animation 1	3
DAA320	Digital Painting	3
DAA340	Modeling 1	3
DAA370	Concept Design	3
DAA310	Storyboarding	3
DAA221	Editing and Motion Graphics	3
DAA425	Advanced Motion Graphics	3
DAA435	Matte Painting	3
Electives - 6 credits		
Course Number	Course Name	Credits
Elective	Elective or Internship	3
Elective	Elective or Internship	3
General Education Courses for Non-Engineering Majors - 45 credits		
Total 123 Credits		

TECHNICAL ART CONCENTRATION

The Technical Art concentration combines a student's artistic abilities with the technical toolkit of the CG world. Traditional courses like drawing, painting and sculpting help the student develop an artistic eye. Industry standard software programs are used in 3D Modeling, 3D Animation, and Texturing and Lighting courses. Coursework includes computer programming classes that enable the student to customize tools in CG software programs. The concentration allows the student to focus on lighting and compositing or rigging and scripting. Students can complete their programs of study by working on one of the many large projects on campus.

BA in Digital Art and Animation (DAA) Curriculum		
Technical Art Concentration		
Digital Art and Animation Core Courses - 36 Credits		
Course Number	Course Name	Credits
ART100	2D Design 1	3
ART105	Color Theory	3
DAA106	Digital Imaging Concepts	3
ART110	Sketching	3
ART115	Figure Drawing 1	3
ART212	Perspective and Rendering	3
DAA240	Introduction to 3D Modeling	3
DAA244	Introduction to 3D Animation Principles	3
CS100	Introduction to Scripting: Python	3
DAA480	Portfolio 1	3
DAA 476 or DAA483	Animated Film Production or MediaWorks	3
DAA474 or DAA 476 or DAA477 or DAA483 or DAA485	Animated Film Pre-Production or Animated Film Production or Animated Film Post-Production or MediaWorks or Portfolio 2	3
Technical Art Concentration Courses - 36 credits		
Course Number	Course Name	Credits
DAA245	Texturing	3
DAA248	Lighting and Layout	3
DAA326	Advanced Texturing	3
DAA267	Character Rigging	3
DAA340	Modeling 1	3
DAA325 or DAA442	Advanced Character Rigging or Advanced Lighting and Layout	3
DAA358	Dynamics	3
DAA400	Compositing and Special Effects	3
CS189	Object-Oriented Programming with Python	3
SWE449	Tools Programming	3
MATH215	Mathematics for Computer Graphics	3
GAM430	Real-Time Visual Effects	3
Electives - 3 credits		
Course Number	Course Name	Credits
Elective	Elective or Internship	3
Elective	Elective or Internship	3
General Education Courses for Non-Engineering Majors - 45 credits		
Total 123 Credits		

Audio and Music Technology (AMT) DEPARTMENT



Xo Xinh Nguyen

Associate Professor and Director
of Audio and Music Technology
(AMT)

BS IN DIGITAL AUDIO TECHNOLOGY (DAT)

The BS in Digital Audio Technology (DAT) degree program offers students who seek professional careers in the audio industry the opportunity to focus on audio production or audio software development. The DAT program features an integrated curriculum that includes music theory and composition (for Audio and Music Production majors), studio production, sound synthesis, soundtrack production, audio mastering and audio software development (for Audio Software Development and Engineering majors). DAT students learn a wide range of skills and concepts fundamental to digital audio and engage extensively in project-based learning. All DAT students participate in a senior-level multidisciplinary collaborative project. Each concentration track culminates in a year-long senior portfolio or engineering project.

PROGRAM LEARNING OUTCOMES

Graduates in BS in Digital Audio Technology (DAT) program will:

- **DAT PLO1:** Execute a collaborative audio production from concept to delivery according to industry standards.
- **DAT PLO2:** Demonstrate proficiency and parsimony in the methods and practices of audio production.
- **DAT PLO3:** Develop a comprehensive skill set required for a successful career in the audio or music industries.

Graduates with a concentration in Audio and Music Production (AMP) will:

- **AMP LO4:** Execute an individual audio production project from concept to delivery according to industry standards.
- **AMP LO5:** Demonstrate the application of STEM-based techniques in an audio context.
- **AMP LO6:** Apply deep and diversified aesthetic judgment to the creation of audio and music projects.
- **AMP LO7:** Create a formal career plan within a chosen subfield of the audio or music industries.

Graduates with a concentration in Audio Software Development and Engineering (ASD) will:

- **ASD LO4:** Create new audio-related projects from existing and emerging audio technologies.
- **ASD LO5:** Utilize the methods of mathematics, physics and computer science to solve audio software development problems.
- **ASD LO6:** Apply professional soft skills and an understanding of web technologies to the development of a professional portfolio.

AUDIO AND MUSIC CONCENTRATION

Central to the DAT program is Audio and Music Production, which consists of desktop audio production, studio production, and soundtrack production/postproduction for motion pictures and videogames. The primary emphasis of this concentration is mastery of the concept-to-delivery pipeline for audio production: students produce audio content-to-order for clients and collaborative projects, or original creative work to market and distribute themselves. The senior-level portfolio classes provide a format for bringing together all of the elements of concept-to-delivery in a major collaborative or solo project. Cogswell Polytechnical College provides many opportunities for collaborative work and project-based learning for DAT students, particularly in the crafting of soundtracks for animations and videogames.

BS in Digital Audio Technology (DAT) Curriculum Audio and Music Production Concentration		
Digital Audio Technology Core Courses - 21 Credits		
Course Number	Course Name	Credits
DAT110	Desktop Production Fundamentals	3
DAT115	Desktop Audio Production	3
DAT210	Digital Sound Synthesis	3
DAT212	Introduction to Game Audio	3
DAT220	Studio Production 1	3
DAT320	Studio Production 2	3
DAT335	Music Perception and Cognition	3
Audio and Music Production Concentration Courses - 55 credits		
Course Number	Course Name	Credits
BUS110 or BUS270	Principles of Management or Project Management	3
DAT102	Music Theory 1	3
DAT107	Music Theory 2	3
DAT238	Principles of Room Acoustics	3
DAT281	Audio & Music Industry Business Principles	3
DAT203	Songwriting	3
DAT209 or DAT208	Music Composition or Live Sound	3
DAT285	Second Year Portfolio	3
DAT303 or DAT404	Cultural Trends and Musical Style or The Ultimate Electronic Music Production	3
DAT325	Audio Production Project	4
DAT331	Programming for Audio Production	3
(Select Two) DAT324, DAT326, or DAT420	Studio Production 3, Digital Sound Design or Audio Mastering	6
DAT340	Film Scoring	3
DAT342 or DAT355	Interactive Game Composition or Game Audio Implementation	3
DAT483	Media Works 1	3
(Select One) DAT480, GAM485, or DAT489	Portfolio 1, Game Studio 2, or Media Works 2	3
DAT485	Portfolio 2	3
Electives - 9 credits		
Course Number	Course Name	Credits
Elective	Elective or Internship	3
Elective	Elective or Internship	3
Elective	Elective	3
General Education Courses for Non-Engineering Majors - 45 credits		
Total 130 Credits		

AUDIO SOFTWARE DEVELOPMENT AND ENGINEERING CONCENTRATION

For students with a strong foundation in math and science, DAT offers a program of study that integrates audio technology and software engineering in preparation for careers in the manufacturing side of the audio industry. The program combines study of calculus, engineering physics, software engineering and digital signal processing in conjunction with digital audio content production. Throughout the program there are many opportunities for project-based learning and focused application of digital audio and engineering concepts. In the senior audio engineering project classes, students synthesize all of the components of their study into the design and implementation of an audio application, plugin or app, or a game audio programming collaborative project.

BS in Digital Audio Technology (DAT) Curriculum		
Audio Software Development and Engineering Concentration		
Digital Audio Technology Core Courses - 21 Credits		
Course Number	Course Name	Credits
DAT110	Desktop Production Fundamentals	3
DAT115	Desktop Audio Production	3
DAT210	Digital Sound Synthesis	3
DAT212	Introduction to Game Audio	3
DAT220	Studio Production 1	3
DAT320	Studio Production 2	3
DAT335	Music Perception & Cognition	3
Audio Software Development Concentration Courses - 24 credits		
Course Number	Course Name	Credits
DAT120	Introduction to the Techniques of Digital Signal Processing	3
DAT350	Audio Programming	3
DAT360	Digital Signal Processing	3
DAT366	Digital Audio Filters	3
DAT450	Audio Software Development	3
DAT475	Audio Software Development Collaborative Project	3
DAT481	Audio Engineering Project 1	3
DAT487	Audio Engineering Project 2	3
Engineering Concentration Courses - 15 Credits		
CS110	C Programming	4
CS285	C++ Programming: Object Oriented Programming	4
CS295	Data Structures and Algorithms	4
CS340	Software Engineering Methods and Project 1	3
Mathematics and the Sciences Core Courses - 13 Credits		
MATH145	Calculus 2	4
MATH240	Applied Probabilities and Random Processes	3
MATH245	Calculus 3	3
MATH346	Applied Differential Equations	3
Electives - 9 credits		
Course Number	Course Name	Credits
Elective	Elective or Internship	3
Elective	Elective or Internship	3
Elective	Elective	3
General Education Courses for Non-Engineering Majors - 48 credits		
Total 130 Credits		

Game Design and Development (GDD) DEPARTMENT



Ricardo Kayanan
Director of Game Design
and Development (GDD)



DEGREES IN GAME DESIGN AND DEVELOPMENT (GDD)

The Game Design and Development degree programs at Cogswell Polytechnical College best exemplify the intersection of engineering and art for games and various forms of interactive technology. As the market for computer games and gamification demands visually high detail with fun, interactive, compelling stories, and dynamic gameplay, there is a need for highly skilled people with specialized expertise. The Game Design and Development Department offers two degree programs which represent the two sides of game development teams. The BA in Game Design Art (GDA) degree program is focused on art and content creation. The BS in Game Design Engineering (GDE) degree program is focused on engineering and the more technical aspects of game creation.

PROGRAM LEARNING OUTCOMES

Graduates in the Game Design and Development (GDD) programs will:

- **GDD PLO1:** Construct project plans integrating principles of project planning and game theory, incorporating concepts, techniques, and scheduling.
- **GDD PLO2:** Apply technology, software and engineering concepts to the interpretation and analysis of data.
- **GDD PLO3:** Demonstrate creation of a project through collaboration with a multi-disciplinary project team.
- **GDD PLO4:** Author game content for multiple platforms using 2 and 3-dimensional asset techniques and principles.
- **GDD PLO5:** Create an online portfolio that demonstrates principles, techniques and skills applicable in the industry.
- **GDD PLO6:** Demonstrate application of gameplay, narrative, and/or visual aesthetics within game development

BA IN GAME DESIGN ART (GDA)

The BA in Game Design Art (GDA) students will graduate with education in the creative aspects of game design. Students within the GDA Game Art concentration focus on topics such as 2D art, 3D art, level design, storytelling, and team-oriented project creation for multiple platforms. Students in the GDA Game Writing concentration learn game and level design while taking a deep dive into the narrative side of game development.

GDA classes provide many opportunities for collaborations with students in other programs at Cogswell, including Digital Audio Technology and Game Design Engineering. Portfolio classes provide a format for bringing all elements of a concept to the delivery pipeline as students collaborate on multidisciplinary teams to complete real world projects. Students learn to work on teams that mirror real development teams consisting of artist, writers, engineers, audio specialists, and management.

GAME ART CONCENTRATION

The Game Art concentration encompasses the visual aspects of game design. Students focus on 3D modeling, texturing and conceptualizing all the necessary content needed to create compelling and immersive video game art. The game artist will learn the technical and creative skills needed to deliver quality assets to current game engines in a productive pipeline.

BA in Game Design Art (GDA) Curriculum		
Game Art Concentration		
Game Design Art Core Courses - 33 Credits		
Course Number	Course Name	Credits
GAM225	Introduction to Game Production	3
GAM220	Introduction to Game Storytelling (or GAM235 Game Usability if GAM235 already taken)	3
GAM295	Game Design 1	3
GAM355	Level Design 1	3
GAM376	Game Design 2	3
GAM415	Level Design 2	3
GAM480	Game Studio 1	3
GAM485	Game Studio 2	3
BUS110 or BUS270	Principles of Management, or Project Management	3
ART100	2D Design	3
CS100	Introduction to Scripting: Python	3
Game Art Concentration Courses – 36 credits		
Course Number	Course Name	Credits
ART105	Color Theory	3
ART110	Sketching	3
DAA106	Digital Imaging Concepts	3
DAA245	Texturing	3
DAA267	Character Rigging	3
GAM250 or DAA340	Game 3D Asset Creation or Modeling 1	3
ART115	Figure Drawing 1	3
DAA320	Digital Painting	3
ART212	Perspective and Rendering	3
DAA240	Introduction to 3D Modeling	3
DAA244	Introduction to 3D Animation Principles	3
GAM370	Environment Art	3
Electives - 6 credits		
Course Number	Course Name	Credits
Elective	GAM360 “Game Animation” or Internship or Elective	3
Elective	Elective or Internship	3
General Education Courses for Non-Engineering Majors - 45 credits		
Total 120 Credits		

GAME WRITING CONCENTRATION

The Game Writing concentration immerses students in the narrative side of game design and development. It emphasizes a strong foundation in traditional storytelling concepts – including story structure, character development and world-building – then focuses on the best methods of applying these principles to the interactive game space. Students explore unique narrative elements such as player agency, dynamic dialogue, branching storylines and others, learning to create engaging, interactive stories that could only be experienced in a video game.

BA in Game Design Art (GDA) Curriculum Game Writing Concentration		
Game Design Art Core Courses - 33 Credits		
Course Number	Course Name	Credits
GAM225	Introduction to Game Production	3
GAM220	Introduction to Game Storytelling (or GAM235 Game Usability if GAM235 already taken)	3
GAM295	Game Design 1	3
GAM355	Level Design 1	3
GAM376	Game Design 2	3
GAM415	Level Design 2	3
GAM480	Game Studio 1	3
GAM485	Game Studio 2	3
BUS110 or BUS270	Principles of Management, or Project Management	3
ART100	2D Design	3
CS100	Introduction to Scripting: Python	3
Game Writing Concentration Courses – 33 credits		
Course Number	Course Name	Credits
ENG227	Scriptwriting	3
ENG228	Creative Writing	3
GAM260	Game Writing 1	3
GAM340	Game Writing 2	3
GAM420	Narrative Design and Leadership	3
ENG310	Classics of Western Drama	3
HUM228	Video Games and Society	3
HUM225 or HUM226 or HUM227	The Horror Film, or Science Fiction Cinema, or Film History	3
DAA240 or CS285	Introduction to 3D Modeling or C++ Programming: Object Oriented Programming	3
ENG220	Technical and Professional Writing	3
Concentration Elective	Elective Recommended by Academic Advisor	3
Electives - 9 credits		
Course Number	Course Name	Credits
Elective	Elective or Internship	3
Elective	Elective or Internship	3
Elective	Elective or Internship	3
General Education Courses for Non-Engineering Majors - 45 credits		
ENG229	Cog: The Publishing Experience (<i>recommended</i>)	3
SSC180	Introduction to Psychology (<i>recommended</i>)	3
Total 120 Credits		

BS IN GAME DESIGN ENGINEERING (GDE)

The BS in Game Design Engineering (GDE) students will graduate with knowledge in game design, game programming languages, tools programming, scripting languages and software development on the engineering side. These skills are essential in the computer gaming, simulation, visualization, and game engine programming industries. Since the industry also places high importance on teamwork, Cogswell's coursework offers numerous opportunities to participate in multidisciplinary team projects. Students learn to work in groups mirroring real development teams that consist of artists, engineers, audio, and management.

BS in Game Design Engineering (GDE) Curriculum		
General Concentration		
Game Design Engineering Core Courses - 33 Credits		
Course Number	Course Name	Credits
GAM225	Introduction to Game Production	3
GAM220	Introduction to Game Storytelling (or GAM235 Game Usability if GAM235 already taken)	3
GAM295	Game Design 1	3
GAM355	Level Design 1	3
GAM376	Game Design 2	3
GAM415	Level Design 2	3
GAM480	Game Studio 1	3
GAM485	Game Studio 2	3
BUS110 or BUS125 or BUS270	Principles of Management, or Business Law, or Project Management	3
ART100	2D Design	3
CS100	Introduction to Scripting: Python	3
Game Design Engineering Concentration Courses – 48 credits		
Course Number	Course Name	Credits
ART110	Sketching	3
DAA106	Digital Imaging Concepts	3
DAA240	Introduction to 3D Modeling	3
DAA245	Texturing	3
DAA267	Character Rigging	3
MATH145	Calculus 2	4
MATH295	Discrete Mathematics	3
MATH290	Linear Algebra and Transformations	3
CS115	Web Programming: HTML5, CSS and JavaScript	3
CS285	C++ Programming: Object Oriented Programming	4
CS295	Data Structures and Algorithms	4
SWE375 or SWE376	Mobile Programming for iOS, or Mobile Programming for Android	3
CS445	Advanced C++ Programming	3
SWE447	GUI and Graphics Programming	3
SWE449	Tools Programming	3
Electives - 3 credits		
Course Number	Course Name	Credits
Elective	Elective or Internship	3
General Education Courses for Engineering Majors - 48 credits		
Total 132 Credits		

VIRTUAL REALITY AND AUGMENTED REALITY (VRAR)

The Virtual Reality and Augmented Reality (VRAR) certificate program addresses the development of content for virtual reality (VR) and augmented reality (AR). VR is a new human-user interaction paradigm utilizing computer-generated immersive environments. AR overlays interaction with the physical world with computer-generated three-dimensional visual and auditory sensory information to provide an enriched experience without excluding the surrounding environment.

This program is a six-course set of specialized classes that will be offered weekday evenings and weekends to accommodate the schedules of industry professionals. The purpose of this certificate program is to provide professionals in the computer graphics industry knowledge and skills needed to create VR or AR content.

Virtual Reality / Augmented Reality (VRAR) Curriculum	
Course Number	Course Name
VRAR400	Perception, Cognition and Presence in VR/AR
VRAR450	Human Computer Interface and Interaction Design
VRAR500	VR/AR Design Principles 1
VRAR525	VR/AR Design Principles 2
VRAR550	VR/AR Studio Project 1
VRAR555	VR/AR Studio Project 2

General Education (GE) Department



Nirmal Singh

Chair of Mathematics and the Sciences



Soma Mei Sheng Frazier

Chair of English and the Humanities

The mission of the General Education Department at Cogswell Polytechnical College is to provide students with the following: a basic knowledge of key subjects as a foundation for further learning, the written and oral communication skills necessary to function in a professional environment, the experience to find and evaluate sources of required information, the critical thinking and quantitative analysis skills to make reasoned judgments, the ethical awareness to make principled decisions as responsible members of a global society, and the inspiration to continue exploring new areas of interest for the rest of their lives.

GENERAL EDUCATION COURSE REQUIREMENTS AS OF FALL 2019

PREPARATORY COURSES			
<i>Preparatory Courses may be required in certain subjects. These courses DO NOT count towards degree completion</i>			
Course Number	Course Name	Credits	Prerequisites
ENG050	Grammar and Composition	3	None
MATH003	Intermediate Algebra	3	None
MATH050	Basic Algebra	3	None
MATH060	Success in College Algebra	2	Placement Exam
DAT050	Music Fundamentals	3	None
MATH116	Pre-Calculus (<i>Engineering Majors only</i>)	4	MATH003 or Placement Exam
BASIC SKILLS			
AREA: WRITTEN COMMUNICATION			
Course Number	Course Name	Credits	Prerequisites
ENG100	English Composition	3	ENG050 or Placement Exam
AREA: ORAL COMMUNICATION			
Course Number	Course Name	Credits	Prerequisites
ENG250	Speech and Oral Communication	3	ENG100
AREA: CRITICAL THINKING			
Course Number	Course Name	Credits	Prerequisites
ENG105	Critical Reading, Thinking and Writing	3	ENG050 or Placement Exam
HUM100	Disruptive Imagination	3	None
HUMANITIES AND ARTS – 1 Course from each area			
AREA: ARTS			
Course Number	Course Name	Credits	Prerequisites
ENG229	Cog: The Publishing Experience	3	ENG100
HUM120	The Nature and History of Western Art	3	None
HUM122	World Music	3	None
HUM125	Music in Western Culture	3	None
HUM225	The Horror Film	3	ENG100
HUM226	Science Fiction Cinema	3	ENG100
HUM227	Film History	3	ENG100
HUM228	Video Games and Society	3	ENG100
HUM230	History of Animation	3	ENG100
HUM329	COG2: Advanced Literary Studies	3	ENG100
AREA: LETTERS			
Course Number	Course Name	Credits	Prerequisites
ENG227	Scriptwriting	3	ENG100
ENG228	Creative Writing	3	ENG100
ENG229	Cog: The Publishing Experience	3	ENG100
ENG280	Apocalypse and The American Imagination	3	ENG100
ENG285	Visions of American Dystopias	3	ENG100
HUM329	COG2: Advanced Literary Studies	3	ENG100
AREA: WRITTEN COMMUNICATION II			
Course Number	Course Name	Credits	Prerequisites
ENG220	Technical and Professional Writing	3	ENG100
ENG227	Scriptwriting	3	ENG100
ENG228	Creative Writing	3	ENG100
ENG229	Cog: The Publishing Experience	3	ENG100
ENG280	Apocalypse and the American Imagination	3	ENG100
ENG285	Vision of American Dystopias	3	ENG100
ENG300	Essentials of Written Communication	3	ENG100

ENG310	Classics of Western Drama	3	ENG100
HUM225	The Horror Film	3	ENG100
HUM226	Science Fiction Cinema	3	ENG100
HUM227	Film History	3	ENG100
HUM228	Video Games and Society	3	ENG100
HUM230	History of Animation	3	ENG100
HUM329	COG2: Advanced Literary Studies	3	ENG100
HUM361	Contemporary Ethical Issues	3	ENG100
SSC225	Fashion and Culture	3	ENG100
SSC227	Architecture and World Societies	3	ENG100
SSC230	Human Behavior and Entrepreneurship	3	ENG100

SOCIAL SCIENCES – 1 Course from each area.

AREA 1: HUMAN BEHAVIOR

Course Number	Course Name	Credits	Prerequisites
ENG280	Apocalypse and The American Imagination	3	ENG100
ENG285	Visions of American Dystopias	3	ENG100
HUM228	Video Games and Society	3	ENG100
HUM329	COG2: Advanced Literary Studies	3	ENG100
HUM361	Contemporary Ethical Issues	3	ENG100
SSC180	Introduction to Psychology	3	None
SSC225	Fashion and Culture	3	ENG100
SSC227	Architecture and World Societies	3	ENG100
SSC230	Human Behavior and Entrepreneurship	3	ENG100

AREA 2: COMPARATIVE SYSTEMS

Course Number	Course Name	Credits	Prerequisites
HUM200	History of the Modern World	3	ENG100
SSC200	U.S. Government	3	ENG100
SSC332	Global Political Economics	3	ENG100

AREA 3: SOCIAL ISSUES

Course Number	Course Name	Credits	Prerequisites
ENG280	Apocalypse and The American Imagination	3	ENG100
ENG285	Visions of American Dystopias	3	ENG100
HUM200	History of the Modern World	3	ENG100
HUM228	Video Games and Society	3	ENG100
HUM329	COG2: Advanced Literary Studies	3	ENG100
HUM361	Contemporary Ethical Issues	3	ENG100
SSC200	U.S. Government	3	ENG100
SSC225	Fashion and Culture	3	ENG100
SSC227	Architecture and World Societies	3	ENG100
SSC230	Human Behavior and Entrepreneurship	3	ENG100

MATHEMATICS AND SCIENCE for Non-Engineering Majors – 1 Course from area 1 and 2 from area 2.

Example of Non-Engineering Majors: Digital Art and Animation (DAA), Game Design Art (GDA), Business Administration (BBA) and Audio & Music Production.

AREA 1: MATHEMATICAL CONCEPTS AND QUANTITATIVE REASONING

Course Number	Course Name	Credits	Prerequisites
MATH112	College Algebra	3	MATH050 or Placement Exam
MATH115	College Algebra and Trigonometry	3	MATH003 or Placement Exam
MATH116	Pre-Calculus	4	MATH003 or Placement Exam
MATH143	Calculus 1	4	MATH116

AREA 2: PHYSICAL AND BIOLOGICAL SCIENCES			
Course Number	Course Name	Credits	Prerequisites
SCI101	Basic Physics 1	3	MATH115, MATH116 or MATH143
SCI102	Basic Physics 2	3	MATH115, MATH116 or MATH143
SCI110	Science of Motion: Humans, Animals, Objectives	3	MATH115, MATH116, or MATH143
SCI130	Basic Concepts of Anatomy and Physiology	3	MATH115, MATH116 or MATH143
SCI145	College Physics 1	4	MATH143
SCI245	College Physics 2	4	SCI145
MATHEMATICS AND SCIENCES for Engineering Majors – 1 Course from area 1 and 2 from area 2.			
Example of Engineering Majors: Computer Science (CS), Game Design Engineering (GDE), Audio Software Development & Engineering and Digital Arts Engineering (DAE).			
AREA 1: MATHEMATICAL CONCEPTS AND QUANTITATIVE REASONING			
Course Number	Course Name	Credits	Prerequisites
MATH143	Calculus 1	4	MATH116
AREA 2: PHYSICAL AND BIOLOGICAL SCIENCES			
Course Number	Course Name	Credits	Prerequisites
SCI145	College Physics 1	4	MATH143
SCI245	College Physics 2	4	SCI145
SCI345	College Physics 3	3	SCI245
UPPER-DIVISION GENERAL EDUCATION – 1 Course from each area			
AREA 1: 300-LEVEL GE COURSE			
Course Number	Course Name	Credits	Prerequisites
ENG300	Essentials of Written Communication	3	Junior Status
ENG310	Classics of Western Drama	3	Junior Status
HUM329	COG 2: Advanced Literary Studies	3	ENG100
HUM361	Contemporary Ethical Issues	3	Junior Status
SSC332	Global Political Economics	3	Junior Status
AREA 2: SENIOR-LEVEL RESEARCH AND WRITING			
Course Number	Course Name	Credits	Prerequisites
HUM400	Research and Writing Capstone Project	3	Senior Status

COURSE DESCRIPTIONS

COURSE NUMBERING TAXONOMY

Courses are designated with a number, which indicates the level of the course:

- 000–099 Preparatory coursework
- 100–299 Lower-division courses primarily for freshman and sophomores
- 300–499 Upper-division courses primarily for juniors and seniors
- 500 or higher Graduate Courses

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
ART100	2D Design	3	15	60	75

Students are introduced to the principles of two-dimensional image making with an emphasis on visual communication. They utilize the elements and principles of design while working with traditional and digital media. Students will analyze the form and function of design, various principles of perception and Gestalt theory. The importance of presentation and craftsmanship is emphasized.

Prerequisite: None

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
ART105	Color Theory	3	15	60	75

This course is an introduction to color theory. Color properties and color relationships are studied through formal exercises and creative thinking. Additive and subtractive color principles are addressed using a variety of media. Students build a vocabulary for analyzing and identifying color phenomena. Color use in a variety of fields are examined to understand the application of color theory.

Prerequisite: None

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
ART108	Introduction to Photography	3	15	60	75

This course serves as an introduction to traditional photographic image making with the addition of a digital perspective. Through a combination of lectures, demonstrations, assignments and critiques students learn the technical issues of photography and learn to control the photographic medium. Students examine various photographic approaches and philosophies to explore how photographic imagery can be used for personal artistic expression.

Prerequisite: ART100

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
ART110	Sketching	3	15	60	75

This course introduces the fundamentals of drawing. Students learn basic skills and techniques for drawing from direct observation using subjects such as still life, landscape and architecture. Perceptual skills and the use of line, shade, perspective, and composition are developed. Analysis of drawings, critiques and classroom discussions build vocabulary and enrich the students' understanding of drawing.

Prerequisite: None

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
ART115	Figure Drawing 1	3	15	60	75

Students will study life-drawing from unclothed models. The course addresses the structure and anatomy of the human form, proportion, volumes, light and shade. Students will develop a basic understanding of the figure in motion. Drawing skills developed in previous courses are further refined by using a variety of drawing media.

Prerequisite: ART110

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
ART120	Traditional Painting	3	15	60	75

This course in painting emphasizes perception development through specific painting exercises. Students will develop an orderly approach and disciplined perception. Students learn about painting materials and their specific uses. This course increases the student's understanding of color theory.

Prerequisite: ART105 AND ART110

DAA320 Digital Painting may be used to satisfy course requirement in lieu of ART120 Traditional Painting for certain educational programs.

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
ART210	Figure Drawing 2	3	15	60	75

This course serves as a continuation of Figure Drawing 1. Students study life with professional unclothed models. Students study techniques in contour and gesture drawing. The course addresses advanced human anatomy and structure of the human form. Students refine their drawing skills with techniques in proportion, volume, light and shade using a variety of drawing media.

Prerequisite: ART115

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
ART212	Perspective and Rendering	3	15	60	75

This course provides an in-depth study of perspective and the application of light and dark values to convey a sense of form. Students learn to create core shadows and shadow projections to achieve believable grounding in space. The course covers multiple visualization techniques to create the desired shape and material finish.

Prerequisite: ART110

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
ART230	Introduction to Sculpture	3	15	60	75

In this course, students develop their understanding of three-dimensional gesture and form. Students study concept development, expression and spatial concepts of representational 3D space. Coursework includes the exploration of primary, secondary, and tertiary form for humans, animals, and environments. Students learn the techniques and tools used to create representational sculpture in traditional clay media.

Prerequisite: ART115

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
ART299	Special Topic	TBD	TBD	TBD	TBD

Course on a special topic in Art. May be used as elective and repeated as topic changes.

Prerequisite: As Appropriate

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
ART330	Figure Sculpture	3	15	60	75

This course develops the student's understanding of the gestural, constructive and anatomical structures of the human figure. Students apply this knowledge to unique character and figurative sculpture in traditional sculpting media. Coursework includes advanced study of human skeletal and muscle systems.

Prerequisite: ART230

ART330 Figure Sculpture may be used to satisfy course requirement in lieu of ART335 Portrait Sculpture for certain educational programs.

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
ART335	Portrait Sculpture	3	15	60	75

In this course, students explore portrait sculpture for character development. The emotive qualities of human expression are sculpted using Plastalina modeling clay. Students focus on the anatomy of the head and neck as critical to the development of emotionally convincing characters.

Prerequisite: ART230

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
ART499	Special Topic	TBD	TBD	TBD	TBD

Advanced course on a special topic in Art. May be used as elective and repeated as topic changes.

Prerequisite: As Appropriate

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
BUS100	Computer Applications for Business	3	45	0	45

Students will become familiar with the general technology used to communicate, organize, and present ideas, information and data within a business environment. Students learn the Microsoft Office Suite TM, including Word TM, Excel TM, and PowerPoint TM. Students are also exposed to the general concepts of databases for data storage and retrieval.

Prerequisite: None

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
BUS105	Financial Accounting	3	45	0	45

Students study corporate financial accounting concepts and theories. Coverage involves the process of analyzing, processing, interpreting and ethically communicating financial information to aid in decision making.

Prerequisite: None

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
BUS110	Principles of Management	3	45	0	45

Students develop skills and knowledge needed to successfully manage businesses and organizations. This course is an intensive and comprehensive introductory study and analysis of the processes required to make effective business decisions in the areas of marketing, operations, human resources management, finance, business viability and execution of strategies.

Prerequisite: None

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
BUS120	Business Communications	3	45	0	45

Students are taught the essential techniques for communicating effectively in business as well as portfolio management. This course applies communication theory to gain key management skills such as communicating with constituencies, writing memos and emails, communicating ethically, working in groups, and giving presentations.

Prerequisite: None

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
BUS125	Business Law	3	45	0	45

This course provides students with foundational information about the U.S. legal system, dispute resolutions and their impact on businesses. Major content areas will include general principles of law, legal types and structures of businesses, relationship between law and ethics, intellectual property, trademark, contracts and business law.

Prerequisite: None

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
BUS130	Creativity	3	45	0	45

Students explore the inspiration behind creativity, how new ideas are generated, how concepts are iterated upon, and different creative processes that can be utilized to think outside the box. Students collaborate to create new ideas and improve them.

Prerequisite: None

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
BUS141	Principles of Marketing	3	45	0	45

Students examine marketing concepts and apply these using traditional and digital media tools. Students are introduced to strategic marketing through segmentation, positioning, market analysis, marketing mix, metrics, as well as the social and ethical responsibilities.

Prerequisite: None

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
BUS145	Data Analysis with Spreadsheets	3	45	0	45

Students are introduced to a range of quantitative tools commonly used to inform business decisions. This course covers descriptive statistics, probability theory, statistical inference, and regression analysis, with an emphasis on the ways in which they are applied to practical business situations.

Prerequisite: MATH115 or MATH116 and BUS120

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
BUS150	Principles of Economics	3	45	0	45

Students explore concepts of supply and demand, purchasing behavior, circular flow, interest rates, inflation, unemployment, supply and demand curves, and factors of production, international trade, monetary and fiscal policy. Students are introduced to the basic tools of economic forecasting.

Prerequisite: MATH115 or MATH116

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
BUS200	Business Systems Analysis	3	45	0	45

Students explore the use of computer-based information systems in all functional areas of business. This course will cover everything from management information systems to decision making.

Prerequisite: BUS100

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
BUS220	Advanced Cost Management	3	45	0	45

This course builds on the knowledge, skills and values established in introductory management accounting courses. The course will broaden and deepen students' knowledge and competencies in applying management accounting techniques to help in planning and decision-making processes.

Prerequisite: BUS105

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
BUS230	Contracts and Procurement	3	45	0	45

Students learn the basic foundations and processes of the contract management process, contracts and legal issues, contracting methods, roles and responsibilities of the negotiating team members, and e-procurement. This course develops students' skills in investigating contracts as a means for individuals and companies to do business. The course will examine actions winning companies are utilizing to secure strategic partnerships, manage expectations and build trust between organizations.

Prerequisite: BUS110 or BUS120

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
BUS235	Group Behavior in Organizations	3	45	0	45

Students learn and explore multiple aspects of collaboration and team work as they create and test their own leadership styles. Team building is explored through case studies and role plays of team formation, brainstorming and collaboration.

Prerequisite: BUS110

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
BUS241	Consumer and Marketing Behavior	3	45	0	45

Students are introduced to the evolving field of consumer behavior, which includes information from social psychology, sociology, and cultural anthropology, sociology, and cultural anthropology. This course involves examination of the important concepts underlying consumer behavior; how and why consumers make purchase decisions, how they think, feel and act before, during and after the purchase.

Prerequisite: MATH115 or MATH116 and BUS141

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
BUS245	Market Research	3	45	0	45

Students study the concepts and techniques useful in the solution of marketing problems and in the identification of marketing opportunities. This course emphasizes the design of information acquisition, evaluation and interpretation of research findings.

Prerequisite: MATH115 or MATH116 and BUS141

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
BUS250	Finance	3	45	0	45

Students learn how to measure, analyze, and manage business through the creation and collection of financial data. Students will learn the fundamentals of decision making on the basis of financial statements and key return metrics.

Prerequisite: MATH115 or MATH116 and BUS110

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
BUS270	Project Management	3	45	0	45

Students learn the discipline of project management. Students will become fluent in project management tools through the creation and management of timetables, schedules, project completion, progress tracking and results evaluation.

Prerequisite: ENG100

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
BUS275	Managerial Accounting	3	45	0	45

Students learn the managerial applications of accounting information. Students are introduced to traditional cost behavior concepts, cost-volume-profit (CVP) analysis, product costing, basic cost analysis, decision definitions, relevant information formatting, and how to use these information to make informed decisions to achieve the business goals of the organization.

Prerequisite: BUS105

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
BUS280	Human Resources Management	3	45	0	45

Students are familiarized with major topics in Human Resource Management. The course highlights important challenges facing managers and employees in the modern business environment.

Prerequisite: BUS235

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
BUS299	Special Topic - Introduction to Business Analytics	3	45	0	45

Data analytics is defined as the extensive use of data to drive business decisions and strategies. In addition to exploring various analytical methodologies and techniques, students learn about the process of transforming data into actions through analysis and insights in the context of organizational decision making and problem solving. Data analytics include a range of activities, including getting familiar and applying quantitative and qualitative methods, including statistical analysis, forecasting and predictive modeling. This course highlights the value of data and the role these play in making effective business decisions.

Prerequisite: MATH115 or MATH116 or MATH143

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
BUS310	Advanced Project Management	3	45	0	45

Develop skills to effectively manage individual and portfolio projects. Students will translate and relate organizational mission and goals into strategic decisions with plans for implementation and resource allocation.

Prerequisite: BUS270

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
BUS340	Social Media, Engagement and Analytics	3	45	0	45

Students will study social engagement and social value models for a range of entities, including not-for-profits and social enterprises as well as commercial organizations. Principles of social and conventional media engagement are presented as well as techniques for measuring metrics.

Prerequisite: BUS110 or BUS141

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
BUS350	Project Performance and Quality Assurance	3	45	0	45

Students learn about the current trends and best practices in quality management. The course introduces students to performance excellence approaches in manufacturing or service organizations. The course will cover the fundamental quality management principles, project performance and quality assurance criteria, as well as their historical foundations.

Prerequisite: BUS270

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
BUS365	Personal and Organizational Ethics	3	45	0	45

Students create an on-going self-development plan by examining personal values. The goal is to provide students with an understanding of major ethical theories that will help them formulate a personal and business philosophy incorporating ethics, accountability, and corporate responsibility.

Prerequisite: BUS235 or BUS270

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
BUS410	Strategic Brand Management	3	45	0	45

Students learn concepts, models and methods to address building and maintaining strong brands. Students explore brand equity as well as the management of brands across multiple market segments.

Prerequisite: BUS141 and BUS340

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
BUS415	Project Risk Management	3	45	0	45

Students learn risk management in the project environment and enhance the understanding of how these factors may affect the project both positively and negatively. This course is designed to provide students with the processes, tools and techniques they need to develop teams and workable project risk management plans.

Prerequisite: BUS270 and BUS310

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
BUS430	Fundamentals of E-Commerce	3	45	0	45

Students will become familiar with publishing software, server technologies and transaction systems. The goal of this course is to provide the students with an implementation perspective of how technology supports digital media development and distribution.

Prerequisite: BUS230 or BUS235 or BUS270

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
BUS440	Business Storytelling and Brand Development	3	45	0	45

Students are trained on the ability both to recognize and communicate effectively in speech or writing in order to garner the enthusiasm and support of others. Provides practice in presenting oneself, one's organization, and one's ideas orally, in writing, social media and marketing materials.

Prerequisite: ENG100 and BUS120 and BUS141

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
BUS450	Operations	3	45	0	45

Students will explore the design, scheduling and control of systems that efficiently use human and capital inputs to create products and services for companies and consumers. Coursework will explore the growth cycles of a company and gain an understanding of different issues, options and strategies to consider as the company reaches each growth cycle.

Prerequisite: BUS110 and BUS145

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
BUS480	Senior Project 1: Research and Planning	3	45	0	45

Students apply their management skills in actual business as they design and build a company around an innovative idea. The course emphasizes venture formation from the point of view of the founder or executive team and will train students to practice managing risks and return or learn from a failure. The course focuses on the research and planning aspect of the senior project.

Prerequisite: BUS141 and BUS250

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
BUS485	Senior Project 2: Strategy and Implementation	3	45	0	45

Students apply their management skills in actual business as they design and build a company around an innovative idea. The course emphasizes venture formation from the point of view of the founder or executive team and will train students to practice managing risks and return or learn from a failure. The course focuses on the implementation aspect of the senior project.

Prerequisite: BUS480

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
BUS490	Strategic Management	3	45	0	45

Students develop skills in identifying problems, evaluating possible solutions and making recommendations in situations representative of real companies. Students simulate the role of managers of the organization.

Prerequisite: BUS141, BUS250, BUS280 and BUS450

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
BUS499	Special Topic	TBD	TBD	TBD	TBD

Advanced course on a special topic in Business Management. May be used as an elective and repeated as topic changes.

Prerequisite: As Appropriate

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
CS100	Introduction to Scripting: Python	3	30	30	60

This class is a practical introduction to programming using the Python programming language. Topics include the concepts of declarative (“what”) versus imperative (“how”) programming, problem breakdown, and solution techniques. Basic subjects and terms in computer science will be introduced, such as data structures, efficiency of a program and object-oriented programming. Emphasis is put on the syntax of the programming language, and the process of starting with a problem and writing a program to solve it. Students will implement several small programming projects during the course.

Prerequisites: None

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
CS110	C Programming	4	45	30	75

An introduction computer programming using the C programming language. Students learn practical hardware topics such as CPU, memory, disks and files as well as lexical elements, operators, fundamental data types, flow of controls, functions, recursions, arrays, pointers, strings, bitwise operators, structures, union and file manipulation. The standards of program development flow and structured programming paradigm are also covered.

Prerequisite: MATH115 or MATH116

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
CS115	Web Programming: HTML5, CSS and JavaScript	3	30	30	60

An introduction to the internet, emergence of the web (World Wide Web, www). Students learn how websites work as well as the basic anatomy of a web-page, different tags/elements of HTML and their syntax and usage, and styling using CSS. Students are introduced to JavaScript and how to combine it with HTML5 and CSS to develop very useful and intelligent web pages/applications. Hands on web development provides practical insights into these concepts.

Prerequisite: None

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
CS189	Object-Oriented Programming with Python	3	30	30	60

This class provides an overview of OOP (Object-Oriented Programming) techniques using Python. The Concepts of classes, objects, object managers, encapsulation, polymorphism, and inheritance are explored in depth. Students are introduced to these OOP concepts in a highly visual environment, using the pygame extension along with a library of pre-built user interface widgets. Students will work on a project making use of OOP techniques to build their software solutions.

Prerequisite: CS100

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
CS190	Digital Systems	3	30	30	60

Students learn the basics of Boolean algebra and digital systems, logic, abstract logic gates, operations of flip-flops, Karnaugh maps and optimizations of digital circuits.

Prerequisite: MATH143

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
CS212	Java Programming	4	45	30	75

Students develop a working understanding of Java Programming and the object-oriented paradigm. Topics include primitive types, strings, classes, objects, methods, references, polymorphisms, inheritance, exception handling, streams and file I/O, arrays, vectors, and applets. Students are also introduced to multi-threaded programming.

Prerequisite: CS100 (non CS majors) or CS110 (for CS major)

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
CS221	LINUX Programming Environment	3	30	30	60

Students learn the principles need to program in the UNIX/LINUX environment. Through practical, hands-on programming, students develop an understanding of the structure of UNIX/LINUX file systems, shell programming filters and UNIX/LINUX system calls. Other topics include standard I/O library, shell programming, AWK programming language, and SED editor.

Prerequisite: CS100 or CS285

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
CS285	C++ Programming: Object Oriented Programming	4	45	30	75

Students learn the common features of C as well as C++. Objected Oriented features of C++. Constructors and Destructors. Type Conversions. Friends. Overloading functions and operators. References. Polymorphisms. I/O streams. Multiple inheritances. Templates. Memory Management. Students practice the structured programming paradigm as well as the objected oriented paradigm.

Prerequisite: CS100 or CS110 or CS212

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
CS295	Data Structures and Algorithms	4	45	30	75

Data Structures: Stacks. Queues. Linked lists. Circular linked lists. Double linked lists. Circular double linked lists. Binary search trees. Searching and sorting algorithms. Introduction to graph algorithms. Huffman codes, AVL trees. Hashing. B-trees. Students practice concepts of structured programming and discrete mathematical concepts in data structures and analysis of algorithms.

Prerequisite: SWE110 or CS285

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
CS299	Special Topic - Programming on Raspberry Pi	3	30	30	60

This course will introduce you to programming on Single Board Computers. In the course of time you will be familiar with Hardware (H/W), Software (S/W), Architecture, and Operating System (OS) concepts in the context of Raspberry Pi i3 (RPi3) and in general Single Computer Boards (SBCs) work.

Prerequisite: Any programming course (CS100, CS110, CS212, CS285 or CS221)

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
CS316	Advanced Web Programming	3	30	30	60

Students learn different JavaScript frameworks, Java servlets and architectural concepts of a web applications. Students also learn about security of web applications.

Prerequisite: CS115

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
CS320	Operating Systems Concepts	3	45	0	45

Students learn how UNIX, LINUX, and Windows operating systems are designed. Students practice data structures in operating systems design. Topics include: general multitasking operating systems, scheduling algorithms, deadlocks, concurrency problems and solutions, process management, thread management, disk management, memory management, virtual memory, file system organization, and security.

Prerequisite: CS221 and CS295

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
CS340	Software Engineering Methods and Project 1	3	45	0	45

Students develop an advanced understanding of the software life cycle. Software development methods top down and bottom-up. Reusability and portability. Documentation development: analysis, specification, design, implementation, testing, operational documents, Inspection walk-through and design review. Students practice project management through software life cycle. Object oriented analysis and design. Managing complexity with abstraction.

Prerequisite: CS285

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
CS341	Network Systems	3	30	30	60

This course introduces the ideas and different protocols and tools used in computer communication. It covers the OSI model and functions of different layers in that model. Students are also introduced to the TCP/IP. Students will learn to write programs (either C or Java) that communicate with each other. The course will also cover some network technologies like ATM.

Prerequisite: CS110 and CS221

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
CS351	Computer Architecture	3	45	0	45

This course provides a strong foundation in modern computer architecture structured around processors and memory. It introduces students to instructions sets (like CISC and RISC), principles of pipe-lining, memory management, and computer arithmetic algorithms and number representations.

Prerequisite: CS190 and CS295

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
CS352	Embedded Software Systems	3	30	30	60

Technologies used in the design and implementation of embedded systems. Introduction to software tools such as compilers, schedulers, code generators, and system-level design tools. Introduction to computer organization: CPU, I/O, Memory. INTEL/MIPS Assembly language. Linking C and Assembly Language.

Prerequisite: CS190 and CS295 and MATH143

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
CS360	Database Management Systems	4	45	30	75

Students apply concepts from data structures and compiler design in database management. Topics include: file organization, indexing techniques, data models, query languages, B-trees, B*-trees, Study design and implementation of a relational database.

Prerequisite: CS285

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
CS361	Introduction to Compilers	3	30	30	60

This course familiarizes students with the concepts involved in writing a compiler such as parsing and lexical analysis and different types of grammars and syntax tree, code generation and optimization. Students will learn by writing different parts of a compiler.

Prerequisite: CS110 and CS295

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
CS375	Mobile Programming for iOS	3	30	30	60

This course involves hands-on application and implementation for the iOS mobile platform. Mobile is everywhere, and programming for mobile devices has specific characteristics that set it apart from conventional programming, including small displays, small code footprint, adherence to View-Control-Model architecture, availability on different platforms, use of location-aware services and other sensors.

Prerequisite: CS285

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
CS376	Mobile Programming for Android	3	30	30	60

This course involves hands-on application and implementation for the Android mobile platform. Mobile is everywhere, and programming for mobile devices has specific characteristics that set it apart from conventional programming, including small displays, small code footprint, adherence to View-Control-Model architecture, availability on different platforms, use of location-aware services and other sensors.

Prerequisite: CS212 or CS285

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
CS442	Software Engineering Methods and Project 2	3	30	30	60

Students apply object oriented principles in a large project and analyze case studies of object-oriented analysis and design. Other topics include design patterns, component architecture, and component frameworks.

Prerequisite: CS340

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
CS445	Advanced C ++ Programming	3	30	30	60

An advanced class in C++ and object-oriented programming. Multiple Inheritance. Virtual base class. Virtual functions. Smart pointers. Run time type information. Template Meta Programming, Generic Programming. Concurrency in C++. Applications to game engine.

Prerequisite: CS285

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
CS446	High Performance Computing	3	30	30	60

This advanced course covers new paradigms in High Performance Computing (HPC) applications. Topics covered include numerical and scientific modules and just-in-time compiler optimization technology that is available for Python .This course will provide the students with essential strategies, libraries and performance best practices to achieve High Performance Computation using Python. The course assumes prior Python programming experience, working knowledge of Unix, general programming concepts and basic knowledge of Linear Algebra.

Prerequisite: CS295 and MATH290 or MATH320

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
CS447	GUI and Graphics Programming	3	30	30	60

Principles of user interface design. Input elements: keyboard, mouse. Memory management. Icons. Menus. Dialog boxes. Graphics device interface. OpenGL. Transformations. Bresenham's Lines and Circles Algorithms. Ellipses. Hidden line Algorithms. Clipping Algorithms. Spline curves. Bezier curve. B-splines surface and Bezier surfaces. Hidden lines and surfaces algorithms. Hidden line and surface removal methods. Students learn GUI and practice concrete mathematics concepts in computer graphics.

Prerequisite: CS285

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
CS457	Machine Learning	3	30	30	60

This course will acquaint students with basics of machine learning and pattern recognition and different learning techniques like generative, discriminative and parametric. Some applications of machine learning to data mining, speech-recognition, and robotics will also be discussed.

Prerequisite: CS295 and MATH240

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
CS459	Data Mining & Visualization	3	30	30	60

Data Mining will introduce students to the science of recognizing patterns and structures in large complex data sets and applying tools from statistics to do predictions.

Prerequisite: CS295 and MATH240

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
CSE480	Senior Project 1: Planning	3	15	60	75

Students select a relevant problem or task to address in the Senior Project, build the project plan, and acquire knowledge needed for the specific task, including generating 'proof-of-concept' cases to demonstrate the viability of the suggested solution. At the conclusion of this phase the senior project will have clear written product specifications, engineering specifications, and a project plan.

Prerequisite: Senior level

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
CSE485	Senior Project 2: Execution	3	15	60	75

Students implement the project plan, and deliver a working solution. Being a real-world project, this involves iterative refinement of the approach to solution, and trade-offs according to constraints. In addition, this part will emphasize the proper documentation of the whole project, and will combine parts from the previous session with a full description of the solution and the process.

Prerequisite: CSE480

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
CS499	Special Topic	TBD	TBD	TBD	TBD

Advanced course on a special topic in Computer Science. May be used as elective and repeated as topic changes.

Prerequisite: As Appropriate

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
DAA106	Digital Imaging Concepts	3	15	60	75

This course explores advanced image processing using image editing software and graphics tablets. Coursework addresses image creation and manipulation, color and contrast adjustment, compositing, image matching, and non-destructive editing techniques. An emphasis is placed on creating photorealistic illusions.

Prerequisite: None

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
DAA109	Web Design	3	15	60	75

Students are introduced to web concepts, visual and technical website design, information management and delivery. Covering topics including, building content for the web, HTML, preparation of graphics for the web, Cascading Style Sheets (CSS), information architecture, interface design students practice basic principles of interactivity. Students create, publish, and maintain a multipage interactive website.

Prerequisite: DAA100 or ART100

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
DAA200	Acting	3	15	60	75

Basic concepts of acting for stage and screen. Students explore the actor's relationship to other players as well as to the camera. Aspects of performance as they relate to different modes of production are investigated, including acting for the effects-heavy production and non-linear media.

Prerequisite: None

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
DAA221	Editing and Motion Graphics	3	15	60	75

Basic concepts of digital video editing, theory and techniques of motion picture editing, post-production methods, media file management, sound editing, and effects are covered in this course. Students are introduced to the use of titling in theatrical and broadcast graphics. Students will produce title sequences and montages integrating image manipulation applications and other image processing support. Uses video editing software. Can be used to fulfill the requirement of DAA220 Video Editing.

Prerequisite: DAA100 or ART100

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
DAA240	Introduction to 3D Modeling	3	15	60	75

Creation of 3D organic and industrial models using one or more software modeling packages. Topics include modeling construction using polygon and/or spline-based techniques, texture mapping, lighting, shading, and rendering. Students apply these techniques to the creation of 3D models.

Prerequisite: DAA106

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
DAA244	Introduction to 3D Animation Principles	3	15	60	75

In this course, students study the principles of 3D animation using the latest 3D software applications. Topics include using the user interface and the basics of motion. Coursework introduces the principles of animation as applied to 3D computer animation. Student learn professional working practices in a production pipeline environment.

Prerequisite: DAA240

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
DAA245	Texturing	3	15	60	75

This course involves the use of layering color maps on digital surfaces to create specific material shaders. Texture map painting in 2 D is covered extensively. Analysis through physical observation on the light gathering of surfaces teaches students how to digitally reproduce any material. Students learn UV texture layout and projection techniques for shader creation. Procedural versus painted shader maps are explored along with complex layering. Emphasis is spent on specular, diffuse, color, bump, displacement and normal mapping to achieve the desired result.

Prerequisite: DAA240

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
DAA248	Lighting and Layout 1	3	15	60	75

Storytelling and mood are emphasized by the use of light on digital scenes. Six point lighting techniques are demonstrated in cinematic terms through their digital equivalents. Color, mood, and time of day are expressed through lighting and scene composition. Blocking is utilized to set the actors and sets to convey the desired intent. Camera knowledge, lens choice and exposure are applied to shot composition. Various rendering styles and engines will be used.

Prerequisite: DAA245

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
DAA250	Digital Sculpting	3	15	60	75

Students will utilize fast and simple modeling techniques for creating meshes without UVs. Students will design in 3D quickly as possible to aid in concept design. Students will cover various lighting, texturing and painting techniques. Discussion of UV unwrapping and retopologizing the models built with Dynamesh and Shadowbox for production will also be covered.

Prerequisite: DAA240

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
DAA264	Drawing Animation 1	3	15	60	75

Introduces the principles of animation drawing: gesture, simplified geometric construction for anatomy, technique to capture movement and weight. Students develop the graphic language to maximize expression and movement for animation and learn methods for using line to convey overlap, form, torque/compression, and the line of action.

Prerequisite: ART115

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
DAA265	2D Animation 1	3	15	60	75

Introduction to the basic principles of traditional, hand-drawn animation: squash and stretch, anticipation, secondary action, staging, easing in and out, arcs, timing, exaggeration, solid drawing and character appeal. The study of motion to understand mass, movement through space, and reaction to external forces. Concepts of keys, in-betweens and breakdowns, along with methods for recording drawings for playback, pegging, and using exposure sheets to record/adjust timing. The process for creating moving and sequential imagery from a bouncing ball thru a basic walk cycle. Students produce an animated scene that demonstrates mastery of principles.

Prerequisite: DAA264

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
DAA267	Character Rigging	3	15	60	75

Introduction to animation software modules with emphasis on character rigging techniques: joints, surface binding, articulation, forward and inverse kinematics (FK and IK), and hierarchical node structures. Students apply these techniques to develop 3D characters. Includes a summary of the animation software module, graph editor, setting key frames, and tangents for basic animation.

Prerequisite: DAA244

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
DAA270	Illustration 1	3	15	60	75

This course is designed to present the student with the fundamentals of illustration for professional application. Primarily, vector media are used. The course will cover illustration theory but will emphasize studio practice and skill development.

Prerequisite: ART105

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
DAA299	Special Topic	TBD	TBD	TBD	TBD

Course on a special topic in Digital Art and Animation. May be used as an elective and repeated as topic changes.

Prerequisite: As Appropriate

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
DAA310	Storyboarding	3	15	60	75

This class focuses on principles of Storytelling in a visual medium and concentrates on film or editorial boards used to pre-visualize animation or live action film. Topics include scale and camera angle, camera movement, character staging, composition and basic editing processes. Students pitch their ideas in class and get feedback on projects that include dialogue and action sequences from selected scripts as well as building animatics and story reels.

Prerequisite: ART115 and ART212

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
DAA312	Animal Drawing and Motion	3	15	60	75

This class takes the basics of core animation and illustration courses and applies them to the practice of drawing animals through zoo trip and in class lesson and projects. Topics include emphasis on gesture, constructive drawing and proportion of selected animal as well as stride and motion patterns. Students will complete 10 to 30 second traditional animation final or illustrated book involving their chosen animal.

Prerequisite: DAA264

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
DAA320	Digital Painting	3	15	60	75

The course in painting emphasizes perception development through specific digital painting exercises to develop an orderly approach. Students learn about painting textures for shaders and fully realized scenes. Students increase their understanding of color theory through visual development and matte painting.

Prerequisite: DAA106

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
DAA321	Quadruped Animation	3	15	60	75

An introduction to animating four legged creatures. Basic approach to animating a quadruped animal will be studied in a simplified step by step format. Students will study anatomy and locomotion of quadrupeds, and learn to apply animation principles in achieving different Gaits on a quadruped animal. Animal behavior will be studied, and students will learn to pair behavior patterns with locomotion. Students will also learn to animate transitions between Gaits. Feature and Game animations will be routinely examined to study style and aesthetics.

Prerequisite: DAA267 and DAA360

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
DAA325	Advanced Character Rigging	3	15	60	75

Advanced class in animation software modules with emphasis on character rigging techniques: joints, surface binding, articulation, forward and inverse kinematics (FK and IK), and hierarchical node structures. Students apply these techniques to develop 3D characters. Includes a summary of the animation software module, graph editor, setting key frames, and tangents for basic animation.

Prerequisite: DAA267

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
DAA326	Advanced Texturing	3	15	60	75

This course focuses on look development using advanced techniques in texturing and shader creation with industry-standard software. Students will create high-quality texture maps and use them in complex shader networks. Surface detail sculpting will be utilized to create bump, normal, grayscale displacement, and vector displacement maps. Students analyze a large collection of reference material in order to accurately create a photorealistic look for projects.

Prerequisite: DAA245

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
DAA340	Modeling 1	3	15	60	75

Introduces hard and organic surface modeling pertaining to control and refinement of form. Reproduction of machine made forms and detailed organic shapes. Advanced texturing for enhancement of models. Students apply these techniques to develop 3D models.

Prerequisite: DAA240

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
DAA345	Modeling 2	3	15	60	75

Explores the modeling of man-made forms for sets and props in cinematic work and interactive applications such as games. Includes transferring maquettes and other analog representations to digital form while maintaining fidelity in the reproduction of artwork and real objects. Texturing and lighting, reproduction of logotypes and molded textures. Students practice parameterization for animation and digital transfer.

Prerequisite: DAA340

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
DAA356	Production Pipeline	3	15	60	75

Workflow for efficient production in a multi-person environment. Distributed computing for high- throughput rendering. File and asset management and environment control. Scripting and programming for pipeline implementation and customization. User interfaces, reporting, notification tools for a render farm.

Prerequisite: DAA240 and CS100

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
DAA357	Project Avataarah	3	15	60	75

In this course students will create assets for animation production. Students will focus on various components of the pipeline such as concept art, modeling, texturing, rigging and animation. Students will utilize individual specialized skills towards creating industry standard character rigs. Emphasis is given on good communication skills and effective delivery. Character rigs produced in this class will be used in various classes at Cogswell, and will be released periodically to the public for download.

Prerequisite: Instructor Approval

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
DAA358	Dynamics	3	15	60	75

Introduction to particle systems, sprites, soft and rigid bodies. Dynamic techniques for hair, cloth and fluids. Dynamics for games. Students will create professional grade particle simulation effects for CG production and game.

Prerequisite: DAA244 and CS100

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
DAA360	3D Animation 1	3	15	60	75

This course covers the basics of character animation and acting in 3D computer animation. Coursework emphasizes storytelling and the mechanics of biped motion. Students analyze real time motion and apply it to 3D animation.

Prerequisite: DAA244

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
DAA364	Drawing Animation 2	3	15	60	75

A continuation of Drawing Animation 1. Further life studies of human figures and animals emphasizing anatomical simplification, clarity, and motion. Introduction to facial construction and expression. Students learn to incorporate layout, perspective, and backgrounds into character drawing.

Prerequisite: DAA264

DAA312 Animal Drawing and Motion may be used to satisfy course requirement in lieu of DAA364 Drawing Animation 2 for certain educational programs.

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
DAA365	3D Animation 2	3	15	60	75

Students in this course focus on the creation of a 3D animated character performance. Coursework covers character development, facial animation, and pantomime acting. Students use the 3D camera for shot composition and visual narrative.

Prerequisite: DAA360

DAA321 Quadruped Animation may be used to satisfy course requirement in lieu of DAA365 3D Animation 2 for certain educational programs.

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
DAA370	Concept Design	3	15	60	75

This course focuses on development and design practices used by concept designers. Students apply professional marker and/or CG techniques and media as an approach to concept drawings and renderings.

Prerequisite: ART115 and ART212

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
DAA400	Compositing and Special Effects	3	15	60	75

Explores the digital motion picture production environment as 'illusion factory'. Both naturalistic/realistic and experimental modes of digital effects will be examined. The course will focus on the role played by storyboarding, scripting, and how these relate to the combination of live action with computer-generated images (CGI). Students work in teams to create video projects using special effects, match/moving lighting, blue/green screen compositing, color correction, and motion graphics. The relationship of 'pre-visualization' to a finished work will also be explored, and how these techniques are affecting the traditional working approach to movie making.

Prerequisite: DAA245

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
DAA410	Storyboarding 2	3	15	60	75

This class is a continuation of Storyboarding 1. Students will continue to board and pitch to pre-selected scripts as well as create boards for advertising, in-game progressions and work with other students to build a solid pre-visualized script short. Topics include developing quality emotion boards, value and color scripts and their implied meanings. Students must have a solid foundation in drawing skill and film and editorial methodology.

Prerequisite: DAA310

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
DAA421	Advanced Quadruped Animation	3	15	60	75

This course will offer an extended study into animating a four-legged creature. Students will work on different types of animals, and relative modes of transportation. They will study anatomy and locomotion specific to body types, and will learn how to develop appeal through subtle gestures. Students will work on character development in animals, creating visual appeal and balance nature of animals with anamorphic qualities of character. Feature and Game animations will be routinely examined to study style and aesthetics.

Prerequisite: DAA321

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
DAA425	Advanced Motion Graphics	3	15	60	75

In this course, students will further develop skills and techniques in theatrical and broadcast motion graphics. Projects are designed to cover a broad spectrum of potential applications of the technology while focusing on the strengths of motion theory, typography, color, composition, animation and other elements of design.

Prerequisite: DAA221

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
DAA435	Matte Painting	3	15	60	75

This course applies industry techniques to create digital representations of a landscape, interior or distant location in order to generate the illusion of an environment. Theories and techniques of color correction, space, perspective, light and shadow will be covered. Students will explore digital painting techniques and tools.

Prerequisite: DAA212 and DAA106 and DAA240

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
DAA440	Modeling 3	3	15	60	75

Explores modeling of creatures and humans for interactive applications including games and cinematic work. Maintaining fidelity to reproduction of artwork and observed subjects, texturing and lighting. Students learn to parameterize for animation and muscular flow.

Prerequisite: DAA340

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
DAA442	Advanced Lighting and Layout	3	15	60	75

Advanced lighting techniques are mastered to convey storytelling through light. Students apply techniques attained in Lighting and Layout further mastering their artistic expression. Cinematography in the digital realm is used to convey dramatic storytelling through shot composition. Advanced camera usage along with lighting are combined into unified sequences of shots to tell a story that connects with audiences.

Prerequisite: DAA248

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
DAA460	2D Animation 2	3	15	60	75

Continuation of 2D Animation 1. Students design and develop characters which they animate in a scene. Advanced study of facial animation and expression with introduction to animal characters and animation. Pantomime, silhouette, strong acting and posing are emphasized, along with careful timing to maximize expression and personality. Analysis of what makes a character look like it is thinking and what makes an expressive pose. Students produce an animated scene using their character in a layout.

Prerequisite: DAA265

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
DAA465	3D Animation 3	3	15	60	75

This course explores the creation of a 3D animated character performance involving dialogue and facial animation. Coursework includes multiple character interaction, and acting in a multi-shot sequence.

Prerequisite: DAA365 or DAA321

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
DAA468	VR Animation Production	3	15	60	75

Students work in teams to create a short animated film. Focus will be working as an effective team while delivering individual specialized skills. The animation pipeline, project management, and communication skills are covered in depth. The course will engage both theory and practice of HCI with hands-on VR and/or AR projects. Training in all of these fields is comprehensive and will prepare student for entry into the job market.

Prerequisite: Instructor Approval

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
DAA470	Illustration 2	3	15	60	75

Students explore personal style in illustration. Course focuses on development of a cohesive body of work. Symbolic and narrative concept development is central. Various digital applications will be used.

Prerequisite: DAA270

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
DAA474	Animated Film Pre-Production	3	15	60	75

Students work on a team to create the previsualization of a short animated film. Focus is on working as effective team while delivering individual specialized skills. The animation pipeline, project management, and communication skills are covered in depth. Students may work on storyboards, concept art, matte paintings, texture paintings or creature design. Training in all of these fields is comprehensive and will prepare student for entry into the job market. May be repeated once for credit.

Prerequisite: Instructor Approval

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
DAA476	Animated Film Production	3	15	60	75

Students work in teams to create a short animated film. Focus is on working as effective team while delivering individual specialized skills, the animation pipeline, project management, and communication skills are covered in depth. Students may enter as any of the following, concept artist, modeler, rigger, animator, technical director, and compositor. Training in all of these fields is comprehensive and will prepare student for entry into the job market.

Prerequisite: Instructor Approval

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
DAA477	Animated Film Post-Production	3	15	60	75

Students work on a team to finish the production of a short animated film. Focus is on working as effective team while delivering individual specialized skills. The animation pipeline, project management, and communication skills are covered in depth. Students may work on lighting, shading, composting, rendering and editing. Training in all of these fields is comprehensive and will prepare student for entry into the job market. May be repeated once for credit.

Prerequisite: Instructor Approval

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
DAA478	Star Thief Studio	3	15	60	75

This course continues the opportunity to learn from professionals and mentors to develop a professional level animated short and interactive book. Students may enter as any of the following: concept artist pre-vis, modeler, rigger, animator, technical director and compositor. Project based- training will prepare the student for entry into the job market. Prior approval required.

Prerequisite: Instructor Approval

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
DAA479	Star Thief Studio	3	15	60	75

This course continues the opportunity to learn from professionals and mentors to develop a professional level animated short and interactive book. Students may enter as any of the following: concept artist pre-vis, modeler, rigger, animator, technical director and compositor. Project based- training will prepare the student for entry into the job market. Prior approval required.

Prerequisite: Instructor Approval

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
DAA480A	Animation Portfolio 1	3	15	60	75

Students write a project proposal and production schedule as they develop an animated short film that will be completed in Animation Portfolio 2. Students proceed through the film making process: concept development, storyboards, animatics, layouts, audio, and production scheduling. Students assemble a rough demo reel that demonstrates competency in the discipline.

Prerequisite: Senior Status

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
DAA480E	Entertainment Design Portfolio 1	3	15	60	75

Portfolio 1 is the preparatory class for Portfolio 2, the final element in the DAA program. Students will use their skills in traditional and digital painting, texturing and lighting of 3D models, and portfolio preparation to scope and design a finished portfolio that demonstrates their abilities in Entertainment Design. The portfolio will have a recognizable aesthetic and professional presentation quality.

Prerequisite: Senior Status

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
DAA480M	Modeling Portfolio 1	3	15	60	75

Students produce a demo reel to demonstrate an understanding of the concepts of modeling and proficiency in its techniques.

Prerequisite: Senior Status

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
DAA480T	Technical Art Portfolio 1	3	15	60	75

This course allows the student to develop portfolio pieces in rigging, lighting, texturing and/or compositing. Students will define the scope of the portfolio and develop a timeline for completion.

Prerequisite: Senior Status

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
DAA483	MediaWorks	3	15	60	75

MediaWorks is a collaborative, interdisciplinary, practical project. It may include a live project with real-life clients and strict deadlines. Student work on one or two full-cycle audiovisual productions in a visual production team, where they fulfill various roles including storyboard artist, concept designer, texture artist, 3D modeler, animator, motion graphics designer, compositor, video editor, colorist and project manager. Full-cycle production may include client meetings, concept development, production, post-production and delivery of final product. The deliverables of the course can be integrated into individual student portfolios.

Prerequisite: Instructor Approval

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
DAA485A	Animation Portfolio 2	3	15	60	75

Continuation of Animation Portfolio 1. Production of animated short film begun in Animation Portfolio 1. Final animated film along with expanded final proposal is completed. Students present their project to the DAA faculty and discuss the production process and their challenges. Students assemble a finished demo reel that demonstrates competency in the discipline.

Prerequisite: DAA480A

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
DAA485E	Entertainment Design Portfolio 2	3	15	60	75

Portfolio 2 is the final element in the DAA program. Students will use their skills in traditional and digital painting, texturing and lighting of 3D models, and portfolio preparation to create a finished portfolio that demonstrated their abilities in Entertainment Design. The portfolio will have a recognizable aesthetic and professional presentation quality.

Prerequisite: DAA480E

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
DAA485M	Modeling Portfolio 2	3	15	60	75

Continuation of Portfolio 1 to complete the Modeling capstone project. Students learn to demonstrate their competency through the development of a demo reel.

Prerequisite: DAA480M

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
DAA485T	Technical Art Portfolio 2	3	15	60	75

This course is a continuation of Portfolio 1. Students will complete portfolio pieces in rigging, lighting, texturing, and/or compositing. Students will complete a professional level portfolio and present it on a website.

Prerequisite: DAA480T

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
DAA489	MediaWorks2	3	15	60	75

MediaWorks 2 will allow students the opportunity to perform new production tasks such as lead other production team members as a project manager, or to assist in the on-boarding of students new to the MediaWorks workflow. This course is a collaborative, interdisciplinary, practical project. It may include a live project with real-life clients and strict deadlines. Students work on one or two full-cycle audiovisual productions in a visual production team, where they fulfill various roles including storyboard artist, concept designer, texture artist, 3D modeler, animator, motion graphics designer, compositor, video editor, colorist and project manager. Full-cycle production may include client meetings, concept development, production, post-production and delivery of final product. The deliverables of the course can be integrated into individual student portfolios.

Prerequisite: DAA483

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
DAA499	Special Topic	TBD	TBD	TBD	TBD

Advanced course on a special topic in Digital Art and Animation. May be used as an elective and repeated as topic changes.

Prerequisite: As appropriate

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
DAT050	Music Fundamentals	3	15	60	75

Preparation for DAT102 Music Theory. Basics of musical literacy: Clefs, staves, pitch and rhythmic notation. Time signatures, key signatures and dynamics. Articulation and phrase marks. Basic scale patterns. Music manuscript practices. Other rudiments of music notation as needed to prepare for DAT102. Introductory keyboard musicianship, solfege and rhythmic practice.

Prerequisite: None

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
DAT102	Music Theory 1	3	15	60	75

Thorough exercise in rudiments of music (major and minor scales, intervals, triads and seventh chords, key signatures, diatonic modes, elements of rhythm, common music notation practices, dynamics and articulations, phrase structure, diatonic chord function). Beginning ear training and harmonic analysis. Beginning solfege, rhythmic studies and keyboard musicianship.

Prerequisite: Satisfactory completion of Music Fundamentals Placement Test or DAT050 or DAT051

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
DAT107	Music Theory 2	3	15	60	75

Chord progressions, melodic shape, song forms, bass lines, and drumming patterns, introductory musical analysis and instrumental arranging. Focuses on mainstream musical styles (pop, rock, Hip Hop, etc.). Includes ear training and aural analysis. Solfege, keyboard musicianship and rhythmic studies with focus on mainstream music are also covered.

Prerequisite: DAT102

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
DAT110	Desktop Production Fundamentals	3	15	60	75

Introduction to the software, methods and practices of desktop audio and music production, video editing and content delivery. Topics include an overview of computing basics, managing and processing of media, content creation and rendering audio and video files to disk. Methods for online publishing and preparation for on-the-air broadcasting are explored.

Prerequisite: None

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
DAT115	Desktop Audio Production	3	15	60	75

Application of the principles, methods and essential tools of audio production in a desktop workstation environment. Topics include the seven basic elements of music (pitch, rhythm, timbre, texture, form, dynamics and spatialization), the methods and practices of MIDI sequencing and digital orchestration, elements of MIDI 1.0 Standard, Standard MIDI Files, fundamental concepts of digital audio, digital audio production techniques, audio file formats, effects processing and plug-ins, and basic concepts of soundtrack creation.

Prerequisite: DAT110

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
DAT120	Introduction to the Techniques of Digital Signal Processing	3	15	60	75

This course offers a non-calculus approach to understanding the fundamental concepts of Digital Signal Processing. Topics include: Using trigonometric functions to represent musical sounds; Sampling and quantization; Digital signals; Spectra; the Discrete Fourier Transform; Convolution; Z- transform; Digital Filtering.

Prerequisite: MATH115 or MATH116

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
DAT203	Songwriting	3	15	60	75

Exercising creativity through songwriting in a project-based format. Discussion of musical techniques, sound choices, and growth models. All aspects of song writing are considered, from the initial creative spark to musical development and presentation, collaboration, making demos, and publishing. This course can be used to fulfill the requirement of dAT202 Music Theory 3.

Prerequisite: DAT107

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
DAT208	Live Sound	3	15	60	75

Introduction to the set up and operation of a live sound installation. Basic electrical and hearing safety in the presence of live sound. The acoustics of live sound. Live sound components and their uses. Mixing and monitoring live performances. Ethical conduct in a live sound setting. Basic business transactions and contracts associated with technical services for live productions.

Prerequisite: DAT115

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
DAT209	Music Composition	3	15	60	75

Music Composition will provide the technical and creative means to compose short-format musical pieces or sections of longer musical works. The emphasis will be on musical texture, form and tonal design. The analysis of existing compositional models will be a regular exercise and students will be exposed to diverse musical styles and idioms. Completed projects will be presented utilizing either digital or live performance. This course can be used to fulfill the requirement of dAT207 Music Theory 4.

Prerequisite: DAT107

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
DAT210	Digital Sound Synthesis	3	15	60	75

Introduction to the methods and techniques of digital waveform synthesis. Digital synthesis instrument design concepts. Waveforms and spectra, wavetable synthesis, additive synthesis, digital filters and subtractive synthesis. Noise and random event generation. Tuning and intonation systems. Linear and exponential envelopes, modulation techniques. Vibrato and tremolo, amplitude modulation, frequency modulation. Waveshaping, granular synthesis, basic physical modeling synthesis. Audio processing. Timbral consonance and dissonance. Synthesis and musical style.

Prerequisite: DAT115

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
DAT212	Introduction to Game Audio	3	15	60	75

Application of tools and methods of audio asset production to interactive media. Creating and using an audio design document. Audio compression formats, audio middleware tools and game audio production practices. Adaptive audio techniques and design. This course is previously known as DAT212 Interactive Audio Production.

Prerequisite: DAT115

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
DAT220	Studio Production 1	3	15	60	75

Introduction to recording in a studio environment. Use of a digital audio workstation in a studio production environment. Basics of recording and editing. Introduction to microphone selection and placement. Signal flow in the analog and digital domains. Audio processing with outboard hardware and plug-ins. File management.

Prerequisite: DAT115

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
DAT238	Principles of Room Acoustics	3	15	60	75

Principles of Room Acoustics offers practical knowledge of acoustics that can be applied to the needs of the audio professional. Beginning with the fundamentals of sound such as wavelength and frequency, complex waves, and wave motion, it proceeds to more complex topics, including comb filter effects, reverberation, absorption and modal resonances. The final range of topics addresses the practical aspects of measuring and managing room acoustics, including the use of diffusers, absorptive panels, acoustic isolation and the management of acoustic distortion. The course includes practical exercises and projects to enable an audio professional to address many common problems of room acoustics and to set up an effective space for audio production.

Prerequisite: SCI100 or SCI101 or SCI102 or SCI145

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
DAT260	Audio Theater Production	3	15	60	75

Audio Theater Production focuses on the creation of recorded narrative or dramatic works for audio only. This entails the creation or selection of a suitable script, casting actors to play assigned roles, rehearsing actors and recording their parts, editing and mixing dialogue to create a suitable narrative flow, creating a sound design, composing or selecting appropriate music, both for underscoring and introducing scenes, and final mixing to create the finished product. The course is intended to offer opportunities for audio students to gain experience in a variety of soundtrack tasks and to encourage Cogswell writers who seek a dynamic outlet for their writing skills.

Prerequisite: DAT115 or BUS270 or ENG227

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
DAT281	Audio & Music Industry Business Principles	3	45	0	45

An introduction to the principles of business specific to the audio and music industries. The course begins with an introduction to music copyright, performance rights, contracts for music publishing, contracts for studio musicians, and the basics of for-hire contract work. It also introduces how to build a client base and find work opportunities, working with clients and ensuring client satisfaction. Finally, it covers matters such as keeping tax records, how much to charge and pay for various services and maintaining a healthy balance between income and investment in gear and software.

Prerequisite: DAT115

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
DAT285	Second-Year Portfolio	3	15	60	75

Introduction to audio and music industry career-related topics. Second Year Portfolio guides students through a series of exercises and reflections designed to educate a personal career narrative, silence inner negativity, encourage completion of projects and initiatives and identify one's entrepreneurial capacity. The course addresses career-related soft skills such as building a professional network, learning how to research positions and employers, writing an effective resume, performing well in interviews and client meetings, and negotiating rates, salaries and raises. The course culminates in the construction and presentation of a web-based professional portfolio that features the best of the student's audio and music production work to date. This course can be used to fulfill the requirements of DAT282 Professional Practices Seminar.

Prerequisite: Permission of the Department Director

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
DAT299	Special Topic	TBD	TBD	TBD	TBD

Course on a special topic in Digital Audio Technology. May be used as an elective and repeated as topic changes.

Prerequisite: As Appropriate

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
DAT303	Cultural Trends and Musical Style	3	15	60	75

A study of selected musical genres and the strategies needed to reproduce musical elements characteristic of those genres. Focus on cultural forces, stylistic influences, music theory analysis, performance techniques, and technological developments. Production of original music in a given style along with written commentary.

Prerequisite: DAT202 or DAT203

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
DAT320	Studio Production 2	3	15	60	75

Intermediate level of recording and editing. Music production, audio production for advertising. Production approaches, mixing techniques, intermediate use of compression, equalization. Spatial positioning and stereo image. Critical listening, frequency analysis, mix analysis. Creating sub-mixes, mix automation, in-depth coverage of the use of plug-ins. Session management.

Prerequisite: DAT220

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
DAT324	Studio Production 3	3	15	60	75

Advanced recording, editing and mixing techniques. Client communication and production management. Mixing under pressure. High track-count mixing. Mix analysis in diverse environments, mix conflict management, vocal sub-mixing, parallel- and serial processing. Working with MIDI- and virtual instruments, pitch- and time processing. Students at this level should work on complex projects that demonstrate knowledge and experience in a full-cycle studio production, including pre- production, managing a recording session, various mixing approaches, etc.

Prerequisite: DAT320

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
DAT325	Audio Production Project	4	30	60	90

The purpose of DAT325 Audio Production Project is to provide DAT students a setting in which to conceive and execute an individual audio project. The choice of an audio or music project should follow a process which balances vision and feasibility. Planning for the project should include written milestones and objectives. Execution of the project should reflect industry best practices and demonstrate creativity and thoughtful aesthetic judgement. The final project deliverables should include planning and production documents, a final artifact such as a recording, performance or application, a web portfolio presentation and an oral presentation given during finals week.

Prerequisite: DAT220

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
DAT326	Digital Sound Design	3	15	60	75

Application of studio production skills to sound effect sourcing and generation for film and video production and post-production. Analysis of the soundtrack, sound map and visual map generation, ADR, and Foley. Use of professional sound effect libraries. Advanced studio- and location recording, audio editing and processing techniques, synchronization, audio post mixing, project management and delivery formats for audio for film and video.

Prerequisite: DAT320

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
DAT331	Programming for Audio Production	3	15	60	75

Introduction to the application of programming methods to audio production. This course introduces a limited set of programming language elements that can be immediately applied to audio production techniques. Representative audio programming techniques include simple and complex waveform generation, reversing a sample sequence, applying gain, changing mono to stereo, controlled clipping, bit crush, and others, as well as importing and exporting audio data from files. The course will also introduce basic MIDI messaging techniques. The course culminates in a final audio production programming project. This course can be used to fulfill the requirements of DAT150 Beginning Audio Programming.

Prerequisite: DAT210

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
DAT335	Music Perception and Cognition	3	45	0	45

Survey of research on perceptual and cognitive theories of sound and music. Topics include characteristics of sound, anatomy of the ear, hearing function, cognitive skills related to music perception, and memory in music.

Prerequisite: SCI100 or SCI101 or SCI102 or SCI145.

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
DAT336	Psychoacoustics for Audio	3	15	60	75

Psychoacoustics addresses both the physical and perceived aspects of sounds. Physical properties include waves and wave propagation, sound pressure level and measurement, reflection, absorption and diffusion, as well as spectral content. Perceptual properties include pitch, loudness, timbre, Hass Effect and spatial cues. The course includes topics on the anatomy of the ear as well as an introduction to the aural pathways in the human brain. In addition, basics of hearing protection are explained.

Prerequisite: SCI100 or SCI101 or SCI102 or SCI145

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
DAT340	Film Scoring DAT336 Psychoacoustics for Audio	3	15	60	75

Analysis of acclaimed film scores, examination of the role of music and sonic textures based on traditionally and digitally orchestrated film scores. Application of composition, arrangement and digital audio production techniques to the creation of original music for motion pictures. Music spotting, setting up synch points, tempo map, scoring to picture. Students work with live performers and/or sampled instruments to support setting, narrative, characters and action.

Prerequisite: (DAT202 or DAT203) and DAT320

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
DAT342	Interactive Game Composition	3	15	60	75

Advanced composition of videogame music. Analysis of settings, characters and gameplay for music support. Designing for adaptive evolution of musical themes. Orchestration aspects of adaptive music. Students will score model interactive projects.

Prerequisite: (DAT202 or DAT203) and DAT212

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
DAT350	Audio Programming	3	15	60	75

Introduction to programming plug-ins for audio applications. Study of features of commercial plug-ins. Introduction to plug-in architecture. Implementation of basic DSP operations. Course culminates in a final project.

Prerequisite: CS295 or SWE310

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
DAT355	Game Audio Implementation	3	15	60	75

Design and development of audio resources for real-time interactive systems. Focus on technical aspects of audio integration into a game build. Adaptive audio techniques. Requires a collaborative project that successfully applies course concepts.

Prerequisite: DAT324 or DAT326 or DAT212

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
DAT360	Digital Signal Processing	3	15	60	75

Introduction to digital signal processing, sampling and quantization, A/D and D/A converters, discrete time systems, Discrete Fourier Transform, convolution, z-transforms, transfer functions, digital filter realizations, and fast Fourier transforms. Introduction to digital filter design and digital audio applications.

Prerequisite: MATH245

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
DAT365	Digital Filter Design	4	45	30	75

Design of digital FIR and IIR filters. Analysis of impulse response. Z-transform and geometric methods of filter design. Design and implementation of Elliptical, Bessel, Butterworth, and Chebyshev filter types. Windowing. Applications to audio.

Prerequisite: DAT360

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
DAT366	Digital Audio Filters	3	15	60	75

Digital Audio Filters presents the principles of digital FIR and IIR filter design along with an introduction to their implementation for audio. Beginning with the analysis of impulse response, the course proceeds to the Z-transform and then an introduction to the numerical methods required of filter design. Representative filter response types include Elliptical, Bessel, Butterworth and Chebyshev. Other topics include consideration of the problems associated with windowing. Issues specific to audio application, and some advance audio filter topics. The course concludes with a final project.

Prerequisite: DAT360

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
DAT404	The Ultimate Electronic Music Production	3	15	60	75

A study of a selection of electronic musical genres, production practices and the reproduction of elements characteristic to a set of genres. Focus on cultural forces, stylistic influences, music theory analysis and technological developments unique to the production of electronic music. Project work includes the re-production of several ground-breaking musical works, advanced sound synthesis using hardware and software, specialized sequencing and mixing practices, remixing. Production of original music in a given style along with a presentation of the history, stylistic characteristics and evolution of a sub-genre.

Prerequisite: DAT210

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
DAT412	Interactive Audio Lab	3	15	60	75

A Project that guides a team of sound designers and audio engineers through the development of an interactive-audio-driven product. The course focuses on the establishment of effective workflow and efficient teamwork to complete the development cycle within one semester. The end product is a functional interactive audio product that demonstrates the advancement of student technical and artistic skill.

Prerequisite: Instructor Approval

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
DAT420	Audio Mastering	3	15	60	75

Final preparation of a recording for disk manufacture. Advanced use of audio compression and EQ for mastering. Crest factor. Critical listening. Understanding of manufacturing standards for optical media.

Prerequisite: DAT320

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
DAT450	Audio Software Development	3	15	60	75

Design and implementation of software applications for MIDI and digital audio. Subsystem architecture. Real-time MIDI playback and recording engines, audio streams, and audio capture. Sample processing and plug-in design. Course project will include implementation of a real-time MIDI and digital audio application.

Prerequisite: DAT360

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
DAT455	Game Audio Programming	3	15	60	75

Implementation of audio assets into a game build. Low- and high-level audio system architecture, decoding audio compression formats, adaptive audio software design, interactivity.

Prerequisite: DAT360

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
DAT475	Audio Software Development Collaborative Project	3	15	60	75

The ASD Collaborative Project is offered to give students the opportunity to develop a software product, whether an app, a plugin, a library or a utility, that has an audio application. The project should follow standard software development best practices and demonstrate students' capacities for designing and implementing a working product. The stages of development within the project should be thoroughly documented and a presentation, along with a product demonstration should be given at the end of the semester.

Prerequisite: CS340, DAT450

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
DAT480	Portfolio 1	3	15	60	75

Part I of the senior capstone project. The practical focus will be on topic research, identifying relevancy, practicality, resources, challenges, competitive analysis and marketable advantages, project planning and gathering resources. Students will complete a rapid prototyping assignment based on their chosen project. Requirements and deliverables of the course will be customized based on the individual needs of each student's chosen portfolio product or service, and may include a marketing plan, an artist one-sheet, or a business plan. The lecture part of the course will be also customized and may include topics ranging from intellectual property, distribution and licensing, as they apply to audio production. The course will culminate with a written progress report, a Portfolio 2 production plan and time-line.

Prerequisite: Instructor Approval

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
DAT481	Audio Engineering Project 1	3	15	60	75

The first semester capstone project for the Audio Software Development and Engineering track. Planning stage of a major year-long development project, such as an audio application, plugin or app. This phase of the project should culminate in a written project plan and oral presentation.

Prerequisite: DAT350

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
DAT482	Game Studio 1	3	15	60	75

Practical application of game audio design and techniques in a multi-disciplinary team working on an instructor-led game project. Opportunities to compose a game score, design sound effects, write, record and edit dialogue, manage audio assets and program game audio.

Prerequisite: DAT342 or DAT355

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
DAT483	MediaWorks 1	3	15	60	75

A collaborative, potentially interdisciplinary, practical project. May be a live project with real-life client(s) and strict deadlines. Students work on two 7-week, or one 15-week full-cycle audio- or audiovisual production in an audio production team, where student may be required to fulfill various roles, typically that of an audio engineer, sound designer, composer and project manager. Full-cycle production may include client meetings, concept development, production and delivery. The lecture part of the course will include client communications, team management- and communication principles, the EER approach and file management practices. The deliverables of the course can be integrated into individual student portfolios. Prior approval required.

Prerequisite: DAT320

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
DAT485	Portfolio 2	3	15	60	75

Part II of the senior capstone project. The practical focus will be on the execution of student's Portfolio 1 production plan, guided by reviews and frequent feedback from instructor. May include registering intellectual property, packaging finished product and setting up online promotion- and delivery channels. The lecture part of the course will be on product- or service presentation for potential employees and/or clients, market positioning. Final delivery of the project will include an oral presentation and a URL to a web-based written presentation.

Prerequisite: DAT480 or DAT489 or GAM485

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
DAT487	Audio Engineering Project 2	3	15	60	75

The completion and implementation phase of the capstone project for the Audio Software Development and Engineering track. This project will culminate in a completed project along with write-up and oral presentation.

Prerequisite: DAT481

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
DAT488	Game Studio 2	3	15	60	75

Continuation of a project begun in DAT482 or a separate project. This course offers the opportunity to advance beyond the accomplishments of DAT482 in a multi-disciplinary team setting.

Prerequisite: DAT482

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
DAT489	MediaWorks 2	3	15	60	75

MediaWorks 2 will allow students the opportunity to perform new production tasks such as lead other production team members as a project manager, or to assist in the on-boarding of students new to the MediaWorks workflow. This course presents a full production cycle that may include client meetings, concept development, production and delivery. The deliverables of the course can be integrated into individual student portfolios.

Prerequisite: DAT483

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
DAT490	Media Works 3	3	15	60	75

Media Works 3 allows students the opportunity to perform new production tasks such as a Project Manager and/or Assistant Audio Director, and lead production team members, including Visual Team members, in the concept generation, production and presentation phases of Media Works. This course presents a full production cycle that may include client meetings, concept development, production and delivery. The deliverables of the course can be integrated into individual student portfolios.

Prerequisite: DAT489

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
DAT499	Special Topic	TBD	TBD	TBD	TBD

Advanced course on a special topic in Digital Audio Technology. May be used as an elective and repeated as topic changes.

Prerequisite: As Appropriate

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
ENG050	Grammar and Composition	3	45	0	45

Extensive written work stressing correct spelling, accurate sentence structure, and logical paragraph development. Credit earned does not count toward a degree. (*Preparatory Course – Does not carry degree credit.*)

Prerequisite: None

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
ENG105	Critical Reading, Thinking and Writing	3	45	0	45

This course is designed to advance students' critical reading, thinking and writing skills beyond ENG100: English Composition. It builds upon students' understanding of the demands and conventions of academic reading and writing through a focus on textual analysis and the use of evidence and secondary source materials to build effective arguments. Students learn to differentiate fact from opinion; draw sound inferences from variegated data forms; identify and avoid logical fallacies. They practice inductive and deductive reasoning via the examination, evaluation and synthesis of written work. They practice argumentation through the creation of multiple drafts of research-based, expository writing.

Prerequisite: Satisfactory completion of English Placement Exam or ENG050

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
ENG100	English Composition	3	45	0	45

This course introduces students to the challenges and demands of college-level writing; clear language that explains, describes or informs. It explores basic critical thinking, as well as the techniques and practices of expository and argumentative writing. Students learn to generate ideas for writing based on readings, to organize and support their ideas, and to apply revision strategies to the production of polished work with accurately cited sources. The course emphasized content, format and correct grammatical structure and requires students to write and revise a minimum of 6,000 words.

Prerequisite: Satisfactory completion of English Placement Exam or ENG050

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
ENG105	Critical Reading, Thinking and Writing	3	45	0	45

This course is designed to advance students' critical reading, thinking and writing skills beyond ENG100: English Composition. It builds upon students' understanding of the demands and conventions of academic reading and writing through a focus on textual analysis and the use of evidence and secondary source materials to build effective arguments. Students learn to differentiate fact from opinion; draw sound inferences from variegated data forms; identify and avoid logical fallacies. They practice inductive and deductive reasoning via the examination, evaluation and synthesis of written work. They practice argumentation through the creation of multiple drafts of research-based, expository writing.

Prerequisite: ENG100 or Instructor Approval

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
ENG199	Special Topic	TBD	TBD	TBD	TBD

Course on a special topic in English. May be used as an elective and repeated as topic changes.

Prerequisite: As Appropriate

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
ENG220	Technical and Professional Writing	3	45	0	45

Technical and Professional Writing prepares students to communicate effectively with stakeholders who may not be technically savvy. Emphasis is on improving basic writing skills through the creation of technical and non-technical documents. Creating clear and concise sentences and paragraphs, using correct punctuation and mechanics, using graphs and figures and the citation of sources are stressed. To support these writing tasks, the course guides students through the drafting and revision processes, and ensures readability and accessibility for technical and non-technical audiences.

Prerequisite: ENG100

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
ENG227	Scriptwriting	3	45	0	45

An introduction to the techniques used by screenwriters in film, animation, and video game development. Students will learn the basics of how a writer formulates and executes a story concept. Emphasis will also be placed on the writer's role on a production team.

Prerequisite: ENG100

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
ENG228	Creative Writing	3	45	0	45

This course examines the craft of creative writing through the lenses of prose and poetry. Discussion topics include: identifying purpose and audience, matching structure to content, prewriting and editing techniques, applying and providing constructive feedback, critical thinking within the literary context and the U.S. literary industry. Students will learn how to submit work for publication.

Prerequisite: ENG100

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
ENG229	Cog: The Publishing Experience	3	45	0	45

This course provides students with the nuts and bolts experience of staffing a multimedia publication with print and online components. Students comprise the editorial staff of Cog, published by Cogswell Polytechnical College. Cog considers submissions from authors working in the United States and beyond. Students' production tasks include manuscript selection, editing, layout, promotion, vendor/printer relations and adjudicating first-round literary contest submissions and adapting the winning piece as a short animated film in collaboration with the Digital Art and Animation program.

Prerequisite: ENG100

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
ENG230	Classics of the World Stage	3	45	0	45

This course will study significant dramas from around the world, helping to put into a global perspective the evolution of this form of art and entertainment. The focus will be on analyzing the work of dramatists and playwrights who saw universal themes in the lives of people around them. In addition to reading, discussing, and writing about six plays, students will also examine their structure as performance, including the differing interpretations of each play.

Prerequisite: ENG100

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
ENG250	Speech and Oral Communication	3	45	0	45

Development and improvement of effective oral communication skills in formal and informal settings. Emphasis on preparation of topics, development of student as effective communicator, and clear presentation of research.

Prerequisite: ENG100

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
ENG280	Apocalypse and The American Imagination	3	45	0	45

Apocalypse and The American Imagination explores the role apocalypse plays in American culture. The course teaches students to isolate and analyze memes and tropes in popular culture and media, and develop a deeper understanding of American culture in the process. The seminar is additionally designed to increase students' ability to express themselves in both writing and oral presentations.

Prerequisite: ENG100

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
ENG299	Special Topic	TBD	TBD	TBD	TBD

Course on a special topic in English. May be used as an elective and repeated as topic changes.

Prerequisite: As Appropriate

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
ENG300	Essentials of Written Communication	3	45	0	45

A course in expository writing available to students who have completed their lower division writing and research skills to meet the demands of upper-division college writing. This course provides the additional opportunity for students to college level writing. This course provides the additional opportunity for students to review, reassess, and further develop their writing skills.

Prerequisite: ENG100

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
ENG310	Classics of Western Drama	3	45	0	45

Man has always looked to theatre as a form of entertainment. Drama has also been used to address religious, political, social and cultural issues and to shape people's thoughts. Through reading plays, attending lectures, participating in class discussions, writing papers and watching performances, this course will examine the evolution of the dramatic art. It will also focus attention on the foundations of modern animation and scriptwriting as they were established centuries ago by great dramatists and playwrights who saw universal themes in the lives of people around them.

Prerequisite: ENG100

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
ENG399	Special Topic	TBD	TBD	TBD	TBD

Advanced course on a special topic in English. May be used as an elective and repeated as topic changes.

Prerequisite: As Appropriate

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
ENG499	Special Topic	TBD	TBD	TBD	TBD

Advanced course on a special topic in English. May be used as an elective and repeated as topic changes.

Prerequisite: As Appropriate

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
ENT 520	BUSINESS MODELS AND PLANNING	3	45	0	45

How do you launch an innovative idea? Learn about the components of business model innovations focused on developing and driving competitive value for new businesses or ideas. Get inspired to rethink and redesign your business assumptions, strategies and innovative ideas.

Prerequisite: None, **Co-requisite:** None

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
ENT 525	LEGAL STRUCTURES, CONTRACTS AND RISK MANAGEMENT	3	45	0	45

This course is designed for students to understand the legal considerations involved with starting new business ventures or bringing an idea to market. In this course, students learn about business structures, key contract components, liability and risk management, non-disclosure agreements, intellectual property such as patents, copyrights, trademarks, trade secrets, etc., as well as federal and state employment and labor law. The course also provides an overview of taxation and other key regulations as they pertain to start-ups.

Prerequisite: None, **Co-requisite:** None

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
ENT 530	FINANCE AND ACCOUNTING	3	45	0	45

Business leaders need to understand the economics of innovative ideas and the financial resources needed to support them. Learn foundational knowledge in finance and accounting to deepen your skill in financial information analysis. Develop the ability to interpret and apply financial information to the decision-making process. Course materials and hands-on practice will help explain core financial concepts and clarify frameworks.

Prerequisite: None, **Co-requisite:** None

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
ENT 535	ENTREPRENEURIAL MARKETING	3	45	0	45

Successful execution of an innovative idea requires a sound marketing plan. Learn how to use basic marketing tools to realize the potential of a new business venture or idea. Understand the nature of marketing challenges facing entrepreneurs and innovators, and then develop implementable solutions to address these.

Prerequisite: None, Co-requisite: None

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
ENT 540	NEGOTIATION, SOURCES AND USES OF POWER	3	45	0	45

Negotiation is a process that involves building trust and relationships. This is also the starting point for influencing and shaping mutually beneficial agreements. Learn how to develop strategies to plan and execute successful negotiations while maintaining positive relationships with stakeholders. Coursework based on real-life workplace dynamics will help you assess your own skills and inclinations to increase your power and confidence in challenging situations. Strategies learned in this course may immediately be applied to your job and daily life.

Prerequisite: None, Co-requisite: None

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
ENT 550	DIGITAL TRANSFORMATION AND SOCIAL MEDIA	3	45	0	45

The modern digital age presents unfamiliar challenges to business leaders and entrepreneurs. Examine and understand trends that shape new market realities. Learn about the causes and consequences of digital disruption, and how to manage marketing efforts in the digital world. Course materials provide context and practical methodologies for navigating and managing the digital ecosystem.

Prerequisite: None, Co-requisite: None

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
ENT 555	LEADERSHIP AND MANAGEMENT	3	45	0	45

Leading and managing successful companies has changed. Today's business landscape is more uncertain and volatile. Learn how leadership and management look in flourishing, innovative organizations. Understand why internal structures and traditional systems need to evolve and be agile in adapting to today's competitive environment. Course materials provide research findings for improving organizations and strategies for developing performance-driven cultures.

Prerequisite: None, Co-requisite: None

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
ENT 560	MANAGING ENTERPRENEURIAL OPERATIONS	3	45	0	45

"Ideas are cheap. Make it work!" Startups and innovations face operational challenges and execution risks. This course provides a platform for a deeper understanding of important considerations for building startup operations from scratch. Investigate how innovation-based strategies, tools and operation models are used as sources of competitive advantages in organizations. Course materials present key operations concepts, frameworks and methodologies.

Prerequisite: None, Co-requisite: None

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
ENT 570	PROJECT PORTFOLIO MANAGEMENT	3	45	0	45

This course examines the concepts and applied techniques for effective management of both long-term programs and projects. Project management principles and methodology based on the Project Management Book of Knowledge – PMBOK are provided with special focus on hands-on practical skills in planning, controlling, and coordinating individual and group efforts. Topics include an overview of project management, organization strategy, selecting and defining projects, developing project plans, resource management, project risk analysis, work breakdown structures, and project networks.

Prerequisite: None, Co-requisite: None

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
ENT 590	ENTERPRENEURSHIP AND INNOVATION PRACTICUM 1	3	0	135	135

Part 1 of the capstone course. This capstone course provides opportunities to apply skills and knowledge learned in the program. This course enables students to gain real-life, practical experience in an entrepreneurial or innovative organization. Students, under the guidance of the practicum faculty team, will identify and work with a business, public or non-profit organization to address an identified business challenge, research a new opportunity, or achieve a defined organizational objective. Students may also work on their own innovative ideas or new business ventures.

Prerequisite: ENT520 and ENT530 and ENT535 or Faculty Approval, Co- requisite: None

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
ENT 591	ENTERPRENEURSHIP AND INNOVATION PRACTICUM 1	1.5	0	68	68

Part 1 of the capstone course. This capstone course provides opportunities to apply skills and knowledge learned in the program. This course enables students to gain real-life, practical experience in an entrepreneurial or innovative organization. Students, under the guidance of the practicum faculty team, will identify and work with a business, public or non-profit organization to address an identified business challenge, research a new opportunity, or achieve a defined organizational objective. Students may also work on their own innovative ideas or new business ventures.

Prerequisite: ENT520 and ENT530 and ENT535 or Faculty Approval, Co- requisite: None

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
ENT 592	ENTERPRENEURSHIP AND INNOVATION PRACTICUM 2	1.5	0	68	68

Part 2 of the capstone course. This capstone course provides opportunities to apply skills and knowledge learned in the program. This course enables students to gain real-life, practical experience in an entrepreneurial or innovative organization. Students, under the guidance of the practicum faculty team, will identify and work with a business, public or non-profit organization to address an identified business challenge, research a new opportunity, or achieve a defined organizational objective. Students may also work on their own innovative ideas or new business ventures.

Prerequisite: ENT591 or Faculty Approval, Co- requisite: None

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
ENT 595	ENTERPRENEURSHIP AND INNOVATION PRACTICUM 2	3	0	135	135

Part 2 of the capstone course. This capstone course provides opportunities to apply skills and knowledge learned in the program. This course enables students to gain real-life, practical experience in an entrepreneurial or innovative organization. Students, under the guidance of the practicum faculty team, will identify and work with a business, public or non-profit organization to address an identified business challenge, research a new opportunity, or achieve a defined organizational objective. Students may also work on their own innovative ideas or new business ventures.

Prerequisite: ENT590 or Faculty Approval, Co- requisite: None

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
ENT 596	ENTERPRENEURSHIP AND INNOVATION PRACTICUM 3	1.5	0	68	68

Part 3 of the capstone course. This capstone course provides opportunities to apply skills and knowledge learned in the program. This course enables students to gain real-life, practical experience in an entrepreneurial or innovative organization. Students, under the guidance of the practicum faculty team, will identify and work with a business, public or non-profit organization to address an identified business challenge, research a new opportunity, or achieve a defined organizational objective. Students may also work on their own innovative ideas or new business ventures.

Prerequisite: ENT592 and ENT525 and ENT570 or Faculty Approval, Co- requisite: None

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
ENT 597	ENTERPRENEURSHIP AND INNOVATION PRACTICUM 4	1.5	0	68	68

Part 4 of the capstone course. This capstone course provides opportunities to apply skills and knowledge learned in the program. This course enables students to gain real-life, practical experience in an entrepreneurial or innovative organization. Students, under the guidance of the practicum faculty team, will identify and work with a business, public or non-profit organization to address an identified business challenge, research a new opportunity, or achieve a defined organizational objective. Students may also work on their own innovative ideas or new business ventures.

Prerequisite: ENT596 or Faculty Approval, Co- requisite: None

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
GAM220	Introduction to Game Storytelling	3	30	30	60

This course provides an overview of Western-style fiction development as seen through the lens of story-driven video games. Starting with general theories of story such as the Monomyth and progressing to characterization tips and storytelling best practices, the course segues into an exploration of how these principles have been and can be applied by game developers to their own craft. Through a combination of lectures, readings, writing assignments, case studies, analytical exercises and storytelling problem-solving, students will gain a better understanding of what it can take to bring a video game story to vibrant life.

Prerequisite: ENG100 or Instructor Approval

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
GAM225	Introduction to Game Production	3	30	30	60

Introduction to video game development and various project production models and team structures through lectures, discussions and simple game projects. Lessons learned from studying project post- mortems, case studies and employing various tools, techniques and strategies will develop skills in ideation, iteration, troubleshooting, risk assessment, adaptation, communication, team management, organization and leadership.

Prerequisite: None

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
GAM235	Game Usability	3	30	30	60

This course introduces assessment and analysis of game usability throughout game production. Students run usability and quality assurance testing sessions for games from other project classes. Topics include focus testing, moderated discussion groups, roles and processes in quality assurance, bug reporting and regression, player psychology and observation, and measuring and quantifying subjective experiences.

Prerequisite: GAM225

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
GAM250	Game 3D Asset Creation	3	30	30	60

Students learn the technical and creative skills involved in creating high quality 3D art assets for video games on various platforms. Students develop in-game assets from concept to model and texture with an emphasis on the production pipeline and delivery to current game engines. GDA students can use this course to fulfill the requirement of DAA340 Modeling 1.

Prerequisite: DAA240

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
GAM260	Game Writing 1	3	30	30	60

In this project-intensive course, students will learn and practice basic, in-the-trenches writing and narrative development for video games, including story outlines, cutscenes, scripted dialogue, systemic dialogue and mission writing and design. Students' efforts will be fully contextualized, making it clear how their work fits in with the rest of a typical game development team's structure, with a particular emphasis on the all-important aspect of flexibility.

Prerequisite: ENG227 or GAM220

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
GAM295	Game Design 1	3	30	30	60

Introduction to the fundamentals of game design through lectures and the building of board games in a collaborative workshop environment. Topics covered include: history of computer games, writing rules, play balance, statistics and probabilities, layout and level design, psychology and replayability, atmosphere, design documents and multiplayer issues.

Prerequisite: ENG100

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
GAM299	Special Topic	TBD	TBD	TBD	TBD

Course on a special topic in Game Design and Development. May be used as an elective and repeated as topic changes.

Prerequisite: As Appropriate

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
GAM340	Game Writing 2	3	30	30	60

Having experienced a simulation of acting as a junior game writer working on existing intellectual properties (IP) in Game Writing 1, students now step up to the role of lead writer on a major simulated game project featuring a totally original IP. Participants in this course will pitch and develop original characters, world and story to match existing, proven gameplay mechanics.

Prerequisite: GAM260

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
GAM355	Level Design 1	3	30	30	60

Introduction to level design for video games from developing level ideas into executable level maps to implementation, play-testing and iteration. Exposure to level editors will provide hands-on experience in building levels. Level design principles include: pacing, balance, difficulty ramping, level flow, hooks and level progression. Proper level design methodology will be used to build game levels.

Prerequisite: DAA240 and CS100

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
GAM360	Game Animation	3	30	30	60

In this course students will create In-Game animations such as Cycles, Hit Reacts, Melees and Prototypes. Students will get familiar with the animation pipelines, tools, and game engine. Project Management and Version Control system will be used during production. Students will work in teams as well as individually as they produce assets through a typical video game development production cycle with guidelines similar to those in the industry. Students will also have opportunities to network with industry professionals.

Prerequisite: DAA244

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
GAM370	Environment Art	3	30	30	60

Covers all aspects of environment art for real-time applications (current-gen games, virtual worlds, and 3D mobile/flash games). The technical requirements and conventions of general games modeling will be covered, with a focus on translating the student's general modeling and texturing skills to the more technical and systematic world of environment art for use in a widely-used game engine.

Prerequisite: DAA340

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
GAM376	Game Design 2	3	30	30	60

Students will create playable video game prototypes. Topics include game design concepts, theory and methodologies, storytelling, game analysis, player engagement, player immersion, gamification, and techniques for monetization.

Prerequisite: GAM350

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
GAM415	Level Design 2	3	30	30	60

Focus on the design and implementation of immersive player experiences using commercial game engines and level editors. Advanced level design topics are covered including scripting interactive level sequences, level lighting, material editing, particle systems, development and use of custom assets, animation, user interface, in-game cinematics and choreography.

Prerequisite: GAM355

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
GAM420	Narrative Design and Leadership	3	30	30	60

Video game story development involves not only writing but also what is known in the industry as “narrative design.” In this course we will examine the increasingly common role of the narrative designer and its relationship to storytelling, game design, systems planning, scope analysis, scheduling, and more. Students will also take on the lead narrative role on a large, simulated video game project, learning how to allocate resources, mentor junior writers, react to changing circumstances, and make crucial storytelling decisions.

Prerequisite: GAM340

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
GAM430	Real-Time Visual Effects	3	30	30	60

Students will generate hand-crafted visual effects using procedural techniques inside game engines. Students will use these techniques to create custom geometry, shaders and particle simulations. Students will apply these techniques to create real-time visual effects like weapon trails, fire, smoke, explosions, rain, water splashes, moving cloth and custom effects. Students will create shaders in both HLSL (High Level Scripting Language) and also node-based systems.

Prerequisite: GAM355 or DAA358

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
GAM475	Game Studio 1	3	15	60	75

A multi-disciplinary team is guided through a typical video game development production lifecycle. The focus is on working as an effective and efficient development team to produce a capstone game project on schedule. Skillsets are tested and knowledge is directly applied. Team members assume roles similar to those in the video game industry and will have opportunities to work and network with industry professionals. Prior approval required.

Prerequisite: Faculty approval

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
GAM476	Game Studio 2	3	15	60	75

A multi-disciplinary team is guided through the second half of a typical video game development production lifecycle. The focus is on working as an effective and efficient development team to produce a capstone game project on schedule. Skillsets are tested and knowledge is directly applied. Team members assume roles similar to those in the video game industry and will have opportunities to work and network with industry professionals. Prior approval required.

Prerequisite: Faculty approval

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
GAM477	Game Studio: Post Production	3	15	60	75

A small “core” multi-disciplinary team is guided through completion and “shipping” of a video game. The focus is on the last 10% of work that often takes 90% of the time to complete. Students work on an agile development team where quick response and problem solving is necessary. Students learn to deploy games for several platforms, go through testing, debugging cycles, device specific optimizations, and become intimately familiar with the innards and more complex functionality in the game. Artists and Designers learn to polish and to revise other people’s work to ship a game while also focusing on maintaining quality. Team members assume roles similar to those in the video game industry.

Prerequisite: None

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
GAM480	Game Studio 1	3	15	60	75

A multi-disciplinary team is guided through a typical video game development production lifecycle. The focus is on working as an effective and efficient development team to produce a capstone game project on schedule. Skillsets are tested and knowledge is directly applied. Team members assume roles similar to those in the video game industry and will have opportunities to work and network with industry professionals.

Prerequisite: Senior Status or Instructor Approval.

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
GAM485	Game Studio 2	3	15	60	75

A multidisciplinary team is guided through the second half of a typical video game development production lifecycle. The focus is on working as an effective and efficient development team to produce a capstone game project on schedule. Skillsets are tested and knowledge is directly applied. Team members assume roles similar to those in the video game industry and will have opportunities to work and network with industry professionals.

Prerequisite: Senior Status or Instructor Approval.

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
GAM499	Special Topic	TBD	TBD	TBD	TBD

Advanced course on a special topic in Game Design and Development. May be used as an elective and repeated as topic changes.

Prerequisite: As Appropriate

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
HUM100	Disruptive Imagination	3	45	0	45

While some courses ask students to “think outside the box,” Disruptive Imagination encourages students to reimagine the concept of a “box.” Through a series of team-based projects, students will apply the concepts of design-thinking as they harness the power of imagination in exploring solutions to challenges in numerous facets of their academic, creative and personal life. With a special focus on the types of collaborative skills needed in today’s work environments, students will learn to critically analyze situations, propose and develop solution strategies, and present their findings and results in a professional manner.

Prerequisite: None

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
HUM120	The Nature and History of Western Art	3	45	0	45

This course provides a broad introduction to the nature, vocabulary, media, and historical development of the visual arts. Major categories are architecture, sculpture, painting, and printmaking. Exposure to major art works in Western tradition from Paleolithic times to present. Students develop criteria for answering the question "what is art?"

Prerequisite: None

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
HUM122	World Music	3	45	0	45

Study of representative music and instruments from world cultures including Middle Eastern, Asian/Pacific, Indian, African, Latin American, North American and Western. Emphasis is on world music's impact and influence on contemporary American musical styles and performance.

Prerequisite: None

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
HUM125	Music in Western Culture	3	45	0	45

Study of musical examples and compositional techniques evolving from the Medieval period to the present. Characteristic forms and styles, analysis and listening examples of each era, and leading composers are explored. Students examine the significance of music for people and social bases for the development of music.

Prerequisite: None

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
HUM130	Modern Art History	3	45	0	45

This course examines the history of Western art from the advent of the avant-garde to post-modernism. Emphasis is given to the social/political and theoretical developments coinciding with the changes in culture.

Prerequisite: None

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
HUM140	Modern Art History and Film	3	45	0	45

This course examines the history of Western art from the advent of the avant-garde to Postmodernism. Emphasis is given to the social/political and theoretical developments coinciding with changes in culture. The class will focus on films that capture the spirit of their times.

Prerequisite: None

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
HUM199	Special Topic	TBD	TBD	TBD	TBD

Course on a special topic in Humanities. May be used as an elective and repeated as topic changes.

Prerequisite: As Appropriate

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
HUM200	History of the Modern World	3	45	0	45

This course explores outstanding political, intellectual, philosophical, military, social and economic trends, movements, and events from the Enlightenment to the present. Major focus is on analysis of the larger forces that have shaped the contemporary world, while the course also examines the role of influential individuals from Anthony (Susan B.) to Zola (Emile).

Prerequisite: ENG100

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
HUM225	The Horror Film	3	45	0	45

Course traces the development of the horror film genre from “The Cabinet of Dr. Caligari” and Universal’s “Frankenstein” cycle today’s deconstructive entries, such as “Funny Games” and “What WE Do in the Shadows”. Emphasis is placed on the evolution of literary and filmic roots in the genre and in the wider context of film and visual storytelling.

Prerequisite: ENG100

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
HUM226	Science Fiction Cinema	3	45	0	45

A genre survey course emphasizing socio-political and literary roots of classic science fiction films. Emphasis is also placed on evolving special effects, from Méliès’s in-camera tricks to the latest CG.

Prerequisite: ENG100

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
HUM227	Film History	3	45	0	45

Surveys the history of film from 1945 to the present. Students learn about the evolution of film technology as well as the social and cultural relevance of the various periods.

Prerequisite: ENG100

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
HUM228	Video Games and Society	3	45	0	45

Survey of the history of video games and the influential companies, personalities and technologies that have impacted industry and everyday life. Topics include: examination of industry market segments, "gamification," serious games, multiplayer games, and global markets.

Prerequisite: ENG100

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
HUM230	History of Animation	3	45	0	45

Exposes students to the historical development of animation as an art form and the techniques, technologies, and personalities responsible for the creation of animated forms and characters. Includes the social and economic content behind the development and popularity of characters and approaches.

Prerequisite: ENG100

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
HUM299	Special Topic	TBD	TBD	TBD	TBD

Course on a special topic in Humanities. May be used as an elective and repeated as topic changes.

Prerequisite: As Appropriate

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
HUM329	COG2: Advanced Literary Studies	3	45	0	45

This course comprises an in-depth examination of the literary genre and industry. Working alongside classmates enrolled in ENG229, students comprise that staff of COG – a multimedia literary journal published by Cogswell Polytechnical College – while gaining exposure to major American literary works, movements and trends. Students mine the current literary landscape to uncover correlations between contemporary content, culture and industry. Topics include literary analysis techniques, brand archetypes, representation and identity politics within today’s American literary community, as well as how technology and market factors affect literary creation and distribution.

Prerequisite: ENG100

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
HUM361	Contemporary Ethical Issues	3	45	0	45

Examines philosophical foundations of ethical theory and applied ethics. Students discuss historical approaches and contemporary case studies in relation to ethical theory and personal values.

Prerequisite: ENG100

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
HUM399	Special Topic	TBD	TBD	TBD	TBD

Advanced course on a special topic in Humanities. May be used as an elective and repeated as topic changes.

Prerequisite: As Appropriate

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
HUM400	Research and Writing Capstone Project	3	45	0	45

Students develop an in-depth knowledge in a particular topic. They apply their skills of topic development, critical reading, research techniques, use of sources in arguments, and advanced composition to write a comprehensive research paper.

Prerequisite: Senior Status

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
HUM499	Special Topic	TBD	TBD	TBD	TBD

Advanced course on a special topic in Humanities. May be used as an elective and repeated as topic changes.

Prerequisite: As Appropriate

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
IND201	Independent Study	3	45	0	45

Under supervision of a faculty member, this course will enable a student to pursue for course credit on an academic topic of interest. Instructor Approval is required.

Prerequisite: None

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
IND401	Independent Study	3	45	0	45

Under supervision of a faculty member, this course will enable a student to pursue for course credit on an academic topic of interest. Instructor Approval is required.

Prerequisite: None

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
IND501	Independent Study	3	45	0	45

Under supervision of a faculty member, this course will enable a student to pursue for course credit on an academic topic of interest. Instructor Approval is required.

Prerequisite: None

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
INT401	Internship 1	3	0	135	135

Academic internships are online three-credit classes that run concurrently with external work-based experiential learning. As a faculty run course, students are required to complete academic assignments specifically designed to enhance the learning experience through in-depth reflection and critical analysis of the work environment. Students are expected to log on to canvas and/or meet weekly to complete assigned activities and interact with faculty assigned to the course. Along with the faculty interaction and assignments students are required to complete 135 hours contact hours with the internship site.

Prerequisite: Junior Status

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
INT402	Internship 2	3	0	135	135

Academic internships are online three-credit classes that run concurrently with external work-based experiential learning. As a faculty run course, students are required to complete academic assignments specifically designed to enhance the learning experience through in-depth reflection and critical analysis of the work environment. Students are expected to log on to canvas and/or meet weekly to complete assigned activities and interact with faculty assigned to the course. Along with the faculty interaction and assignments students are required to complete 135 hours contact hours with the internship site.

Prerequisite: Junior Status

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
INT403	Internship 3	3	0	135	135

Academic internships are online three-credit classes that run concurrently with external work-based experiential learning. As a faculty run course, students are required to complete academic assignments specifically designed to enhance the learning experience through in-depth reflection and critical analysis of the work environment. Students are expected to log on to canvas and/or meet weekly to complete assigned activities and interact with faculty assigned to the course. Along with the faculty interaction and assignments students are required to complete 135 hours contact hours with the internship site.

Prerequisite: Junior Status

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
MATH003	Intermediate Algebra	3	45	0	45

Intermediate Algebra including exponents and polynomials, equations and systems of equations in one and two variables, functions and graphs, and exponential and logarithmic functions. (**Preparatory Course – Does not carry degree credit.**)

Prerequisite: None

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
MATH050	Basic Algebra	3	45	0	45

Topics include: operation on integers, rational numbers, polynomials and exponents; algebraic expressions, one variable linear equations, straight line, graphs of linear equations, linear inequalities, and solving systems of linear equations in two variables; factoring linear and quadratic equations. (**Preparatory Course – Does not carry degree credit.**)

Prerequisite: None

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
MATH060	Success in College Algebra	2	30	0	30

This course serves as a preparation for MATH 112. In this course, students have the opportunity to develop skills needed to succeed in MATH 112, College Algebra, through group discussion and extra practice handouts. (**Preparatory Course – Does not carry degree credit.**)

Prerequisite: None

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
MATH112	College Algebra	3	45	0	45

Topics include principles and applications of factoring, rational expression, radicals, solutions and graphs of linear, quadratic equations and inequalities; polynomials, rational, exponential, and logarithmic functions; matrices, determinants, complex numbers.

Prerequisite: Math Placement Exam or MATH003

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
MATH114	Trigonometry	3	45	0	45

This course covers the fundamentals of analytic trigonometry. Topics include identities, trigonometric equations, inverse trig functions, graphs of trig functions, and solutions of right and oblique triangles with applications. Vectors, operations, and the dot product are also covered.

Prerequisite: Recommended two years high school math including intermediate algebra and a passing score on the math placement test.

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
MATH115	College Algebra and Trigonometry	3	45	0	45

Principles and applications of inequalities, functions and graphs, polynomials and rational functions, systems of equations and inequalities, matrices and determinants. Analytic geometry including conic sections. Trigonometric functions, identities, equations, inverse functions, trigonometric applications including vector definition, operations, and dot product. Students are introduced to the basic concepts for computer graphics.

Prerequisite: Satisfactory completion of Math Placement Test or MATH003

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
MATH116	Pre-Calculus	4	60	0	60

Topics include principles and applications of factoring, rational expression, radicals, solutions and graphs of linear, quadratic equations and inequalities; polynomials, rational, exponential, trigonometric, and logarithmic functions; matrices, determinants, complex numbers.

Prerequisite: Satisfactory completion of MATH Placement Test or MATH003

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
MATH143	Calculus 1	4	60	0	60

A first course in differential and integral calculus of a single variable. Topics include functions, limits, derivatives, Mean Value Theorem, trigonometric functions, related rates, maximum-minimum problems, inverse functions, definite and indefinite integrals; logarithmic, exponential, and hyperbolic functions. Student learn basic applications of integration and simple differential equations.

Prerequisite: Satisfactory completion of MATH Placement Test or MATH116

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
MATH144	Calculus 2	3	45	0	45

Integration by trigonometric substitution, by parts, and by partial fractions. Arc length. Indeterminate forms. Improper integrals. Taylor's Theorem including a discussion of the remainder. Sequences. Series. Power series. Separable differential equations. First order linear differential equations. Homogeneous second order linear differential equations with constant coefficients.

Prerequisite: MATH143

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
MATH145	Calculus 2	4	60	0	60

A second course in differential and integral calculus of a single variable: integration; techniques of integration; infinite sequences and series; polar and parametric equations; applications of integration. Primarily for Science, Technology, Engineering & Math Majors.

Prerequisite: MATH143

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
MATH215	Mathematics for Computer Graphics	3	30	30	60

This course focuses on math concepts and algorithms used in the Computer Graphics field. It addresses mathematical topics and application of these topics in modeling, rigging, animation, texturing, shading, lighting and compositing. It also introduces techniques used in particle and fluid simulation for visual effects. This course will establish solid mathematical foundation and ability to apply basic principles of computer graphics.

Prerequisite: DAA244 and (MATH115 or MATH116) and CS100

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
MATH240	Applied Probability and Random Processes	3	45	0	45

Fundamental concepts of probability, discrete and continuous random variables, probability distributions, sampling, estimation, elementary hypothesis testing, basic random processes, correlation functions, and power-spectral-density functions. Applications include music, speech and image and processing or computer programming.

Prerequisite: MATH144 or MATH145

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
MATH245	Calculus 3	3	45	0	45

A third course in differential and integral calculus of a single variable. Students are introduced to calculus concepts for science and engineering, including: vectors, lines, planes, quadratic surfaces, cylindrical and spherical coordinates, partial derivatives, directional derivatives, gradient, divergence, curl, chain rule, and multiple integrals.

Prerequisite: MATH144 or MATH145

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
MATH285	Abstract Algebra	3	45	0	45

Detailed study of abstract algebra: Set Theory (Operations on sets, Set Properties, Functions and Relations), Group Theory (Cyclic Groups, Permutation Groups, Normal Groups, Homomorphism, Isomorphism, Finite Abelian Groups), Ring Theory (Integral Domains, Prime and Maximal Ideals, Quotients, PID's and UFD's), Introduction to Matrix Theory and Vectors.

Prerequisite: MATH144 or MATH145

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
MATH290	Linear Algebra and Transformations	3	45	0	45

Graphical representation of vectors and vector projection. Eigenvalues and Eigenvectors. Linear Transformations. Matrix theory and its association with linear transformations. Complex Plane and Rotations, Reflections and Projections therein. Unit Circle and its Applications in Rotations. Quaternion Algebra. Bezier Curves and its applications.

Prerequisite: MATH144 or MATH145

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
MATH295	Discrete Mathematics	3	45	0	45

Logic. Set theory. Functions. Relations. Proofs by mathematical induction. Recursion and program correctness. Fundamentals of counting, and discrete probability. Elementary graph theory. Introduction to analysis of algorithms.

Prerequisite: MATH144 or MATH145

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
MATH299	Special Topic	TBD	TBD	TBD	TBD

Course on a special topic in Mathematics. May be used as an elective and repeated as topic changes.

Prerequisite: As Appropriate

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
MATH320	Geometry and Transformation	3	45	0	45

Descriptive geometry: points, lines, planes, intersections, spatial relationships. Transformations. Projective Geometry: plane transformations, homogeneous coordinates, space transformations, perspective projection. Differential Geometry: Theory of curves and surfaces. Quaternions and rotation sequences.

Prerequisite: MATH144 or MATH145

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
MATH346	Applied Differential Equations	3	45	0	45

Mathematical solutions to ordinary linear differential equations through various techniques. Emphasis on scientific and engineering applications: mechanical, electrical, chemical, structural, thermal, and other systems. Damping and resonance, general and particular solutions, solutions of simultaneous equations, solutions by Laplace transforms and the use of series.

Prerequisite: MATH245

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
MAT499	Special Topic	TBD	TBD	TBD	TBD

Advanced course on a special topic in Mathematics. May be used as an elective and repeated as topic changes.

Prerequisite: As Appropriate

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
SCI100	Basic Concepts of Physics	3	30	30	60

Basic principles: motion, gravitation, electricity and magnetism, light, relativity and atomic physics. Students are introduced to the fundamentals of physics.

Prerequisite: MATH115 or MATH116 or MATH143

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
SCI101	Basic Physics 1	3	30	30	60

Students are introduced to the fundamentals of physics. Topics include basic principles of motion, gravitation, fluids, thermodynamics, kinetic theory, and entropy. Course is intended for students not majoring in engineering.

Prerequisite: MATH115 or MATH116 or MATH143

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
SCI102	Basic Physics 2	3	30	30	60

This course provides a grounding in the fundamentals of classical and modern physics. Topics include basic principles of electricity, magnetism, waves and motion, sound, light, and an introduction to modern physics.

Prerequisite: MATH115 or MATH116 or MATH143

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
SCI110	The Science of Motion: Humans, Animals, Objects	3	30	30	60

Analysis of movement of biological systems and objects based on the mechanical principles of motion. Topics covered in lectures and labs: linear kinematics including walking, running, jumping, and climbing; kinematics of joints (elbows, knees, hips, etc.), angular kinematics, forces acting on a body and objects, work and energy, positive and negative work of muscles and total body, conservation of energy during body and object movement, center of mass and its calculation, torque, mechanical and anatomical levers, joint torque calculation and joint reaction force, rotational motion and angular momentum, buoyancy, lift and drag forces acting on wings, swimming propulsion. Fulfills the requirement for a basic lab science.

Prerequisite: MATH115 or MATH116 or MATH143

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
SCI120	Basic Biology	3	45	0	45

This course presents a systematic approach to the study of living organisms, their relationship to each other and the broader environment with emphasis on the basic principles of biology. The topics covered will include basic biology concepts like cell theory, macromolecules, energy metabolism and homeostasis, photosynthesis, nutrition, genetics, reproduction, inheritance, mutations and cancer, evolution and ecology. Laboratory work will parallel and reinforce concepts introduced in the lectures, using practical models and other visual aids along with discussion and cooperative learning exercises.

Prerequisite: None

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
SCI125	Introduction to Astronomy	3	45	0	45

This course provides an introduction to astronomy and an overview of our understanding of the universe. Students will learn the history of astronomy, and study the moon, the sun, and the planets. The course will also explore astrobiology, the search for new planetary bodies and extraterrestrial life. Additional topics will include the nature of other natural phenomenon in the universe, and the future of cosmology.

Prerequisite: None

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
SCI130	Basic Concepts of Anatomy and Physiology	3	30	30	60

This course presents a systematic approach to the study of the human body beginning with an introduction to anatomical terminology. Topics covered include the gross and microscopic anatomy of the following system: skeletal; muscular, nervous, circulatory, respiratory, digestive, urinary and reproductive. Laboratory work will parallel and reinforce concepts introduced in the lectures, using practical models and other visual aids.

Prerequisite: MATH115 or MATH116 or MATH143

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
SCI145	College Physics 1	4	45	30	75

Fundamentals of mechanics, fluids, and heat, including vectors, translation and equilibrium, acceleration, projectile motion, Newton's Laws, work, energy, power, impulse, momentum, uniform circular motion, rotation of rigid bodies, simple changes, elasticity, simple harmonic motion, fluid statics and dynamics, temperature, thermal expansion, heat units, heat transfer, thermal properties of matter, the thermodynamics and wave motion. Illustrative laboratory work to complement theory. Students are introduced to physics concepts for science and engineering.

Prerequisite: MATH143

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
SCI199	Special Topic	TBD	TBD	TBD	TBD

Course on a special topic in Science. May be used as an elective and repeated as topic changes.

Prerequisite: As Appropriate

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
SCI200	General Physics	3	30	30	60

This course provides a grounding in the fundamentals of classical and modern physics. Topics include basic principles of mechanics, fluids and thermodynamics, waves and motion, sound, light, electricity and magnetism, and an introduction to modern physics.

Prerequisite: SCI100 or SCI110 or SCI130 or SCI145

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
SCI220	Foundations of Musical Acoustics	3	30	30	60

Waves and wave propagation, sound pressure level and measurement, reflection, absorption and diffusion. Acoustic characteristics of building materials, room acoustics. Bass traps, diffusers and other acoustic interventions. Acoustic aspects of studio design.

Prerequisite: SCI100 or SCI145

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
SCI245	College Physics 2	4	45	30	75

Fundamentals of sound, light electricity and magnetism, and modern physics, including illumination, reflection, refraction, interference, diffraction, polarization, DC and AC circuits, magnetism, electrochemistry and electronics. Illustrative work to compliment theory. Students are introduced to physics concepts for science and engineering.

Prerequisite: SCI145

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
SCI299	Special Topic	TBD	TBD	TBD	TBD

Course on a special topic in Science. May be used as an elective and repeated as topic changes.

Prerequisite: As Appropriate

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
SCI345	College Physics 3	3	45	0	45

Fundamentals of theory of relativity, quantum mechanics, solid state physics and subatomic particles.

Prerequisite: SCI245

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
SCI399	Special Topic	TBD	TBD	TBD	TBD

Advanced course on a special topic in Science. May be used as an elective and repeated as topic changes.

Prerequisite: As Appropriate

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
SL101	Cogswell 101	0	15	0	15

This course is designed to assist incoming students with adapting to college life at Cogswell Polytechnical College. All incoming students will participate in discussions about college academic expectations, time management, organizational skills, communication skills, college social life, registration, portfolio development, and professionalism.

Prerequisite: None

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
SL102	Strategies for Student Success	0	30	0	30

This course gives students skills and guidance needed to successfully navigate academic environments. Students will establish their own values and identity and discover their own strengths and challenges. The course covers learning to manage time effectively, communicating with instructors, and developing a range of skills that will make them successful within their learning community. Students will define good learning environments and role-play assertive communication scenarios. They will also review and implement effective test-taking strategies, note-taking, and learning techniques. At the conclusion of the course, students will present a final project that utilizes skills learned throughout the course.

Prerequisite: None

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
SSC180	Introduction to Psychology	3	45	0	45

Introduces students to the scientific study of human behavior. Topics may include natural foundations of behavior, motivation and emotion, critical thinking processes, personality traits, developmental, cognitive and social behaviors.

Prerequisite: None

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
SSC199	Special Topic	TBD	TBD	TBD	TBD

Course on a special topic in Social Sciences. May be used as an elective and repeated as topic changes.

Prerequisite: As Appropriate

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
SSC200	U.S. Government	3	45	0	45

Introduces students to the American constitutional system, parties, elections, media, interest groups, branches of government, and public policy issues. Comparison with California constitution and institutions.

Prerequisite: ENG100

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
SSC210	Introduction to Consciousness	3	45	0	45

Conceptual and experiential investigation of theories of consciousness. Consideration of theories drawn from psychology, neuroscience and philosophical traditions. Topics include defining “consciousness”, theories of the self, the evolution of consciousness, the neural correlates of consciousness, altered states of consciousness, paranormal experiences and consciousness contemplating itself. Exercises and experiments to accompany reading and discussion.

Prerequisite: ENG100

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
SSC225	Fashion and Culture	3	45	0	45

This course provides an introduction to the critical study of culture’s intersections with a wide range of visually impactful fashions and clothing in countries around the world. Students examine the myriad ways in which clothing and style development –from haute couture to street fashion – inform, and are informed by, historic understandings of gender, race, class, sexuality, space and the body. This exploration pinpoints key developments in each period from ancient times to the present day, and covers fashion-related art including costumes designed for animated and video-game-based characters. Course themes include clothing and identity construction, consumerism, power, subversion and agency.

Prerequisite: ENG100

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
SSC227	Architecture and World Societies	3	45	0	45

This course surveys visually impactful architecture, examining how structures reflect geophysical differences, cultural mores and sociopolitical climates within a given period. Students explore buildings and monuments within their societal contexts across Classical, Neolithic, ancient, medieval, Renaissance and modern times as well as Asian, African and Pre-Columbian American cultures. Students assess games. Topics include the work and philosophies of major architects including Kahn and Venturi. Course themes include architectural design's relation to technology.

Prerequisite: ENG100

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
SSC230	Human Behavior and Entrepreneurship	3	45	0	45

This course addresses the psychology of entrepreneurship: conceiving, creating, bootstrapping, managing, leading and potentially selling an innovative business idea. Our goal is to offer mission-critical concepts and best practices of entrepreneurship with a focus on psychology of business, social networking, influence, and leadership. Basic literacy in key areas of marketing, management, and finance combine with psychological profiling of entrepreneurs: creative, innovative, passionate; self-confident; obsessive; oppositional-defiant. The course features discussions, peer engagement, and social networking, case analysis, behavior journaling, and building a business plan for your own creative entrepreneurial idea.

Prerequisite: ENG100

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
SSC235	Race, Gender and Technology in the Music Industry	3	45	0	45

The class will explore and discuss the aspects of technology, culture, and business, as well as the many colorful personalities that have shaped this industry. We will also consider how diversity, or lack thereof, has impacted popular culture, as well as specific careers of musicians and music managers throughout the last century. Students will research, write and present a thesis paper on a topic of their own choice.

Prerequisite: ENG100

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
SSC240	Microeconomics	3	45	0	45

Course focuses primarily on microeconomics, such as how people choose, the nature of markets and market failures, and alternative government policies to deal with failure. Topics include opportunity cost, supply, demand, markets, price controls, and market failures. In this course, the economic way of thinking will be applied in order to better understand a market economy.

Prerequisite: ENG100

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
SSC299	Special Topic	TBD	TBD	TBD	TBD

Course on a special topic in Social Sciences. May be used as an elective and repeated as topic changes.

Prerequisite: As Appropriate

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
SSC332	Global Political Economics	3	45	0	45

Based on political, economic, and geopolitical study of contemporary processes of globalization. Comparative analysis of various economic and political systems. New realities of the transitional economic systems. Current economic and social development of West Europe, Russia and Eurasia, China, the Middle East, Latin America, and Africa in context of global economic, cultural, military, and political relations with the United States.

Prerequisite: ENG100

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
SSC399	Special Topic	TBD	TBD	TBD	TBD

Advanced course on a special topic in Social Sciences. May be used as an elective and repeated as topic changes.

Prerequisite: As Appropriate

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
SSC499	Special Topic	TBD	TBD	TBD	TBD

Advanced course on a special topic in Social Sciences. May be used as an elective and repeated as topic changes.

Prerequisite: As Appropriate

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
SWE299	Special Topic	TBD	TBD	TBD	TBD

Course on a special topic in Software Engineering. May be used as an elective and repeated as topic changes.

Prerequisite: As Appropriate

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
SWE361	Software QA, Testing and Validation	3	30	30	60

This course introduces students to methods and practice of software testing, verification and validation. The course also introduces students to different testing frameworks like Junit.

Prerequisite: CS295

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
SWE442	Software Engineering Methods and Projects 2	3	30	30	60

Case Studies of Object Oriented Analysis and Design. Design Patterns. Component architecture. Component frameworks. Students apply object oriented principles in a large project.

Prerequisite: SWE340

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
SWE449	Tools Programming	3	30	30	60

This course is an advanced scripting course that will teach students how to use Maya Python command engine and Maya Python API to write and deploy production tools in Maya (workflow optimization tools, Modeling, and rigging, animation tools). It will introduce students to Maya architecture and data flow. Students will learn how to write a simple command plugin and dependency node plugin. Other types of plugins will be analyzed and demonstrated.

Prerequisite: CS100 and DAA240

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
SWE499	Special Topic	TBD	TBD	TBD	TBD

Advanced course on a special topic in Software Engineering. May be used as an elective and repeated as topic changes.

Prerequisite: As Appropriate

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
VIRT299	Special Topic	TBD	TBD	TBD	TBD

Course on a special topic in Virtual Reality and/or Augmented Reality. May be used as an elective and repeated as topic changes.

Prerequisite: As Appropriate

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
VIRT499	Special Topic	TBD	TBD	TBD	TBD

Advanced course on a special topic in Virtual Reality and/or Augmented Reality. May be used as an elective and repeated as topic changes.

Prerequisite: As Appropriate

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
VRAR400	PERCEPTION, COGNITION AND PRESENCE IN VR	TBD	TBD	TBD	TBD

The experience of virtual worlds depends upon the mediation of perceptual faculties that can be cognized as 'being in' a virtual space. This course will first present the perceptual and cognitive fundamentals of sight, sound and touch and then present ways in which these faculties are mediated by technology to create a sense of 'presence,' i.e., of being in that world. The course will include theories of presence as well consider health-related impacts of sensory mediation in VR.

Prerequisite: None

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
VRAR410	Introduction to Unity and C# for VR/AR	TBD	TBD	TBD	21

For students with no prior skills in the tools of VR and AR, VAR410 introduces C and Unity elements needed to implement cross-platform VR/AR projects. Topics include project setup, editor customization and editor views, basic animation, and audio and asset management. The course also includes rudiments of C programming for the purpose of developing Unity scripts.

Prerequisite: No prior Unity, C or VR/AR implementation skills required.

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
VRAR420	Project Implementation for VR/AR	TBD	TBD	TBD	21

Building on the foundation set in VRAR410, VRAR420 focuses on Unity elements required to set up and implement simple games and VR/AR projects. This includes an introduction to object-oriented programming in C and more advanced Unity elements such as materials and effects, lighting, physics and interactivity. The course concludes with the completion of simple app that can be submitted to the Google Play store.

Prerequisite: VRAR410 or previous Unity production experience, including scripting.

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
VRAR440	Basic VR App Development	TBD	TBD	TBD	21

Basic VR App Development begins a more serious introduction to the theory behind virtual reality projects, the dos and don'ts for UI, text, walking and turning speed. It includes multiple ways of narrating a story in VR as opposed to working in non-VR environments. Projects include a first Google Cardboard project and a first HTC Vive project.

Prerequisite: VRAR420 or previous Unity VR production experience, including scripting.

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
VRAR450	HUMAN COMPUTER INTERFACE AND INTERACTION DESIGN	TBD	TBD	TBD	TBD

Human Computer Interface design addresses problems of usability in VR and AR systems. This course will begin with fundamental techniques of interaction and address progressively more challenging problems. The course will engage both theory and practice of HCI with hands-on projects. It will include an introduction to spatial audio relevant to VR and AR for non-audio specialists.

Prerequisite: None

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
VRAR460	Basic AR App Development	TBD	TBD	TBD	21

Basic AR App Development parallels VRAR440 but with a focus on the theory behind augmented reality projects, the dos and don'ts for UI, and how production practices differ from non-AR applications. Practical skills include building AR applications that understand hand gestures and voice commands. The course culminates in a Microsoft HoloLens project that uses all the above features.

Prerequisite: VRAR420 or previous Unity AR production experience, including scripting.

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
VRAR499	Project Practices	TBD	TBD	TBD	TBD

Course on a special topic in virtual reality and/or augmented reality. May be repeated as topic changes.

Prerequisite: As Appropriate

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
VRAR500	VR/AR DESIGN PRINCIPLES 1	TBD	TBD	TBD	TBD

Moving beyond design principles for 2D and 3D art, VR/AR Design Principles 1 addresses fundamental issues of designing virtual and augmented experiences. Topics may include factors such as semantic vs. responsive gestures, the reactivity of objects in virtual space, interactive element targeting, ergonomics, economy of gestures, sound or other factors specific to VR and AR.

Prerequisite: None

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
VRAR525	VR/AR DESIGN PRINCIPLES 2	TBD	TBD	TBD	TBD

Following on the foundations established in VR/AR Design Principles 1, VR/AR Design Principles 2 develops more fully the techniques of creating experiences through interactive virtual and augmented media. Specific topics may include locomotion, optimization for VR tracking, hand and body design, space and perspective, as well as elements of sound in virtual/augmented spaces.

Prerequisite: VRAR500

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
VRAR550	VR/AR STUDIO PROJECT 1	TBD	TBD	TBD	TBD

The capstone of the VR/AR certificate program is the VR/AR studio project, a multidisciplinary collaborative project that will engage the efforts of engineers, VR/AR content designers and audio specialists. All of the theory and practice of previous courses will come together in the implementation of projects inspired by 'real world' applications and in some cases commissioned by actual clients. Industry professionals will be brought in at intervals to provide expert feedback and to inspire best practices.

Prerequisite: VRAR525

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
VRAR555	VR/AR STUDIO PROJECT 2	TBD	TBD	TBD	TBD

Part Two of VR/AR Studio Project extends the timeframe for completion of a multidisciplinary collaborative project to accommodate more complexity and/or depth. Students will give a formal presentation completed work at the end of the program.

Prerequisite: VRAR550

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
VRAR599	Special Topic	TBD	TBD	TBD	TBD

Course on a special topic in virtual and/or augmented reality. May be repeated as topic changes.

Prerequisite: As appropriate

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COGSWELL POLYTECHNICAL COLLEGE SILICON VALLEY



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NAME CHANGE

We are excited to announce the new name of our institution, one that reflects our growth in higher education and our location in a global center for creative technology businesses. At the direction of our Board of Trustees and with the approval of our accreditor and regulatory agency, effective June 1, 2020, our name became **Cogswell University of Silicon Valley**.

This new name represents the expanded vision for our University as we add academic offerings above the undergraduate level, while broadening our geographical reach beyond Northern California. In May, we received approvals to offer a Master of Science in Management and Leadership in Creative Technologies and a Graduate Certificate in Project Management. These new graduate-level programs will nicely complement our existing Master of Arts in Entrepreneurship and Innovation. It is this expansion into graduate education that allows us to distinguish ourselves as a university.

Founded in the San Francisco Bay Area in 1887, our rich history is infused with the vibrancy and innovation of our Silicon Valley location and we are delighted to have a name that embodies that spirit.

ACADEMIC CALENDAR

The Academic Calendar on Page 5 has been revised as outlined below:

Spring Session	
March 9-22, 2020	Spring Break - No Classes
Spring Mid-Session	
Friday, March 6, 2020	New Students Orientation
Monday, March 9, 2020	First Day of Classes
Sunday, March 15, 2020	Last Day to Add/Drop Classes
Sunday, April 12, 2020	Last Day to Withdraw from Classes
Sunday, May 3, 2020	Last Day of Classes
Summer Trimester	
Friday, May 22, 2020	New Students Orientation
Tuesday, May 26, 2020	First Day of Classes
Monday, June 1, 2020	Last Day to Add/Drop Classes
Monday, May 25, 2020	Memorial Day (Holiday) - College Closed
Friday, June 19, 2020	Juneteenth (Holiday) - College Closed
Friday, July 3, 2020	Independence Day (Holiday) - College Closed
Sunday, July 26, 2020	Last Day to Withdraw from Classes
Sunday, August 30, 2020	Last Day of Classes

ACADEMIC HONORS

The Academic Honors requirements on Page 39 have been revised as outlined below:

THE PRESIDENT’S HONOR ROLL

The President’s Honor Roll recognizes undergraduate students who have completed twelve (12) or more credits of coursework during the term with a 3.80 grade point average or better.

THE DEAN’S HONOR ROLL

The Dean’s Honor Roll recognizes undergraduate students who have completed twelve (12) or more credits of coursework in a term with a 3.50-3.79 grade point average.

CONDITIONAL ADMISSIONS

The Conditional Admissions requirements on Pages 10 and 11 have been removed.

TUITION AND FEES

Effective 01/06/2020: The Student Housing Application Fee on Page 19 is a one-time fee of \$300.

The Tuition and Fees on Page 19 have been revised as outlined below:

Tuition and Fees (Effective: Fall 2020)

Undergraduate Tuition (per credit hour):	\$866	Refundable According to the Institutional Refund Policy
Graduate Tuition (per credit hour):	\$499	Refundable According to the Institutional Refund Policy
Fees (per term):		
Campus Fee (Undergraduate Students):	\$500	Non-refundable
Technology Fee (Graduate Students):	\$50	Non-refundable
Student Tuition Recovery Fee (STRF):	\$0	Non-refundable
Books and Supplies:	\$500	Estimated Costs
Housing Fee:	\$6,395	Refundable According to the Institutional Refund Policy
Other:		
Enrollment Fee:	\$100	Non-refundable

Charges (for the first term)

Tuition and Fees	Undergraduate Students		Graduate Students	
	w/o Housing	With Housing	w/o Housing	With Housing
Undergraduate Tuition (based on 15 credits):	\$12,990	\$12,990		
Graduate Tuition (based on 9 credits):			\$4,491	\$7,794
Enrollment Fee:	\$100	\$100	\$100	\$100
Campus Fee:	\$500	\$500	\$0	\$0
Technology Fee:	\$0	\$0	\$50	\$50
Student Tuition Recovery Fee (STRF):	\$0	\$0	\$0	\$0
Books and Supplies (Estimated):	\$500	\$500	\$500	\$500
Housing Fee:	\$0	\$6,395	\$0	\$6,395
Student Housing Application Fee:	\$0	\$300	\$0	\$300
Total Charges for the First Term:	\$14,090	\$20,785	\$5,141	\$15,139

Other Fees	Amount
Late Payment Fee	\$25 per Payment Due Date (non-refundable)
Official Transcript	\$10 per transcript (non-refundable)
Graduation Fee	\$100 (non-refundable)
Credit by Examination Fee	\$75 per examination (non-refundable)
Audit Fee (waived for Cogswell graduates)	\$500 per course (refundable per refund policy)
Diploma Reprint Fee	\$25 (non-refundable)
Student ID Card Replacement Fee	\$10 (non-refundable)
Student Housing Application Fee	\$300 (non-refundable)
Replacement VTA Pass Fee	\$25 (non-refundable)
International Students Enrollment Fee	\$500 (non-refundable)
Non-sufficient Funds (NSF) Fee	\$20 (non-refundable)
Late Equipment Return Fee	\$5 per day (non-refundable)

Total Program Costs

Program	Current Period	Total Costs
BA in Digital Art and Animation	\$27,080	\$115,618
BA in Game Design Art	\$27,080	\$112,020
Bachelor of Business Administration	\$27,080	\$112,020
BS in Computer Science	\$27,080	\$112,020
BS in Digital Audio Technology	\$27,080	\$121,680
BS in Game Design Engineering	\$27,080	\$123,412
BS in Software Development	\$27,080	\$112,020
Certificate in Cloud Computing	\$14,956	\$15,956
Graduate Certificate in Project Management in Creative Technologies	\$6,638	\$7,188
MA in Entrepreneurship and Innovation	\$11,129	\$16,720
MS in Management and Leadership in Creative Technologies	\$12,626	\$19,215

INSTITUTIONAL SCHOLARSHIPS AND GRANTS

The Institutional Scholarships and Grants listed on Page 27 have been revised as outlined below:

Educators' Grant	25% of tuition	The Educators' Grant is for current educators and education administrators who want to continue with graduate coursework. Candidates must be a current primary, secondary, or postsecondary teacher or administrator and enrolled in one of our Master's degree programs. Candidates must have completed an undergraduate degree program at an accredited college or university. Eligible students have the opportunity to receive 25% tuition scholarships. Students must be enrolled with full-time status of 6+ credits per term and maintain a GPA of 3.0 or higher. To qualify, applications must be submitted with proof of educator or administrator status (i.e. letter from school on official letterhead that verifies position/status).
Business Partnership Training Grant	25% of tuition	This Business Partnership Training Grant is for current employees of companies that have a business partnership with Cogswell who want to continue with graduate education. Candidates must be an employee in good standing with a Cogswell business partner and enrolled in one of our Master's degree programs. Candidates must have completed an undergraduate degree program at an accredited college or university. Eligible students have the opportunity to receive 25% tuition scholarships. Students must be enrolled with full-time status of 6+ credits per term and maintain a GPA of 3.0 or higher. To qualify, applications must be submitted with verification status (i.e. letter from company on official letterhead that verifies position/status).
Business, Entrepreneurship and Innovation Scholarship	10% of tuition	This scholarship program is designed to provide tuition assistance to students who are seeking careers as entrepreneurial innovators in business and are enrolled in one of our Master's Degree programs. Candidates must have completed an undergraduate degree program at an accredited college or university. Eligible students have the opportunity to receive 10% tuition scholarships. Must be enrolled with full-time status of 6+ credits per term and maintain a GPA of 3.0 or higher.
CEO Leadership of Tomorrow Scholarship	25% of tuition	The CEO of Cogswell awards scholarships annually to qualified candidates who are alumni of the college and demonstrate an interest in business leadership. This scholarship program is designed to provide tuition assistance to students who are enrolled in one of our Master's Degree programs. Eligible recipients will be selected in order of merit with preference given to applicants who have completed an undergraduate degree program at Cogswell Polytechnical College. Eligible students have the opportunity to receive 25% tuition scholarships. Must be enrolled with full-time status of 6+ credits per term and maintain a GPA of 3.0 or higher.

ACADEMIC PROGRAMS

GRADUATE CERTIFICATE IN PROJECT MANAGEMENT IN CREATIVE TECHNOLOGIES

The Graduate Certificate in Project Management in Creative Technologies program provides professionals in many fields with a thorough understanding of management principles and the skills necessary to guide projects from start to finish. The program includes industry-standard curricula on project management, as well as leadership, management and fundamentals of business in creative and technical industries. Students have the opportunity to develop further skills in business and risk analysis. Graduates of this program are also well-positioned to transfer into one of our Master's degrees in Business, and to flourish in the innovative hub of business in Silicon Valley.

LEARNING OUTCOMES

Upon completion of the Graduate Certificate in Project Management in creative Technologies program, students will be able to:

- **ENT PLO 1:** Demonstrate business acumen in a variety of professional contexts, including planning, decision-making, resource-allocation and leadership.
- **ENT PLO 2:** Demonstrate a well-developed understanding of project management terminology, practices and methodologies.
- **ENT PLO 3:** Gather, analyze, communicate, and apply diverse information in a business environment.

Graduate Certificate in Project Management of Creative Industries		
Core Courses		
Course Number	Course Name	Credits
ENT570	Project Portfolio Management	3
CLT511	Understanding the Business of Creative Industries	3
BUS510	Business Analysis	3
Electives - 6 credits (select one)		
BUS520	Risk Analysis and Management	3
ENT555	Leadership and Management	3
Total 12 Credits		

MS IN MANAGEMENT AND LEADERSHIP IN CREATIVE TECHNOLOGIES (MS MLCT)

The MS in Management and Leadership in Creative Technologies program is designed to enable students to combine specific creative practice and skills with a rigorous business education customized for the creative industries. At the end of the program, graduates will be equipped with in-depth understanding, knowledge, and skills required to successfully realize value within the creative industry ecosystem.

The program is designed for individuals coming from different disciplines who have a strong motivation to look beyond their traditional boundaries, a readiness to participate in start-ups, and a willingness to work in a multi-disciplinary and experiential environment.

LEARNING OUTCOMES

Graduates in MS in Management and Leadership in Creative Technologies (MS MLCT) program will:

- **MLCT PLO 1:** Demonstrate the ability to plan, prepare, organize and present effectively in writing, meetings with individuals and presentations to large audiences.
- **MLCT PLO 2:** Practice whole-brain thinking in developing capabilities and build capacity to create, problem-solve, transform, innovate and reframe challenges in organizations.
- **MLCT PLO 3:** Evaluate and synthesize information, evidence, arguments, theories and perspectives within given contexts to draw inferences and reach reliable conclusions.
- **MLCT PLO 4:** Develop sets of practical skills and toolboxes to create an effective team environment in the workplace as a leader or as team member.
- **MLCT PLO 5:** Comprehend the interconnectedness and complexity of global processes such as economy, environment, society, and human services and critically examine these across diverse contexts.
- **MLCT PLO 6:** Articulate and appraise the ethical, social and legal consequences that evolve when ethical practices and the law are overlooked or dismissed in favor of other objectives.
- **MLCT PLO 7:** Facilitate the development and management of human relationships by identifying, considering, and adapting to the needs, values, expectations, perspectives and sensibilities of others.

MS in Management and Leadership in Creative Technologies		
Core Courses - 22 Credits		
Course Number	Course Name	Credits
ENT555	Leadership and Management	3
ENT570	Project Portfolio Management	3
CTL511	Understanding the Business of Creative Industries	3
CTL525	Professional Ethics and the Law	3
CTL535	Strategic Marketing in Creative Enterprises	3
CTL540	Culture and Globalization	3
CTL581	Metrics and Data Analytics	3
CTL590	Leadership Experience Lab	1
Management and Leadership Electives - Select 2 courses from the list below		
Course Number	Course Name	Credits
CTL541	Leading and Managing Change	3
CTL543	Conflict Management	3
CTL560	Creative Design Thinking for Leaders	3
Other Electives - Select 1 course from the list below		
Course Number	Course Name	Credits
ENT520	Business Models and Planning	3
ENT540	Negotiation, Sources and Uses of Power	3
ENT550	Digital Transformation and Social Media	3
Capstone Courses		
Course Number	Course Name	Credits
CTL595	Leadership Capstone A	2
CTL596	Leadership Capstone B	2
Total 35 Credits		

BS IN SOFTWARE DEVELOPMENT (SWD)

The BS in Software Development (SWD) degree program prepares students to engage in the dynamic world of computer software design and development. Students will investigate user needs, analyze systems, design and propose solutions, and develop software projects. The program provides a solid technical understanding to support a central pillar of project studio courses designed to reflect real-world development practices and encourage collaboration between students. These projects are hands-on and realistic, leading to a portfolio of shipped code for students at multiple levels.

Students will develop and refine technical skills in user needs analysis, project planning, programming and development, software deployment and collaborative work processes. The program deploys industry-standard techniques and technology, including preparation for key professional certification programs which prepare students to transition immediately to our local Silicon Valley workforce.

PROGRAM LEARNING OUTCOMES

Graduates in the BS in Computer Science (CS) program will:

- **SWD PLO 1:** Apply software engineering concepts and sound reasoning to develop and deploy technical solutions for real-world problems.
- **SWD PLO 2:** Evaluate computing resources and technologies in order to apply efficient means to the solution of problems.
- **SWD PLO 3:** Conduct research and develop knowledge in a computer science context.
- **SWD PLO 4:** Understand the potential social and ethical impact of computer-based solutions and technologies.
- **SWD PLO 5:** Work proficiently with diverse groups in collaborative project teams.
- **SWD PLO 6:** Produce work in an ethical and sustainable manner.
- **SWD PLO 7:** Develop and reflect upon a personal, technical and professional identity.

BS in Software Development (SWD) Curriculum		
Core Courses - 73 Credits		
Course Number	Course Name	Credits
BUS110	Principles of Management and Entrepreneurship	3
CS101	Fundamentals of Computing	4
CS111	Code 0: Introduction to Programming and Logic	4
CS130	Introduction to Cybersecurity	3
CS135	Studio 1	3
CS211	Code 1: Intermediate Programming	4
CS235	Studio 2	3
CS261	Systems Architecture in the Cloud	4
CS297	Data Structures: Introduction to Efficient Data Storage	3
CS311	Code 2: Advanced Programming	4
CS320	Operating Systems Concepts	3
CS325	Algorithms: Memory and CPU Efficient Computing	3
CS335	Studio 3	3
CS341	Network Systems	3
CS360	Database Management Systems	4
CS361	Introduction to Compilers	3
CS421	Systems Analysis and Design	3
MATH295	Discrete Mathematics	3
MATH315	Mathematics for Computing	4
RWPS480	Senior Capstone Project 1	3
RWPS485	Senior Capstone Project 2	3
SWE361	Software QA, Testing and Validation	3
CSE Program Approved Courses (PAC) - Select 17 credits from the list below		
Course Number	Course Name	Credits
CS100	Introduction to Scripting: Python	3
CS115	Web Programming: HTML5, CSS and JavaScript	3
CS190	Digital Systems	3
CS212	Java Programming	4
CS262	Software Development in the Cloud	4
CS263	SysOps for Cloud Computing	4
CS316	Advanced Web Programming	3
CS351	Computer Architecture	3
CS375	Mobile Programming for iOS	3
CS376	Mobile Programming for Android	3
CS450	Cryptography: Introduction to Modern Cybersecurity	3
CS457	Machine Learning and Artificial Intelligence	3
CS459	Big Data and Visualization	3
DAT110	Desktop Production Fundamentals	3
DAT115	Desktop Audio Production	3
DAT210	Digital Sound Synthesis	3
MATH143	Calculus 1	4
MATH145	Calculus 2	4
MATH215	Mathematics for Computer Graphics	3
MATH290	Linear Algebra and Transformations	3
General Education Courses - 30 credits		
Total 120 Credits		

CERTIFICATE IN CLOUD COMPUTING (CCC)

The Certificate in Cloud Computing (CCC) program offers students industry-driven training in computing, with a particular focus on concepts, techniques and technology relevant to the rapidly-expanding field of cloud computing. The program offers an introduction to fundamental concepts in computing and information technology, which is developed throughout the program. Students will learn valuable skills derived directly from industry-leading cloud providers such as Amazon Web Services. Graduates of the program will be well-positioned to succeed in the AWS Academy program and the Silicon Valley workforce.

PROGRAM LEARNING OUTCOMES

Graduates in the BS in Computer Science (CS) program will:

- **CCC PLO 1:** Articulate and implement a range of software development principles including computer hardware and software, networking, and cloud computing features.
- **CCC PLO 2:** Design and implement software in an industry-standard programming language, following design patterns and best-practices.
- **CCC PLO 3:** Design a distributed software system applicable to an industry-standard cloud platform, incorporating recognized best practices and architecture.
- **CCC PLO 4:** Develop further skills in a cloud-based development environment in one of: database design, storage and analytics; or software development and configuration.

Certificate in Cloud Computing (CCC) Curriculum		
Core Courses		
Course Number	Course Name	Credits
CS101	Fundamentals of Computing	4
CS111	Code 0: Introduction to Programming and Logic	4
CS261	Systems Architecture in the Cloud	4
Electives - 4 credits (select one)		
Course Number	Course Name	Credits
CS262	Software Development in the Cloud	4
CS263	SysOps for Cloud Computing	4
CS360	Database Management Systems	4
Total 16 Credits		

Effective Summer 2020, the Bachelor of Business Administration (BBA) program on Pages 48-49 is replaced with the below curriculum:

Bachelor of Business Administration (BBA) Curriculum		
Business Administration Core Courses - 66 Credits		
Course Number	Course Name	Credits
BUS105	Fundamentals of Accounting	3
BUS110	Principles of Management and Entrepreneurship	3
BUS121	Digital Technology and Communications	3
BUS125	Business Law	3
BUS141	Principles of Marketing	3
BUS150	Principles of Economics	3
BUS210	Global Entrepreneurship and Innovation	3
BUS220	Advanced Cost Accounting	3
BUS235	Leading Teams	3
BUS241	Consumer and Market Behavior	3
BUS246	Business Intelligence and Analytics	3
BUS250	Finance	3
BUS270	Project Management	3
BUS280	Human Resource Management	3
BUS310	Advanced Project Management	3
BUS320	Pitching and Crowdfunding	3
BUS346	Data and Decisions	3
BUS430	Fundamentals of eCommerce	3
BUS450	Operations and Technology	3
BUS490	Strategic Management	3
RWPS480	Senior Capstone Project 1	3
RWPS485	Senior Capstone Project 2	3
General Education Courses - 30 Credits		
Course Number	Course Name	Credits
ENG100	English Composition	3
HUM100	Disruptive Imagination	3
MATH112	College Algebra	3
BUS111	The Entrepreneurship Mindset	3
ENG250	Speech and Oral Communications	3
BUS290	Creating Strategic Plans	3
HUM361	Contemporary Ethical Issues	3
SSC380	The Silicon Valley Ecosystem	3
HUM470	Silicon Valley Challenge	3
	Physical or Biological Science choice	3
Electives - 24 Credits		
Total 120 Credits		

Effective Summer 2020, the BS in Computer Science (CS) program on Pages 52-55 is replaced with the below curriculum:

BS in Computer Science (CS) Curriculum		
Core Courses - 66 Credits		
Course Number	Course Name	Credits
CS101	Fundamentals of Computing	4
CS105	Code 0: Introduction to Programming and Logic in Python	4
BUS110	Principles of Management and Entrepreneurship	3
CS130	Introduction to Cybersecurity and Ethical Hacking	3
CS110	C Programming	4
CS115	Web Programming: HTML5, CSS and JavaScript	3
CS212	Java Programming	4
CS200	User Experience: Application Interface Design and Implementation	3
CS221	Linux Programming Environment	3
CS285	C++ Programming: Object Oriented Programming	4
CS297	Data Structures: Introduction to efficient data storage	3
CS325	Algorithms: Memory and CPU Efficient Computing	3
CS320	Operating Systems Concepts	3
CS360	Database Management Systems	4
CS361	Introduction to Compilers	3
CS375	Mobile Programming for iOS	3
CS376	Mobile Programming for Android	3
CS445	Advanced C++ Programming	3
RWPS480	Senior Capstone Project 1	3
RWPS485	Senior Capstone Project 2	3
CSE Program Approved Courses (PAC) - Select 24 credits from the list below		
Course Number	Course Name	Credits
CS205	Internet of Things: RaspberryPi and Arduino Development	3
CS261	Systems Architecture in the Cloud	4
CS262	Software Development in the Cloud	4
CS263	SysOps for Cloud Computing	4
CS300	Computers That Listen: Introduction to Natural Language Processing	3
CS316	Advanced Web Programming	3
CS341	Network Systems	3
CS351	Computer Architecture	3
CS352	Embedded Software Systems	3
CS450	Cryptography: Introduction to Modern Cybersecurity	3
CS451	Introduction to Self-Driving Cars	3
CS446	High Performance Computing	3
CS457	Machine Learning and Artificial Intelligence	3
CS459	Big Data and Visualization	3
MATH114	Trigonometry	3
MATH116	Pre-Calculus	4
MATH143	Calculus 1	4
MATH145	Calculus 2	3
MATH215	Mathematics for Computer Graphics	3
MATH290	Linear Algebra and Transformations	3
MATH320	Geometry and Transformation	3
General Education Courses - 30 credits		
Total 120 Credits		

GENERAL EDUCATION COURSE REQUIREMENTS

Effective Summer 2020, The General Education Course Requirements on Pages 69-71 are as outlined below:

PREPARATORY COURSES			
<i>Preparatory Courses may be required in certain subjects. These courses DO NOT count towards degree completion</i>			
Course Number	Course Name	Credits	Prerequisites
ENG050	Grammar and Composition	3	None
MATH050	Basic Algebra	3	None
MATH060	Success in College Algebra	2	Placement Exam
DAT050	Music Fundamentals	3	None
BASIC SKILLS (3 Courses)			
AREA: WRITTEN COMMUNICATION			
Course Number	Course Name	Credits	Prerequisites
ENG100	English Composition	3	ENG050 or Placement Exam
AREA: ORAL COMMUNICATION			
Course Number	Course Name	Credits	Prerequisites
ENG250	Speech and Oral Communication	3	ENG100
AREA: CRITICAL THINKING			
Course Number	Course Name	Credits	Prerequisites
HUM100	Disruptive Imagination	3	None
ARTS (1 Course)			
Course Number	Course Name	Credits	Prerequisites
HUM120	The Nature and History of Western Art	3	None
HUM122	World Music	3	None
HUM225	The Horror Film	3	ENG100
HUM226	Science Fiction Cinema	3	ENG100
HUM227	Film History	3	ENG100
HUM228	Video Games and Society	3	ENG100
HUM230	History of Animation	3	ENG100
ENG280	Apocalypse and The American Imagination	3	ENG100
ENG285	Visions of American Dystopias	3	ENG100
BUS111	The Entrepreneurship Mindset	3	ENG100
WRITTEN COMMUNICATION II (1 Course)			
Course Number	Course Name	Credits	Prerequisites
ENG220	Technical and Professional Writing	3	ENG100
ENG227	Scriptwriting	3	ENG100
ENG228	Creative Writing	3	ENG100
ENG229	Cog: The Publishing Experience	3	ENG100
ENG300	Essentials of Written Communication	3	ENG100
BUS290	Creating Strategic Plans	3	ENG100

SOCIAL SCIENCES (1 Course)			
Course Number	Course Name	Credits	Prerequisites
SSC180	Introduction to Psychology	3	None
SSC227	Architecture and World Societies	3	ENG100
SSC225	Fashion and Culture	3	ENG100
HUM200	History of the Modern World	3	ENG100
SSC380	The Silicon Valley Ecosystem	3	ENG100 and HUM100
SSC200	U.S. Government	3	ENG100
MATHEMATICS AND SCIENCE – 1 Course from each area.			
AREA 1: MATHEMATICAL CONCEPTS AND QUANTITATIVE REASONING (1 Course)			
Course Number	Course Name	Credits	Prerequisites
MATH112	College Algebra	3	MATH050 or Placement Exam
MATH115	College Algebra and Trigonometry	3	MATH003 or Placement Exam
MATH116	Pre-Calculus	4	MATH003 or Placement Exam
MATH143	Calculus 1	4	MATH116
AREA 2: PHYSICAL AND BIOLOGICAL SCIENCES for BA Degrees (1 Course)			
Course Number	Course Name	Credits	Prerequisites
SCI101	Basic Physics 1	3	MATH115, MATH116 or MATH143
SCI102	Basic Physics 2	3	MATH115, MATH116 or MATH143
SCI110	Science of Motion: Humans, Animals, Objectives	3	MATH115, MATH116, or MATH143
SCI120	Basic Biology	3	None
SCI125	Introduction to Astronomy	3	None
SCI130	Basic Concepts of Anatomy and Physiology	3	MATH115, MATH116 or MATH143
SCI145	College Physics 1	4	MATH143
SCI245	College Physics 2	4	SCI145
AREA 2: PHYSICAL AND BIOLOGICAL SCIENCES for BS Degrees (1 Course)			
Course Number	Course Name	Credits	Prerequisites
SCI101	Basic Physics 1	3	MATH115, MATH116 or MATH143
UPPER-DIVISION GENERAL EDUCATION – 1 Course from each area			
AREA 1: 300-LEVEL GE COURSE (1 Course)			
Course Number	Course Name	Credits	Prerequisites
ENG300	Essentials of Written Communication	3	Junior Status
ENG310	Classics of Western Drama	3	Junior Status
HUM361	Contemporary Ethical Issues	3	Junior Status
SSC332	Global Political Economics	3	Junior Status
AREA 2: SENIOR-LEVEL RESEARCH AND WRITING (1 Course)			
Course Number	Course Name	Credits	Prerequisites
HUM400	Research and Writing Capstone Project	3	Senior Status
HUM470	Silicon Valley Challenge	3	Senior Status

COURSE DESCRIPTIONS

The following Course Descriptions listed on Pages 71-128 have been revised:

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
BUS110	Principles of Management and Entrepreneurship	3	45	0	45

Students develop skills and knowledge needed to successfully manage businesses and organizations. This course is an intensive and comprehensive introductory study and analysis of the processes required to make effective business decisions in the areas of marketing, operations, human resources management, finance, business viability and execution of strategies.

Prerequisite: None

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
BUS111	The Entrepreneurship Mindset	3	45	0	45

In this course, students learn about specific human behaviors and mindset that enable entrepreneurs to motivate, mobilize and influence others as a positive change maker in an organization. Students develop an understanding how the entrepreneurial mindset creates value for stakeholders and society.

Prerequisite: As Appropriate

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
BUS121	Digital Technology and Communications	3	45	0	45

Modern organizations rely on technology and use digital tools to communicate effectively. This course is designed to provide students with an understanding of the impact of digital technologies and media in business communication.

Prerequisite: None

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
BUS 210	Global Entrepreneurship and Innovation	3	45	0	45

Entrepreneurs create value through their ventures not only locally but globally. This course examines how entrepreneurs adapt to and succeed in a global economy.

Prerequisite: BUS110

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
BUS235	Leading Teams	3	45	0	45

Students learn and explore multiple aspects of collaboration and team work as they create and test their own leadership styles. Team building is explored through case studies and role plays of team formation, brainstorming and collaboration.

Prerequisite: BUS110

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
BUS246	Business Intelligence and Analytics	3	45	0	45

This course introduces the fundamental quantitative methods using statistical software and spreadsheets. Students learn the importance of using modern technology tools for effective model building and decision-making.

Prerequisite: BUS110 and MATH112 or MATH115 or MATH116

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
BUS290	Creating Strategic Plans	3	45	0	45

Students gain the tools necessary to produce powerful business and project plans. The course will focus on achieving rhetorical effectiveness through a consideration of communication styles and strategic writing process.

Prerequisite: BUS110 and ENG100 or Faculty Approval

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
BUS320	Pitching and Crowdfunding	3	45	0	45

Crowdfunding, the practice of raising small amounts of money from large numbers of people, has enabled people around the world to start new businesses, fund initiatives, and raise money for themselves and others. This course introduces students to the art and science of crowdfunding and start developing skills on how to run campaigns.

Prerequisite: BUS110 and BUS141 and BUS250 or Faculty Approval

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
BUS346	Data and Decisions	3	45	0	45

Students understand the role of data and how statistical analysis improve decision-making. The course will draw on a variety of business and social science applications.

Prerequisite: BUS110 and BUS245

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
BUS450	Operations and Technology	3	45	0	45

Students will explore the design, scheduling and control of systems that efficiently use human and capital inputs to create products and services for companies and consumers. Coursework will explore the growth cycles of a company and gain an understanding of different issues, options and strategies to consider as the company reaches each growth cycle.

Prerequisite: BUS110 and BUS245

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
HUM122	Music That Moves the World	3	45	0	45

Study of representative music and instruments from world cultures including Middle Eastern, Asian/Pacific, Indian, African, Latin American, North American and Western. Emphasis is on world music's impact and influence on contemporary American musical styles and performance.

Prerequisite: None

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
HUM470	Silicon Valley Challenge	3	45	0	45

This course is an individual capstone experience for seniors. It is designed for students to develop skills as innovative thinkers by applying their skills of topic development, critical reading, research techniques, use of sources in arguments, and advanced composition. Students will decide on an individual research project or an innovative proposal which can take a variety of forms, including a case study, feasibility study, comprehensive research paper, business plan, or similar as agreed to by faculty. At the end of the course, students will present their projects to colleagues and a panel. Students are encouraged to undertake research relevant to their career interests in Silicon Valley and beyond.

Prerequisite: Senior Status or Faculty Approval

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
RWPS480	Capstone Project A	3	45	0	45

RWPS480 is Part 1 of the final, 2 semester (6 credit) capstone project in which student groups develop a project idea, create and document an effective project plan, and begin pre-production activities appropriate to the project. This course proceeds with faculty facilitation and supervision, with students providing direction. Groups will typically develop their own project brief to be approved by a faculty panel, and update their faculty facilitator throughout the semester. Each student will be reviewed as individuals and groups throughout the semester according to professional standards established by students and faculty. Students are expected to deploy a full range of creative, technical and collaborative skills as developed throughout their studies at Cogswell. The project will be concluded during RWPS485 Capstone Studio 2, and so should be scoped effectively to cover two semesters.

Prerequisite: Senior Status or Faculty Approval

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
RWPS485	Capstone Project B	3	45	0	45

RWPS485 is Part 2 of the final, 2 semester (6 credit) capstone project in which student groups resume development of the project planned in RWPS480. This course proceeds with faculty facilitation and supervision, with students providing creative direction. Groups will proceed with the production of their project, executing the development according to the previously devised plan. Each student will be reviewed as individuals as well as in groups, according to professional standards established in the previous course. Students are expected to deploy a full range of creative, technical and collaborative skills as developed throughout their studies at Cogswell. To conclude the semester, groups will present their work to a panel of faculty and guests for feedback.

Prerequisite: RWPS480

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
SSC380	The Silicon Valley Ecosystem	3	45	0	45

Silicon Valley is known to be the hub of innovation. This course is designed for students to understand the role of Silicon Valley in wealth creation by taking them through the exciting and rich history of Silicon Valley, its early beginnings and how its culture helps shape the dynamic ecosystem of innovation. Students will learn about pivotal people, inventions, companies, as well as their successes and failures that made an impact on society and the world.

Prerequisite: ENG100 and HUM100

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
BUS510	Business Analysis	3	45		45

Successful project delivery in organizations often start with a comprehensive understanding of stakeholder requirements based on evidence and data. Once these requirements are identified and validated, recommendation of solutions and implementation strategies follow. This course provides an introduction to the foundations of business analysis, and the processes and methods used to conduct needs assessment, identify stakeholders, document requirements, and facilitate implementation. Students will develop skills to make better and more informed decisions to achieve improved business and organization outcomes.

Prerequisites: None

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
BUS520	Risk Analysis and Management	3	45		45

Risk management is increasingly becoming an important function in leading projects and organizations. An effective risk management process helps companies mitigate losses, improve overall performance and increase employee engagement. This course is designed to provide students with a thorough understanding of risk analysis and management. Students learn various industry techniques, methods and models enabling them to anticipate, assess, minimize, manage and communicate risks.

Prerequisites: None

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
CLT511	Understanding the Business of Creative Industries	3	45	0	45

This course provides students an overview of the creative industries and their contribution to the overall economy. Students will examine how businesses and organizations in the creative industry operate and thrive, as well as critical factors that drive success in this industry. Students will explore the relationship between creativity, business, technology and other key operating environments.

Prerequisites: None

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
DAT220	Studio Production 1	3	15	60	75

Introduction to recording in a studio environment. Use of a digital audio workstation in a studio production environment. Basics of recording and editing. Introduction to microphone selection and placement. Signal flow in the analog and digital domains. Audio processing with outboard hardware and plug-ins. File management.

Prerequisite: DAT110

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
CS101	Fundamentals of Computing	4	60	0	60

This course introduces students to the history of computing as well as fundamental computing concepts such as logic, data and data types, structured programming fundamentals, documentation and debugging. Students will learn to design and diagram software programs using flowcharts and pseudocode before implementing simple programming techniques in a development environment. Students will also be introduced to the basics of computer hardware and components, and undertake basic research into computing technology and its relationship with human users. This course will also include content from the AWS Academy Cloud Foundations course and prepare students for the relevant AWS Academy examination.

Prerequisites: None

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
CS105	Code 0: Introduction to Programming and Logic in Python	4	60	0	60

In this course, students are introduced to the procedural computer programming paradigm, including a foundation in Boolean logic. Students learn practical hardware topics such as CPU, memory, disks and files as well as lexical elements, operators, fundamental data types, flow of controls, functions, recursions, arrays, pointers, strings, bit-wise operators, structures, unions, file manipulation. Standards of program development flow and structured programming paradigm are also covered.

Prerequisites: None

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
CS110	C Programming	4	45	30	75

An introduction computer programming using the C programming language. Students learn practical hardware topics such as CPU, memory, disks and files as well as lexical elements, operators, fundamental data types, flow of controls, functions, recursions, arrays, pointers, strings, bitwise operators, structures, union and file manipulation. The standards of program development flow and structured programming paradigm are also covered.

Prerequisite: CS101 and CS105 and MATH112

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
CS130	Introduction to Cybersecurity and Ethical Hacking	3	45	0	45

In this class, students are introduced to simple historical cryptosystems, Caesar cypher, scytal spartan cypher, egyptian cryptosystems, basic substitution & permutation ciphers, one-time pad, and some hacking concepts. Students learn how these systems work in a puzzle solving fashion by sending cryptographic and plain text messages to each other. Students are introduced to the concepts & principles of ethical "white" hacking and study past and current articles and topics related to this. Interesting articles on malicious hacking may also be included as part of this course. Modern and current cryptography techniques are not covered in this course.

Prerequisite: None

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
CS200	User Experience: Application Interface Design and Implementation	3	30	30	60

Students learn the critical fundamental concepts and theory behind good user interface design. These interface design principles are taken into code where students learn a user interface framework, toolset, and language to implement interfaces. Students program and develop user interfaces that work on multiple platforms (web, pc, and/or mobile) using standard industry techniques and tools. The course may deploy frameworks such as Qt, JavaScript, React, Java, and other middleware or backend tools.

Prerequisite: CS285

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
CS205	Internet of Things: RaspberryPi and Arduino Development	3	30	30	60

In this course, students are exposed to the Internet of Things through application of development and programming on Raspberry Pi and/or Arduino devices. Students learn the importance and skills needed to properly deploy and develop software on these devices. Students learn the theory and get the development practice needed to prototype Internet of Things (IoT) solutions.

Prerequisite: CS110

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
CS212	Java Programming	4	45	30	75

Students develop a working understanding of Java Programming and the object-oriented paradigm. Topics include primitive types, strings, classes, objects, methods, references, polymorphisms, inheritance, exception handling, streams and file I/O, arrays, vectors, and applets. Students are also introduced to multi-threaded programming.

Prerequisite: CS105 and MATH112

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
CS221	LINUX Programming Environment	3	30	30	60

Students learn the principles need to program in the UNIX/LINUX environment. Through practical, hands-on programming, students develop an understanding of the structure of UNIX/LINUX file systems, shell programming filters and UNIX/LINUX system calls. Other topics include standard I/O library, shell programming, AWK programming language, and SED editor.

Prerequisite: CS110

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
CS261	Systems Architecture in the Cloud	4	60	0	60

This course introduces students to system architecture in a cloud-based context. Students will analyze different business system needs and follow a range of cloud-based best practices to design and compare potential solutions for each challenge. Students will focus on designing for manageability and performance of large-scale systems. This course will include content from the AWS Academy Cloud Architecting course and prepare students for the relevant AWS Academy examination.

Prerequisite: CS101 and CS105

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
CS262	Software Development in the Cloud	4	60	0	60

This course explores hands-on development and configuration of cloud-based software applications. Students will understand and implement design and development processes in a cloud platform, and explore the principles of cloud computing. A range of common principles will be identified along with key features of the proprietary platform used in the course. This course will include content from the AWS Academy Cloud Developing course and prepare students for the relevant AWS Academy examination.

Prerequisite: CS101 and CS105

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
CS263	SysOps for Cloud Computing	4	60	0	60

This course introduces students to system operation concepts in a cloud-based environment. Students will learn best practices and design patterns in order to develop automatable and repeatable deployments of networks and systems in an industry-standard cloud environment. Students will analyze case studies to gain insight into infrastructure design and implementation. This course will include content from the AWS Academy Cloud Operations course and prepare students for the relevant AWS Academy examination.

Prerequisite: CS101 and CS105

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
CS285	C++ Programming: Object Oriented Programming	4	45	30	75

Students learn the common features of C as well as C++. Objected Oriented features of C++. Constructors and Destructors. Type Conversions. Friends. Overloading functions and operators. References. Polymorphisms. I/O streams. Multiple inheritances. Templates. Memory Management. Students practice the structured programming paradigm as well as the objected oriented paradigm.

Prerequisite: CS105

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
CS297	Data Structures: Introduction to efficient data storage	3	30	30	60

Efficient data performance is critical to good software development. In this course, students learn how to store data efficiently and the pros and cons of different data structures. Students quickly review the fundamental use and storage considerations of scalar data types. Students use object-oriented programming techniques to learn and implement abstract data types like stacks, queues, linked list, hash tables, binary search trees, Huffman codes, and other tree-based data structures. Students gain the ability to know when, why, and where each data type should be used and their data storage characteristics for memory efficient software development.

Prerequisite: CS285

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
CS300	Computers That Listen: Introduction to Natural Language Processing	3	30	30	60

In this course, students learn introductory concepts and technologies for natural language processing technology that allows computers to listen and understand speech. The course covers such topics as text classification, named entities recognitions, duplicates detection, sentiment analysis, summarization, and dialogue state tracking. Students learn about practical application of this natural language processing (NLP) technology to real problems.

Prerequisite: CS285

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
CS320	Operating Systems Concepts	3	45	0	45

Students learn how UNIX, LINUX, and Windows operating systems are designed. Students practice data structures in operating systems design. Topics include: general multitasking operating systems, scheduling algorithms, deadlocks, concurrency problems and solutions, process management, thread management, disk management, memory management, virtual memory, file system organization, and security.

Prerequisite: CS221 and CS297 and CS325

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
CS325	Algorithms: Memory and CPU Efficient Computing	3	30	30	60

Software CPU performance and the ability to write fast software is a critical skill for all developers. In this course, students learn the essential techniques and analysis required to write high-performance software. Students learn about the mathematical fundamentals to analyzing algorithm performance: Big O and Big Omega. They learn how to apply this mathematical analysis to various algorithms. Algorithms and topics covered include sorting, searching, text-pattern matching, string searching, graph-based tree traversal algorithms, and other algorithms that have performance. Students learn techniques to transform and conquer problems and to mentally map one problem into another. Recursive algorithm techniques are studied ranging from Greedy Algorithms to Dynamic Programming techniques. Students explore and vastly improve on their creative-technical skills & ability to solve challenging problems needed to create CPU efficient software.

Prerequisite: CS297 and MATH295

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
CS351	Computer Architecture	3	45	0	45

This course provides a strong foundation in modern computer architecture structured around processors and memory. It introduces students to instructions sets (like CISC and RISC), principles of pipe-lining, memory management, and computer arithmetic algorithms and number representations.

Prerequisite: CS297 and CS325

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
CS352	Embedded Software Systems	3	30	30	60

Technologies used in the design and implementation of embedded systems. Introduction to software tools such as compilers, schedulers, code generators, and system-level design tools. Introduction to computer organization: CPU, I/O, Memory. INTEL/MIPS Assembly language. Linking C and Assembly Language.

Prerequisite: MATH295 and CS110

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
CS360	Database Management Systems	4	45	30	75

Students apply concepts from data structures and compiler design in database management. Topics include: file organization, indexing techniques, data models, query languages, B-trees, B*-trees, Study design and implementation of a relational database.

Prerequisite: CS101 and CS105

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
CS361	Introduction to Compilers	3	30	30	60

This course familiarizes students with the concepts involved in writing a compiler such as parsing and lexical analysis and different types of grammars and syntax tree, code generation and optimization. Students will learn by writing different parts of a compiler.

Prerequisite: CS110 and CS325

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
CS450	Cryptography: Introduction to Modern Cybersecurity	3	30	30	60

In this course, students learn modern cryptography techniques and the mathematical techniques they are founded on. Students learn modern encryption/decryption ciphers such as symmetric and asymmetric ciphers, key exchange algorithms, digital signatures, AES, DES, Diffie-Hellman, & ElGamal algorithms. Students learn to solve challenging crypto problems by hand. Students may also learn to use standard libraries or write software for encryption and decryption of cryptographic data.

Prerequisite: CS130 and MATH295 and CS285

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
CS451	Introduction to Self-Driving Cars	3	30	30	60

Students are introduced to self-driving cars (autonomous vehicle) systems and technology. Students learn how to operate, and apply this technology. Students will gain an understanding of localization, sensor fusion, perception, detection, segmentation, scene understanding, tracking, prediction, path planning, control, routing, and decision making.

Prerequisite: CS285 and MATH295

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
CS457	Machine Learning	3	30	30	60

This course will acquaint students with basics of machine learning and pattern recognition and different learning techniques like generative, discriminative and parametric. Some applications of machine learning to data mining, speech-recognition, and robotics will also be discussed.

Prerequisite: CS285 and MATH295

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
CS459	Data Mining & Visualization	3	30	30	60

Data Mining will introduce students to the science of recognizing patterns and structures in large complex data sets and applying tools from statistics to do predictions.

Prerequisite: CS285 and MATH295

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
GAM230	Introduction to Game Engines	3	30	30	60

This course introduces students to industry standard game engines. Students will gain an understanding of how these game engines function, their commonalities and differences. Students will produce simple games with two popular engines.

Prerequisite: DAA240

Course Number	Course Name	Credits	Lecture Hours	Laboratory Hours	Total Contact Hours
GAM260	Game Writing 1	3	30	30	60

In this project-intensive course, students will learn and practice basic, in-the-trenches writing and narrative development for video games, including story outlines, cutscenes, scripted dialogue, systemic dialogue and mission writing and design. Students' efforts will be fully contextualized, making it clear how their work fits in with the rest of a typical game development team's structure, with a particular emphasis on the all-important aspect of flexibility.

Prerequisite: ENG227 and GAM220