Cogswell
Polytechnical College

2012–2013 Catalog

CHIEF EXECUTIVE OFFICER'S WELCOME

Cogswell Polytechnical College ("Cogswell College") has a long and distinguished history as a California institution of higher education. Continuously dedicated to preparing its students for success and leadership in the world around it, Cogswell has always been associated with best practice in the industries and communities it serves.

Today, Cogswell's students are educated broadly - in digital arts, engineering, and entrepreneurship - to prepare for converging global industries in such fields as videogames, digital cinema, digital audio, digital animation and the engineering sciences and professions. This combination of the digital arts with engineering and technology, along with a foundation in general education and integrated entrepreneurial skills, means that our students graduate with bachelor's degrees and move quickly into the world. The skills and attitudes they explore and develop here serve them well for professions that are changing almost daily.

Cogswell's faculty members, most of whom have strong industry experience and connections, work hard to provide the finest possible academic programs. Our staff is committed to creating the best possible learning environment for our students. Our alumni assist us through internships, jobs, workshops and other bridges to industry. These dedicated people work together within a college that is small, specialized, and personal. Not only won't you get lost here, but you will find an environment that encourages your creativity and exploration, while providing you with first-rate teaching and technology.

Yet even more than our great faculty or top-flight technology, we have an amazing group of students here at Cogswell. These dedicated, hard-working, focused students are gifted with stunning artistic, technological, and visionary talents. One of the best parts of being at Cogswell is your classmates, people who will challenge, inspire, and help you.

This catalog highlights what we do best here at Cogswell. It provides information about the College, while demonstrating what is possible. All of the art work on this site has been created by Cogswell students. You, too, may find this the place to pursue your academic and creative dreams. We urge you to explore this site and then come to visit our campus. For no matter how good our website, it is no substitute for experiencing the fullness of this special place in person.

Sincerely yours,

Janis Paulson

ABOUT COGSWELL COLLEGE

Mission Statement

Cogswell College's mission is to be a leader in providing practical education in the combined disciplines of technology and entrepreneurship. With an emphasis on leadership and a strong focus on new technologies and business models we prepare graduates for careers in the global economy.

Accreditation and Approvals

Senior Commission, Western Association of Schools and Colleges (WASC)
985 Atlantic Avenue, Suite 100, Alameda, CA 94501, (510) 748-9001
(http://www.wascweb.org)
United States Department of Education (DOE) (http://www.ed.gov)
United States Citizenship and Immigration Services (USCIS) (http://uscis.gov)

Degrees

Bachelor of Arts in Digital Arts and Animation (DAA)
Bachelor of Arts in Entrepreneurship and Innovation (ENT)
Bachelor of Science in Computer Engineering (CPE)
Bachelor of Science in Digital Arts Engineering (DAE)
Bachelor of Science in Digital Audio Technology (DAT)
Bachelor of Science in Software Engineering (SWE)
Bachelor of Science or Arts in Interdisciplinary Studies
Bachelor of Science in Fire Administration and in Fire Prevention and Technology (FS)
Master of Arts in Entrepreneurship and Innovation (MA ENT)

Certificates

Fire Science (National Fire Academy)

Academic Year

Semester System

Cogswell College Administration

Janis Paulson, Interim Chief Executive Officer
Michael Martin, Dean of the College
Daron Rodriquez, Vice President of Recruiting and Admissions
Rejino Castaneda, Vice President for Finance and Administration
Dr. Andrey Fedin, Dean for Information Technology
Bonnie Phelps, Dean for Institutional Advancement
Vivian Kobayashi, Director of Library
Abraham Chacko, Executive Director of Admissions
Lisa Mandy, Director of Financial Aid
Milla Zlatanov, Director of Institutional Research and Registrar

FOUNDING AND HISTORY

Dr. Henry D. Cogswell

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 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 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 nonprofit 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 College."

The College

The school was opened in August 1888 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.

GENERAL POLICIES AND PROCEDURES

ADMISSIONS

Application Procedures

Applicants for admission must submit the following to the Admissions Office:

1. Interview with a College admissions advisor,
2. A completed application form,
3. A typed essay from the applicant which describes his/her reason for applying to Cogswell College,
4. A completed recommendation form or recommendation letter
5. An official high school transcript; or an official report of scores earned on the General Educational Development (GED) test,
6. A portfolio of original work for the Digital Arts and Animation (DAA) program, the Digital Audio Technology (DAT) program and the Entrepreneur (ENT) program, where applicable. See further discussion below

Rolling Admissions

Cogswell College continuously accepts and reviews completed applications, rendering admission decisions to applicants throughout the calendar year for the following term starts. Priority deadlines facilitate timely admission and increase financial aid, and scholarships. The Admissions Department will advise students on appropriate deadlines according to date of term start and course availability.

Notification of Admission

All applicants will receive an acknowledgement of their admission status approximately two weeks after their file is complete and processed. Notification will include information regarding registration and academic advising.

Student Admissions Requirements

In general, admission decisions are based on evaluation of the applicant's portfolio (where applicable), academic record, application, essay, and recommendations. The following are the general admissions requirements for all students:

- Proof of high school graduation or successful completion of GED program
- A portfolio of artwork for the DAA, DAT and ENT (where applicable) programs. See further discussion below.

Highest consideration will be given to students with GPA of 2.7 or higher

Applicants who feel they do not meet the minimum admissions requirements may contact the Dean of the College for further assistance with their applications.

Applicants interested in learning more about Cogswell College are invited to visit the campus. Information regarding degree programs is available from the Admissions office.

Cogswell College
1175 Bordeaux Drive, Sunnyvale, California 94089
408-541-0100, Toll Free: (800-264-7955) ext155
www.cogswell.edu

Admission Requirements for majors in Fire Science

The following are the general admissions requirements for all students:

- Student must have either
  - An Associate degree in a Fire Science related field (i.e. Fire Protection, Fire Technology Fire Administration, Fire Prevention, Fire Science) with a GPA of 2.5 or
  - Student must have completed the following lower division courses before beginning the program
    - English composition 100 level
    - At least 12 units of lower division Fire Science Courses
    - GPA of 2.5
- Some experience working in a fire department either as an employee or as a volunteer
- Access to a computer and is comfortable with the use of computer technologies and web-based learning platforms.

Portfolio Entrance Requirement

DAA Program Portfolio Requirement:
A portfolio of the student's best work must accompany an application to the Digital Arts and Animation program. Your portfolio must contain original artworks or a CD/DVD containing at least seven (7) original drawings and/or paintings. In addition, you may include the following:

1. Photos or slides of sculpture
2. Printouts of computer-created images
3. Videotape or DVD of images, animations, and videogame levels, etc.

DAT Program Portfolio Requirement:
A portfolio of the student's best work must accompany an application to the Digital Audio Technology program. One or more of the following may be submitted:

1. Original MIDI sequences in data CD/DVD format
2. CD/DVD or videotape of instrumental or vocal performance
3. A CD/DVD of original studio engineering work
4. Evidence of high school band, orchestra or chorus experience
5. Written summary of private music lessons (instrument, years, and teacher).

ENT Program with specialization in either DAT or DAA Portfolio Requirement:
Entrepreneur students specializing in either the DAT or DAA program must submit a portfolio of the student's best work that meets the portfolio requirement for their specialization above.

Enrollment Statuses

Cogswell College admits students who have potential for a career in one of the digital arts or engineering disciplines. We also admit as students, professionals in the Fire Service who want to complete a baccalaureate degree in their field. While our focus is on degree-seeking students, we admit other students under certain circumstances.

The classifications of different types of students are as follows:

- **Matriculated Degree student**: A degree candidate who has applied, been properly admitted, registered and is actively pursuing a degree. Admissions requirements for degree students are listed below. Matriculated degree students are further classified as:
  - **First Time Freshman** – a degree seeking student who has no prior post-secondary experience attending any institution for the first time at the

undergraduate level. Students who entered with advanced standing (college credits earned before graduation from high school) are also included.
    - **Freshman Student** – a degree seeking student who transfers less than 12 or more credits from another institution
    - **Transfer Student** – a degree seeking student who transfers 12 or more credits from another institution
    - **Returning Student** – a degree seeking student who re-applies to continue his/her education at the college.
    - **International Student** – a) student who does not hold a 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-51 or Green Card), or an undocumented immigrant or refugee. (UNESCO)
- **Non-matriculated student**: A 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 semester may not matriculate until the following semester. A non-matriculated student that wishes to become a matriculated student must follow the admission requirement for the matriculated students. 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. Matriculated students take precedence over non-matriculated students for classes with limited class size. Non matriculated students are further classified as:
    - **Visitor** – a non-matriculated domestic student enrolled in classes. These students will earn credits for coursework taken at Cogswell.
    - **Foreign visitor** – a non-matriculated international student who is enrolled in higher educational institutions outside of U.S. and come to the college to take classes to fulfill degree requirements for another institution, for research or for personal fulfillment. These students will not earn credits for coursework taken at Cogswell.

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

- **Full-time student**: A student who is enrolled for 12 or more credits.
- **Part-time student**: A student who is enrolled for fewer than 12 credits.
- **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 class seats are limited. Please see the Financial Information section for the cost of audit tuition and the Academic Policies section for more information about audit policies. Auditors receive a lower seating priority than students who register for credit

Requirements for Visitor

Visitors may register for classes by submitting:

1. A completed Visitor Registration Form,
2. Pay the appropriate tuition prior to class start.

Visitors are required to interview with a faculty member for approval to register for classes. A Visitor may change to degree-seeking status upon the completion of application requirements as listed in this catalog.

Requirements for Auditing students

Students auditing the class must indicate prior to registration. Auditors are required to interview with a faculty member for approval to register for classes. The student will need to complete registration in-person under the walk-in registration process.

Requirements for Returning Students

A returning student is one who has not attended Cogswell for one calendar year. When re-entering Cogswell, the returning student must reapply according to the application procedures listed in this catalog. A returning student will follow the degree plan current at the time of his/her return. Fire Science students who did not take one class in Fall and one class in Spring must reapply.

Enrollment and Registration

Prior to registration, all enrolled students will receive information on current class scheduling. See the section on registration for more information on the registration process. Cogswell College reserves the right to revoke acceptance or continued enrollment if,

1. any application materials are false or misrepresented,
2. the student imposes any risk of to the health, safety or welfare of others or to him/herself,
3. a student disrupts the orderly process of the College, or a student violates any policy outlined in the Student Handbook.

Requirements and Procedures for International Applicants

Cogswell College welcomes students from other countries. International students must complete their Cogswell College application in time to process required documents with the United States Citizenship and Immigration Services (USCIS). International students may enroll as full-time students only. Applicants are to submit the following applications materials to the Admissions Office:

1. A completed International Application with an essay and nonrefundable application fee as described in the Tuition & Fees schedule at www.cogswell.edu
2. An official transcript from each college attended. Applicants are requested to send certified English translations of transcripts certified by the National Association of Credential Evaluation Services member. (www.naces.org).
3. TOEFL (Test of English as a Foreign Language) test results; at least 570 for the paper-and-pencil test, at least 230 for the computer-based test, or at least 68 for the Internet-based test (iBT).
4. An Affidavit of Financial Support.

In addition to the above, international students must fulfill all admissions requirements for new or transfer students. Consult the Admissions department for additional information.

Credential Evaluation for International Students

You can search for credential evaluation services on the Internet, but you should know that there is no federal or state regulation of such services. However, there are two national associations of credential evaluation services that have published standards for membership, affiliations to national and international higher education associations and are frequently linked to and used by federal agencies, state agencies, educational institutions and employers.

- National Association of Credential Evaluation Services (NACES) is an association of 19 credential evaluation services with admission standards and an enforced code of good practice.
- Association of International Credentials Evaluators (AICE) is an association of 10 credential evaluation services with a board of advisors and an enforced code of ethics.

COURSE CREDIT POLICIES

Credits Earned at the U.S. Armed Forces Institute

Cogswell College is approved for veterans' training. Credit will be given, at the sole discretion of the College, for U.S. Armed Forces Institute (USAFI) courses if incompliance with the Guide to the Evaluation of Educational Experiences in the Armed Forces, published by the American Council on Education. A maximum of 20 credits can be earned from USAFI courses. No credit will be given for basic training or military service. The student must satisfactorily complete one semester (12 credits) at Cogswell College before the award of credit becomes final.

College Level Examination Program (CLEP)

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). Both programs are governed by the College Entrance Examination Board. A minimum score of 500 on a general CLEP exam, and a minimum score of 49 on a CLEP or DANTES subject exam is required to receive credit. A maximum of eighteen (18) Cogswell credits may be fulfilled with CLEP and/or DANTES and/or Cogswell challenge examinations.

CLEP Subject	Pass	Cogswell Equivalent	Credits
CLEP American Gov.	50	SSC200	3
CLEP Biology	50	SCI100 or SCI110 or SCI130	3
CLEP Calculus	50	MATH143	4
CLEP Chemistry	50	SCI100 or SCI110 or SCI130	3
CLEP CollAlg + Trig	50	MATH115	3
CLEP English Lit	50	ENG227 or ENG228	3
CLEP Fresh Comp	50	ENG100	3
CLEP History, US II	50	HUM200	3
CLEP Pre-Calculus	50	MATH116	3
CLEP Prin of Account	50	MATH210 or Second Math requirement	3
CLEP Western Civ II	50	HUM200	3

DANTES DSST Sub	Pass	Cogswell Equivalent	Credits
Art of West World	48 +	HUM120 or HUM130	3
Business Math	48 +	MATH210	3
Cont Western Europe	48 +	HUM200	3
Technical Writing	48 +	ENG227 or ENG228	3
West Euro Since 45	48 +	HUM200	3

Advanced Placement Program

Students may receive college credit for certain courses based on scores of the Advanced Placement Test. Credit in appropriate courses will be given for examinations passed with a score of 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 Courses transfer directly into Cogswell courses:

AP Subject	Pass	Cogswell Equivalent	Credits
AP Art History	3	HUM120 or HUM130	3
AP Biology	3	SCI100 or SCI110 or SCI130	3
AP Calculus	3	MATH143	4
AP Chemistry	3	SCI100 or SCI110 or SCI130	3
AP English Lang	3	ENG100	3
AP English Lit	3	ENG227 or ENG228	3
AP Euro History	3	HUM200	3
AP Music Theory	3	HUM122 or HUM125	3
AP Physics	3	SCI100 or SCI110 or SCI130	3
AP U.S. Gov&Polit	3	SSC200	3
AP U.S. History	3	HUM200	3
AP World History	3	HUM200	3
AP Studio Art	3	DAA110 (with acceptable portfolio)	3
AP Music Theory	3	DAT100	3

Transfer Admission Requirements

To qualify as a transfer student for the purpose of admission, the student must have completed at another regionally accredited institution a minimum of 12 baccalaureate semester credits of transferable coursework. Students with fewer than 12 transferable credits will be considered for admission based on the Admissions Requirements guidelines as described above. Applicants for transfer status are recommended to have an overall cumulative 2.5 GPA from all previous institutions. Applicants must submit official transcripts from previously attended colleges to Cogswell College at the time of application. Admission is contingent upon the receipt of all required documentation. A maximum of 64 transfer credits (including 16 upper divisions) may be applied toward a student's Cogswell degree.

Transfer Admission Requirements for the Degree at a Distance Program in Fire Science

Applicants to the Fire Science program must complete one of the following before enrolling at Cogswell College:

- A student who has an Associate degree in a Fire Science related field (Fire Protection, Fire technology, Fire Administration, Fire Prevention, Fire science) with GPA of 2.5
- A student who has no Associate degree in a fire science related field. This student must complete the following lower division courses before beginning the program:
    - English composition 100 level
    - At least 12 units of lower division Fire Science Courses
    - GPA of 2.5
- A student has some experience working in a Fire Department either as employee or as a volunteer
- A student who has access to a computer and who is comfortable with use of computer technologies and web-based learning platform

Evaluation of Transfer Credit

Degree credit is granted for individual courses equivalent to those in the Cogswell College curricula if they have been completed at a regionally accredited institution. The

policy regarding transfer credit from a non-accredited institution is described below. Award of transfer credit is subject to the following conditions:

1. Transfer credit will be granted only for coursework completed with a minimum grade of "C". Courses taken for credit only, with a "P" grade, may be transferred if a clearly defined institutional policy identifies the "P" grade as equivalent to a "C" or better
2. Transferable credit does not include lower-division work experience, physical education, ESL, or remedial courses
3. Cogswell College will accept credits from international schools for specific courses with the approval of the Dean of the College
4. The College retains the option to designate particular courses as residence requirements
5. Courses completed over 10 years ago are evaluated and transfer credit applied on a course by course basis

Cogswell College shall develop and employ evaluations and assessment practices so that transfer decisions are to be applied consistently. Full and accurate disclosure of policies and practices are important to ensure all transfer applicants to Cogswell College that the transfer process is built on a strong commitment to fairness and effectiveness. The College shall make these policies and practices with the best interest of the student in mind for class standing and major program readiness at the time of their admittance to Cogswell College.

Transfer Credit from Non-accredited Institutions

In some instances, credit may be granted for work completed at a non-regionally accredited institution upon the successful completion of 16 credits of coursework at Cogswell College. The number of transfer credits will be based on academic criteria as determined by Cogswell College faculty in conjunction with the Dean of the College. Advising and placement in classes will be based on an evaluation of the student's transcripts and any required placement test results.

Credit by Challenge Examination

Under certain circumstances as determined by the appropriate instructor and approved by the Dean of the College, students may earn course credit by successfully completing appropriate examinations or assignments rather than attending class and meeting the usual course requirements. A maximum of 18 credits may be earned through Cogswell challenge examination or through a combination of Cogswell challenge examinations and CLEP and/or DANTES examination. See the CLEP and DANTES sections for information about exams. These credits are not counted toward residency requirements. Work experience and other non-collegiate experience may also receive course credit through the challenge examination process.

Challenge Examination Requirements & Process

1. Students must complete a minimum of one semester at Cogswell College before filing for a challenge exam.
2. Student will be charged the equivalent of 1 credit
3. Only students in good academic standing (2.00 GPA or above) at Cogswell College may apply for these exams.
4. A required course may be challenged by examination if appropriate department resources are available as determined by the Dean of the College.
5. Challenge exams will only be given for lower division courses, excluding remedial courses
6. A course previously failed, or one in which a student has received an Incomplete ("I") grade, may not be challenged.
7. A course previously taken on an audit basis may not be challenged

Student's that desire to challenge must see the Registrar's office for procedure.

Guest Authorization

Freshman may transfer a maximum of 10 semester units from courses already taken at another college after their initial enrollment at Cogswell. These courses may not be transferred, however, without the submission of a Guest Authorization form, available from the Registrar. In unusual circumstances, additional transfer units may be accepted provided the student has the approval of their advisor, the Dean of the College, and the coordinator of the department in which the coursework transfer will be made.

Transfer students may complete a maximum of 9 semester units from courses taken at another college after their initial enrollment at Cogswell, provided these courses do not exceed the maximum allowable transfer units. These courses may not be transferred, however, without the completion of a Guest Authorization form, available from the Registrar. In unusual circumstances, additional transfer units may be accepted provided the student has approval of their advisor, the Dean of the College, and the coordinator of the department in which the coursework transfer will be made.

The above limits on transfer credits do not apply to students in the Degrees at a Distance Program in Fire Science.

No transfer credits will be accepted during the last 12 semester units of course work.

TRANSFER OF COGSWELL CREDIT TO OTHER INSTITUTIONS

The transferability to other colleges or universities of credits earned at Cogswell is completely determined by the receiving institution. It is the student's responsibility to confirm whether or not units earned at Cogswell will be accepted at another institution.

CHANGES TO CATALOG

This catalog is intended to provide general information to students and prospective students. The 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.

REGISTRATION AND RECORDS

Registration Process

The College offers online registration. See the Academic Calendar for specific dates and deadlines. Students are notified via email of the release of the class schedule and important deadlines. Students select the classes they need by using their Degree Audit (available through the Online Student Portal) and/or consulting with their Faculty Advisor.

All active students have access to the Online Student Portal where they can find academic, financial and curricular information, along with a degree audit and course schedules.

Step 1: After reviewing the course schedule and their degree audit, students register online. If online registration is not available for a course, students should meet with their advisor. It may be necessary to submit an add/drop form to the Registrar. Students are unofficially registered at this point.

Step 2: Students who receive financial aid meet with the Financial Aid Director. Please see the Financial Information section for a description of tuition amounts, fees and payment options.

Step 3: Students pay the full tuition by the deadline published in the academic calendar. Tuition can be paid online or in the business office. Registration becomes official at this point.

Step 4: Students can make online changes to their class schedule only before they are officially registered. Schedule changes after official registration must be submitted to the Registrar on an Add/Drop form with their advisor's approval signature. Students who receive financial aid must meet with the Financial Aid Director to update their Financial Aid status.

Continuing students who register during late registration are 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 semester. For information on prerequisites and co-requisites, please see the course descriptions that follow the curriculum for each program. An "Incomplete" is not a passing grade, so any course for which a course with a pending "incomplete" is a prerequisite may not be taken.

Pass/Fail Credit

Students who choose pass/fail credit for a course must submit a written request to the Registrar's Office before the last day to drop classes.

Add/Drop Period Procedures

Students wishing to add or drop classes after the normal registration period are responsible for adding and dropping classes within the specified time frame by completing an Add/Drop form from the Registrar's office, and submit the completed form to the Registrar's Office within the specified time frame. Adds and drops are not official unless the forms are submitted to and received by the Registrar's Office. Any exception to this Add/Drop policy requires written permission of the Dean. Lack of attendance in a class will not constitute a drop and will not alleviate the "F" grade or charges.

Adding Classes: Classes can only be added during the first week of the semester.

Dropping Classes: For all 16 week semesters, classes must be dropped during the first two (2) weeks of the semester. For semesters less than 16 weeks, classes must be dropped during the first week of the semester.

Drop initiated by Instructor:
An instructor may drop a student from a class during the first two weeks of the term if the student is not academically prepared for the course, does not have the prerequisites for the course. A student's financial aid eligibility or immigration status may be affected by being dropped from a class. After an instructor initiated drop the student may register for another class with the approval of the Dean of the College.

For drops outside the Add/Drop period, see Dropping Classes Outside of Add/Drop Period below.

Transcripts and Other Official Documents

Three official transcripts of records of coursework at Cogswell College are furnished free upon written request to each student or graduate. A charge is made for each additional transcript. Transcripts will be issued only upon written request of the student concerned. A charge may be assessed for any other official document prepared by the Registrar's Office.

Document Hold

A hold is applied against a student's file for owing unpaid fees and/or tuition to the College, and/or library materials, equipment or keys overdue. No official documents, including official or unofficial transcripts or diplomas, will be released until the encumbrance is removed.

Student Records

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

1. The right to inspect and review the student's education records within 45 days of the day the College receives the request
2. The right to request the amendment of the student's education records that the student believes is inaccurate
3. 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
4. The right to prevent disclosure of Directory information (Name, Degree received, Major and dates of attendance)
5. The right to be annually reminded about his/her rights under FERPA
6. 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:

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

The Buckley Amendment grants the College the authority to release directory information to any person on request, unless a student requests in writing that directory information be kept as private. The 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 Study

It is important that parents have the opportunity to make informed decisions about the use of their 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 may be requested from the College or viewed at the following website:www.ed.gov/policy/gen/guide/fpco/ferpa/index.html

It is the student's responsibility to make the College aware of any address changes.

Change of Contact Information

It is the student's responsibility to maintain the correct mailing address. A Change of Address form should be submitted to the Registrar's Office immediately after a change occurs.

FINANCIAL INFORMATION

Tuition and Fees

Refer to the College website for current tuition rates. In addition, each student is charged $40 nonrefundable fee each term for the ASB, a technology fee of $50, and various lab fees. Tuition and fees are subject to change upon approval by the Board of Trustees.

Tuition Information for Registration

Students are not officially registered unless their account balance is current. Tuition may be paid in many ways, including, but not limited to, payment in full according to the tuition schedule and through financial aid. The Business Office can provide a detailed explanation of payment methods and plans.

Tuition payments can be paid through the on-line student portal via PayPal. Payments may also be made by mail with a certified or cashier's check, with a money order, MasterCard, Visa, American Express or with a personal check. Checks are to be made payable to Cogswell College. All payments should be sent to:

Business Office
Cogswell College
1175 Bordeaux Drive
Sunnyvale, California 94089

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

Special Tuition Policy for Cogswell Graduates

Cogswell College encourages Cogswell graduates to return as non-degree seeking students by allowing them to take one course each semester at one-half of the regular tuition charge.

Cogswell College 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 the College. Graduates must follow the regular registration process. Degree seeking students have precedence over graduates.

Withdrawal from School and Impact on Financial Aid

You have the right to withdraw from the institution at any time. In addition, you may be withdrawn by the school 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 school determines you will no longer be attending ("Date of Determination" or "DOD"). The date of determination is the earlier of the date you notify the institution of your intention to withdrawal or the date that you failed to meet the academic or attendance policies of the school. A refund will be calculated through your last date of attendance per the Refund Calculation policy below. See Process of Withdrawing from institution below.

Process for Withdrawing from Institution

Students desiring to withdraw from the institution must see the Registrar's office to initiate the withdrawal process.

Refund Policy

Students who drop classes (but remain enrolled in other classes), during the designated add/drop period, will be entitled to a 100% refund of applicable tuition charges for the dropped classes. After the last day of the add/drop period, students who remain enrolled but drop classes will not be eligible for a refund for those classes.

Students who withdraw from all classes on or after the start of the semester will be subject to a pro-rata tuition charge. They will owe a percentage of their fees corresponding to the last date of recorded attendance in their class. A prorated refund from the first day of instruction, up to the 60th percent point in the academic period, will be applied to students who withdraw from Cogswell College. For example, the 60th percentile point will be equivalent to a 40% refund of tuition charges

The following is the refund percentage by week:

Fall and Spring Terms		**Summer Term**	
First and Second Week of Class	100%	First and Second Week of Class	100%
Third Week of Class	81%	Third Week of Class	80%
Fourth Week of Class	75%	Fourth Week of Class	70%
Fifth Week of Class	69%	Fifth Week of Class	60%
Sixth Week of Class	63%	Sixth Week of Class	50%
Seventh Week of Class	56%	Seventh Week of Class	40%
Eighth Week of Class	50%	Beyond Week Seven	0%
Ninth Week of Class	44%		
Tenth Week of Class	40%		

Beyond Week 10	0%

Return of Title IV

In compliance with Federal regulations, the school will determine how much Federal student financial assistance the student has earned or not earned when a student withdraws from school (refund calculation). Further once the refund calculation is performed, the institution must determine how much federal aid may be retained and any additional funds owed by the student (see Return of Title IV).

The College will calculate the percentage and amount of awarded Federal student financial assistance that the student has earned if the student withdraws up through the 60 percent point of the term. If the student has completed more than 60 percent of the term, the student earns 100 percent of the Federal student financial assistance. The amount earned will be based on the percentage of the term that was completed in days up to and including the last date of attendance. To calculate the amount earned, the College will determine the percentage by dividing the number of calendar days completed in the term up to and including the last date of attendance by the total number of calendar days in the term.

If the student received more than the amount of Federal student financial assistance earned, the difference will be returned to the Federal student financial assistance programs from which funds were received in the following order: Unsubsidized Direct Loan, Subsidized Direct Loan, PLUS Loan, Pell Grant, SEOG. Funds will be returned to the aid source within 45 days of the date that the College determines that the student has withdrawn.

If there are remaining unearned Federal financial aid funds to be returned, the student must return any loan funds that remain to be returned in accordance with the terms and conditions of the promissory note. If the remaining amount of funds to be returned includes grant funds, the student must return any amount of the overpayment that is more than half of the grant funds received. The College will notify the student as to the amount owed and how and where it should be returned.

Students who withdraw on or after the start of the semester will be subject to a pro-rata charge. They will owe a percentage of their fees corresponding to the day their classes were dropped. Students who drop units, (but remain enrolled), resulting in a lower fee structure during the designated add/drop period, will be entitled to a refund of applicable tuition charges. After the last day of the Add/Drop period, students who remain enrolled but drop classes will not be eligible for a refund for those classes that are dropped.

Payment of refunds

Refunds will be paid within 45 days from the date of determination.

Post-Withdrawal Disbursements

Students who have earned more aid than had been disbursed at the time of withdrawal will be eligible for a Post Withdrawal Disbursement. The Financial Aid Office must notify the student within 30 days of the withdrawal date of the availability of Post-Withdrawal funds. The student will have 15 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 15-day period. Once the student accepts the Post-Withdrawal Disbursement, the College has 90 days from the withdrawal date to disburse those funds to the student's account.

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.

Students who withdraw from the College must initiate the process by completing an Exit form. This form requires various departmental signatures and is available in the Registrar's Office. For students receiving financial aid, the Financial Aid Office will initiate the refund process. All other students must file a Refund Request form with the Business Office. Requests may take up to 14 days to process.

Fee Schedule for on-campus students

Tuition per Unit of Credit	Refer to www.cogswell.edu
Fire Science tuition per credit	Refer to www.cogswell.edu
Visitor Fee	$30 (non-refundable)
Tuition deferment fee	$50 (non-refundable)
Late registration fee (continuing students)	$40 per class (non-refundable)
Official Transcripts and Documents*	$10
Application for Graduation	$100
Credit by Examination Fee	The cost of one credit
Diploma Reprint Charge	$75
Student ID card Replacement	$10
Technology Fee	$50 per semester
Associate Student Body Fee	$40 per semester
Lab Fees	$50 per class per semester (if applicable)
Housing Fees:	
• shared room in shared apartment	Refer to www.cogswell.edu
• single room in shared apartment	Refer to www.cogswell.edu
• Deposit**	$300

* The first three official transcripts and/or documents are free.
**Refundable when the student moves out.

FINANCIAL AID

Cogswell College has a Student Financial Aid Office where students and their families develop a financial plan to help ensure students' completion of their programs. Financial Aid specialists from this department helps students complete applications for grants and loans applicable to students' circumstances. Once a student's eligibility for financial assistance has been determined the student and the financial aid specialist develop a plan for meeting educational expenses. Students of Cogswell College may apply for scholarships, grants, or loans to assist with college expenses. Scholarships and grants are sums of money given to an eligible student to be applied toward the student's educational costs. Students do not repay scholarships or grants, but must meet specific requirements to receive them. Various loans are also available to assist students with educational costs. These loans must be repaid according to specific terms. All students who receive Federal or State sponsored financial assistance must maintain satisfactory

academic progress (SAP) as defined in the academic policies below, for financial assistance eligibility. Cogswell College offers various merit and competitive scholarships, including the following:

General Eligibility Requirements:

- Meet Cogswell College admission requirements
- Must be a U.S. Citizen or permanent resident
- Completed the application process and been accepted into Cogswell's degree program, with a set start date
- Must be a qualifying full-time student (students who do not maintain a full-time schedule will have their scholarship benefits pro-rated)
- Students may receive only one scholarship. If a student qualifies for two scholarships, the highest scholarship amount will be awarded
- All scholarships will be applied toward tuition only
- Scholarship awards may only be used at Cogswell College and are not transferable
- All scholarship decisions will be made by a scholarship committee. Additional criteria may apply

Scholarship Programs

Cogswell has several scholarship programs to both incoming high school students as well as transfer students. All scholarship program details are located on the Cogswell website.

Financial Aid Programs

Cogswell College is eligible for financial aid and participates in the following programs:

Federal Pell Grants (FPG) - Federal Pell Grants are based on financial need, as defined by the U.S. Department of Education. To be eligible for a Federal Pell Grant, students must make application; prove U.S. citizenship or permanent resident status; be accepted for enrollment as regular students; not owe a refund on a Federal grant nor be in default on a Federal loan; maintain satisfactory academic progress in school; and meet certain other Federal requirements.

Federal Supplemental Educational Opportunity Grants - Federal Supplemental Educational Opportunity Grants (FSEOG) are for students who demonstrate exceptional financial need (with priority given to Pell Grant recipients). This is gift aid; it does not have to be repaid.

Federal PLUS (parent loan) - The Parent Loan for Undergraduate Students (PLUS) is a variable interest loan available to parents through the US Department of Education (USDE). The PLUS loan is a credit-based loan available to parents of dependent students. The PLUS loan repayment begins 60 days after the 2nd disbursement is made.

Federal Work-Study -Through the Federal Work-Study program, students have the opportunity to meet part of their expenses by working part-time on or off campus. A limited number of assignments are available, with priority given to students with the greatest need. The Financial Aid Department has more details. The maximum students can earn through this program is the amount of their unmet need (the difference between expenses and all their resources).

California State Grant (Cal Grant) - Cogswell College is approved by the California Student Aid Commission for students to receive Cal Grant funds under Cal Grant A and B

programs. Cal Grant programs require academic qualifications as derived from the Student Aid Commission Grade Point Average (GPA) Verification form. Both the Free Application for Federal Student Aid (FAFSA) form and the GPA Verification (Cal Grant application) must be completed and postmarked by March 2 each year.

U.S. Veterans Administration (VA) Benefits Cogswell Polytechnical College is authorized by the Department of Veterans Affairs to certify students enrolled in our degree programs for benefits under Chapter 30 (Montgomery G.I. Bill – Active Duty), Chapter 33 (Post 9/11 G.I. Bill – Active Duty and the Fry Scholarship), Chapter 31 (Vocational Rehabilitation), Chapter 35 (Veteran's Spouses or Dependents), Chapter 1606 (Selected Reserve), and Chapter 1607 (Reserve Educational Assistance Program). Eligibility and chapter is determined by the Department of Veterans Affairs (888-442-4551).

Private Education Loans - Private Education loans are also referred to as Alternative loans which are obtained for meeting the educational expenses by the students who are pursuing higher studies and who fulfill the eligibility criteria of the lender. Private Educational loans are not federally guaranteed and considered to be an unsecured loan which is offered based on the credit worthiness of the student. Students should opt for private educational loans only if the funds raised through grants, scholarships and Federal loans are insufficient. The rate of interest chargeable for private educational loans differs depending upon the terms and conditions of the lending institutions. As the regulation of the Federal Government, student must sign and submit a self-certification to the lender for obtaining private student loans.

Suspension and Reinstatement of Financial Assistance

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

Rights and Responsibilities of Students Receiving Financial Assistance

Students have the right to:

- Know what financial aid programs are offered at Cogswell 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 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 refunds
- Know the terms and conditions under which students receiving Federal education loans may obtain deferments while serving (a) in the Peace Corps; (b) under the Domestic Volunteer Service Act; and (c) as a volunteer for a tax-exempt organization of demonstrated effectiveness in the field of community service.

Students have the responsibilities to:

- Complete the financial aid forms accurately and submit it 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 paperwork 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 they sign and keep copies for their records.

GENERAL POLICIES

The Clery Act

The *Jeanne Clery Disclosure of Campus Security Policy and Campus Crime Statistics Act* require 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 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 Web site 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

General Statement of Compliance with the Student Right to Know Law and Campus Security Act. Cogswell College holds that students, staff and visitors 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. Cogswell College encourages all persons to report criminal activity that occurs on campus to the Facilities Manager and/or the appropriate law enforcement agency.

Security Services on Campus

Cogswell 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.

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.

Maintenance of Physical Plant Facilities with Security Considerations

The College is mindful of security needs in the daily operation of campus facilities. The planning and maintenance of campus facilities take 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. Telephones are available that allow members of the campus community to contact security personnel during an emergency. Campus buildings are locked and security systems activated when not in use, and are unlocked by designated College personnel at times to coincide with their accepted use.

Drug Free Environment Statement

Consistent with state and Federal law, Cogswell 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:

1. 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.
2. All students, while on campus, at a College sponsored event, or while performing College activities, are prohibited from being under the influence of alcohol.
3. 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.
4. 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.

Student Grievances

Cogswell encourages open dialogue and believes in addressing and resolving concerns as they arise. For academic related issues, the student should speak with the instructor or the program chair. For non-academic issues, the student should speak with the applicable department manager. However, if you feel that your concerns are not being resolved the student may choose to file a grievance as follows:

1. Student submits letter in writing to the Dean of Student Life. The letter should include a description of the complaint and the steps taken to resolve the concern.
2. The Dean of Student Life will meet with the student within ten (10) days in an effort to resolve the concern.
3. If you are not satisfied with the resolution from the Dean of Student Life you may file an appeal with the Cogswell Chancellor. The appeal should be in writing and indicate why the resolution was not satisfactory.

4. The Cogswell Chancellor will meet with the student within ten (10) days for receipt of the appeals.

If after this process you are still not satisfied you may submit your complaint to:

The Department of Consumer Affairs
Consumer Information Division
1635 North Market Blvd. Suite N 112
Sacramento, CA 95834
(916) 574-7720

Sexual Harassment and Discrimination

Cogswell is dedicated to providing an environment free from discrimination and provides equal opportunities to all students in every aspect of Cogswell college life. Cogswell does not discriminate or harass on the basis of race, color, age, sex, national origin, religion, disability, medical condition, marital status, sexual orientation or any other basis protected by federal, state, or local law, ordinance or regulation.

Students who believe they have been harassed or discriminated should follow the grievance procedure outlined above. The student can find additional information at US Department of Education Office of Civil Rights www.ed.gov/ocr.

Students with Disabilities Requesting Accommodations

Cogswell College complies with the provisions of the Americans with Disabilities Act of 1990 and with Section 504 of the Rehabilitation Act of 1973. The College will make every effort to assist physically or mentally challenged individuals pursue their academic goals. If a student is requesting accommodations, they must provide appropriate documentation verifying the disability to the Director of Student Life. The Director of Student Life will work directly with the student in providing accommodations in accordance with applicable laws. A student is not required to disclose their disability, if they are not seeking accommodations.

ACADEMIC POLICIES

Maximum Academic Load

The recommended maximum load for degree students is 16 semester credits, including audited courses. A student who under special circumstances needs to take more than 16 credits must obtain written permission from the Dean of the College.

Course Requirement Substitution

When a required course is not offered the College may offer another class as a substitute. Please consult your advisor about the availability of required courses. When one course is substituted for another, the student must obtain a Course Requirement Substitution form from the Registrar's Office, indicate the reason(s) for the substitution, obtain the required signatures, and return the form to the Registrar's Office. The transaction is not official until the Course Requirement Substitution form is received by the Registrar's Office and approved by the Dean of the College. A student may submit a maximum of 16 credits of substituted coursework. If a student received an "F" in a course where a prerequisite was substituted, the original prerequisite must be taken and passed. A course in which an "F" was granted cannot be used as a substitute. A course taken as "audit" cannot be used as a substitute.

Additional Degrees

A student may receive more than one degree from Cogswell College. To enroll for an additional degree, current students must submit an approved Change of Major form with the required signatures to the Registrar's Office. A student must complete all graduation requirements for each degree received.
Students eligible to apply for double degrees simultaneously need only pay one fee. The fee for subsequent degrees will be $20.00.

Dropping classes outside of add/drop period

Any student wishing to drop all classes after the add/drop period and before completion of the semester in which he or she is registered must obtain an Exit form and an Add/Drop form from the Registrar's Office, secure the required signatures, and return the completed forms to the Registrar's Office for an exit interview. This transaction is not official until the Exit form and the Add/Drop form are received in the Registrar's Office. Refunds are given according to the refund schedule in this catalog.

Students wishing to drop a class during the semester must obtain an Add/Drop form from the Registrar's Office, obtain the required signatures, and submit the completed form to the Registrar's Office. The deadline for dropping classes is the Friday of the second week of instruction. The deadline to withdraw with a "W" grade is the Friday of the tenth week of the semester. Failure to officially drop classes will result in students receiving an "F" grade. A student's financial aid eligibility or immigration status may be affected by dropping a class. Students receiving financial aid must see the Director of Financial Aid before dropping a class.

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 instructors to take any examination or complete any make-up work at an alternate time. The following are the general attendance policies that apply to all students at Cogswell:

- A student has not attended any classes by the first day following the add/drop period will be withdrawn from the school.
- A student that is absent from an individual class for 14 consecutive calendar days will be withdrawn from the class by the College. If the withdrawal occurs before the last day to withdraw, a "W' grade will be assigned. A withdrawal after the last day to withdraw will be assigned an "F" grade.
- A student that is absent from all classes for 14 consecutive calendar days will be withdrawn from the school and subject to the refunds policies described below. A "W" grade will be given for each class if the withdrawal occurs before the last day to withdraw. If the withdrawal occurs after the withdrawal date an "F" grade will be assigned to all classes.

Students may appeal the attendance as described in the "Attendance Appeal" below

Holiday and school 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.

Attendance Appeal

Students seeking an appeal of the withdrawal notification due to violation of the attendance policy must appeal to the Registrar's office within seven (7) calendar days from the date of the withdrawal.

Leave of Absence 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 school. An unapproved LOA will be treated as a withdrawal from the school. An LOA must meet the following requirements to be an approved LOA:

- All requests for leaves must be submitted in advance and in writing by the student. The LOA request must include the reason for the leave and signed and dated by the student. The request should be submitted to the Registrar's office for approval. In rare circumstance, 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 institution.
- 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 are combined in calculating 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.
- A "W" grade will be applied for all classes that were not completed due to the approved LOA.

If a student fails to return from the LOA on the specified return date, the student will be considered withdrawn from school and may have an impact on the student's loan repayment terms, including the expiration of the student's grace period.

Change of Major

A student may change majors by completing a Change of Major form available from the Registrar's Office (or from the Cogswell website) and obtaining the required signatures. All course and admissions requirements for the new major must be satisfied to qualify for the degree sought. A change of major does not change the student's academic standing. The transaction is not official until the Change of Major form is received by the Registrar's Office. If a student has been suspended or disqualified, an appeal for re-admittance under the new major must also be filed.

Internship Program

Junior or senior level students may receive credit for pre-approved internship experiences. Internship opportunities are available in local industry under the coordination of the Dean of the College. In order to receive academic credit, internship experiences must be pre-approved by the appropriate academic department prior to the beginning of the internship placement. Students must complete 150 hours of internship service to receive 3 credits for the course.

For information about how to obtain an internship and the process to be followed to receive credit, contact the Dean of the College.

Class Standing

The class standing of a student is determined as follows:

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

Grading System and Grade Points

The College uses the following four-point grading system:

Grades used in GPA Calculation:

Grade	Grade Points/Credit
A+	4.0 (with distinction)
A	4.0
A-	3.7
B+	3.3
B	3.0
B-	2.7
C+	2.3
C	2.0
C-	1.7
D+	1.3
D	1.0
D-	0.0
F	0.0

Grades not used in GPA Calculation:

AF	Administrative Failure (no credit received)
AU	Audit, no credit earned
CR	C or better, credit earned
I	Incomplete, no credit earned
P	PASS, Satisfactory, "C" or better, credit earned
NP	NO PASS, Unsatisfactory, "C-" or below, no credit earned
W	Official Withdrawal, no credit earned
T	Transfer credit awarded

Grade Point Average Calculations

The GPA is calculated according to the following formula: GPA = Sum of (grade point value X course credits)/total credits

Example of GPA calculation

ENG100	3 credits A- (3.7 grade value) 3 X 3.7 = 11.1
MATH115	3 credits B (3.0 grade value) 3 X 3.0 = 9.0
DAA110	3 credits A (4.0 grade value) 3 x 4.0 = 12.0
	11.1 + 9.0 + 12.0 = 32.1 / 9 credits = GPA = 3.57

Midterm Deficiency

Midterm exams are given before the eighth week of the semester. Following the exams, instructors are asked to submit the names of students who are not maintaining a C-average or higher. A midterm deficiency report is sent to these students. Once a student receives a midterm deficiency letter, a copy is sent to his/her advisor. The advisor should immediately arrange a meeting with the student to determine the cause of the midterm deficiency and to create an action plan to avoid further academic problems. The advisor files a hard copy of the plan in the student file and makes the appropriate notes in the student's electronic record. A copy of the plan should be given to the Program Coordinator, Program Director or Dean of the College.

The action plan should include the following:

1. Review and, if necessary, drop the problem class if there is a chance that the final class grade will affect the student's overall GPA in a catastrophic way.
2. Change the following term schedule by dropping, repeating, or changing classes.

3. Arrange regular meetings during the term to monitor student's academic progress.
4. Assist the student with arranging tutorials or other class assistance.

Incomplete

An Incomplete ("I") grade may be used 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 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 they cannot fulfill all the work during the current semester 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 semester.

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 the sooner of the end of the next term which the student is enrolled or four (4) calendar months. The instructor can require a date sooner than the above. Failure to meet deadlines will result in the assignment of an F grade for the course unless a deadline extension is approved.

Pass/Fail

Students may elect to take a course that is not used to satisfy a designated requirement for graduating in their major on a Pass/Fail basis. If the instructor is not informed of the student's enrollment status, he/she will assign a letter grade at the end of the term. Grades of 'A+ through C' are converted into a 'P' by the Registrar's Office. Elective credit, which applies toward graduation, is earned for courses completed with a "P" grade, but the grade is not used in grade point average calculations.

Audit

A student may choose to audit a non-required course. An auditor is allowed to participate in class discussions and take exams, but will 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.

Students that have not met all the enrollment standards may be enrolled in Cogswell and required to take remedial classwork. Remedial work will not be counted in the student's overall Cumulative Grade Point Average (CGPA). Students must be enrolled in a program before they

Withdrawal Grade

Student may withdraw after the drop period and prior to the midterm. The Student will receive a "W" grade for this class. An Add/Drop form must be submitted to the Registrar by the last day to withdraw..

Repeated Courses

Students may repeat a course that they previously passed with a low grade or failed. Only the highest grade will be used to calculate the cumulative grade point average.

Grades will be included in the GPA calculation if a student chooses to repeat a course more than once. Any class repeated will count toward the 150% time requirement as specified in the SAP policy below. A student cannot repeat a class more than twice without written approval from the Dean of the College.

Grades for Specialization Courses

In courses designated as "specialization courses" students must earn at least a grade of 'C' in order to progress to the next level course in a sequence.

Report of Grades

Grade reports are available to the student on the Cogswell student portal

Change of Grades

Only the instructor of a class, with the approval of the Dean of the College, may change a grade received by the student. If a student feels an incorrect grade has been received, the matter should be discussed with the instructor, and the grade appeal procedure used if satisfaction is not received. All grade changes must be made the sooner of the end of the next term which the student is enrolled or four (4) calendar months.

Grade Appeal

Grade appeals must be initiated by the student to the instructor involved. If a student is not satisfied with the instructor's explanation and action, the student may appeal to the Dean of the College. The Dean will form an Appeal Committee of three faculty and/or students (who have completed the course involved) to examine the student's and the instructor's records. The committee will consist of one member chosen by the student, one by the instructor, and one by the Dean of the College. The Dean of the College will render the final decision based on the recommendation of the committee.

Adjudication

In academic matters, the decision of the Dean of the College is considered final. A written appeal on such decisions may be submitted to the President. If the President considers the situation to warrant adjudication, an appropriate hearing will be arranged.

Satisfactory Academic Progress

To be eligible for federal student aid (FSA) a student must make satisfactory academic progress (SAP) as measured at the end of each payment period. The SAP policy contains both qualitative (i.e. grade point average) and quantitative (i.e. pace of completion) standards.

Qualitative Standard. Cogswell requires students to have a minimum cumulative grade point average (CGPA) of at least 2.0 at graduation; therefore, the student must be making the qualitative SAP benchmarks at the end of each payment period to ensure the 2.0 at graduation. Remedial coursework is included in the quantitative assessment of SAP but is not included in the cumulative GPA.

Quantitative Standard. Students must maintain a pace of completion that yields completing the entire program with the maximum time frame of 150% of the published length of the program. The pace of completion is based on the number of units completed versus the number of units attempted. At graduation the student must complete a minimum of 66.67% (100/150) of the units attempted.

The following chart is the benchmarks that must be achieved at the end of each academic year:

Term	Qualitative (CGPA)	Quantitative (Pace of Completion)
1 & 2	2.0	50% of programs attempted
3 & 4	2.0	50% of programs attempted
5 and beyond	2.0	66.67% of programs attempted

The following chart is how grades count for calculating completion rates and GPA for SAP purposes

Grade	Credits Attempted (denominator)	Credits Completed (numerator)	Calculated in GPA
>D	Yes	Yes	Yes
D-, F	Yes	No	Yes
AF	No	No	No
AU	No	No	No
CR	Yes	Yes	No
I	No	No	No
P	Yes	Yes	No
NP	Yes	No	No
T	Yes	Yes	No

FA Warning. If a student fails to make SAP at the end of the payment period, the student is placed on Financial Aid Warning (FA Warning) for the next payment period. The school will reinstate financial aid for one period only. Students that fail to make SAP after the warning period will lose financial aid eligibility unless they successfully appeal and are placed on Financial Aid probation (FA Probation).

FA Probation. Students that fail to make SAP after the FA warning period but successfully appeal the results (see Appeals Process below) will be placed on FA probation. FSA eligibility will be reinstated for one period while the student is on FA probation status.

Appeals Process. Students that 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 include the reason for failure to achieve SAP and the conditions that changed that will lead to making SAP at the next evaluation period. The student will be placed on FA probation during this period. If the student is denied the appeal, they will be dismissed from the program. If it is likely the student will meet the SAP standards but the end of the next payment period, they may not be placed on an academic plan. However, if it is unlikely the student will not meet SAP standards by the end of the next payment plan, the student will be placed on an academic plan. This plan will outline the steps the student needs to achieve in order to maintain FSA eligibility. If the student achieves the objectives of the academic plan, they will be eligible for FSA.

Other areas impacting SAP. The following is the treatment of each on SAP:

- Remedial coursework is included in the quantitative 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") grade will not be counted as units attempted or completed. Once the "I" grade is removed, SAP will be reevaluated.

- Withdrawal grades will be included in the credits attempted but not in the CGPA
- Courses dropped within the Add/Drop period will not be included in either the qualitative or quantitative measurement of SAP

Academic Warning and Probation

Academic Warning A student is placed on academic warning when the term GPA falls below 2.0.Academic Warning requires consultation with the student's advisor. Together, student and advisor will create a recommended plan of action designed to help the student return to satisfactory academic performance.

Academic Probation A student is placed on academic probation the semester following a semester on academic warning if the student's term GPA remains below 2.0.A student remains on probation as long as the cumulative GPA is below 2.0 or if the cumulative GPA is at least 2.0 but the term GPA is below 2.0. Academic Probation requires consultation with the student's advisor. Together, student and advisor create a mandatory plan of action to help the student return to satisfactory academic performance. In order to remain on probation, students must demonstrate progress toward either the quantitative or qualitative standards under the SAP rules. For Juniors and Seniors the plan must ensure that students can reach graduation with the required 2.0 GPA. Academic plans must be submitted to the Dean of the College for approval. A copy of the Academic Plan must be submitted to the Registrar to be filed in the student's Academic File. Students that were on probation and fail to meet the quantitative or qualitative standards will be academically disqualified.

Plan of Action

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

1. Reduction in number of hours attempted
2. Change in program (major)
3. Enrollment in specific courses prescribed by the advisor
4. Re-enrollment in courses in which the student previously received a low or failing grade
5. Personal counseling
6. Other measures recommended by the advisor

Academic Disqualification

A student who is disqualified is dismissed from the College for a minimum of one term (excluding the summer), after which the student can appeal for reinstatement. A reinstated student is on probation for one semester. The Academic Probation "plan of action" will be required for this semester.

Appeal for Reinstatement after Academic Disqualification

To be reinstated, a student must apply to the Dean of the College, who will convene a committee to evaluate the student's records. A student will not be reinstated unless all of the following are satisfied:

1. The cause of the student's poor work has been identified and addressed,
2. evidence is presented that the student has improved the capability for success such as satisfactory work at another institution in courses that qualify for transfer,
3. there is a reasonable expectation that the student will qualify for graduation, which requires a 2.00 or better grade point average in all coursework. The decision to reinstate a student is rendered by a sub-committee of the Academic Standards Committee, as convened by the Dean of the College.

A disqualified student wishing to change majors must apply for reinstatement to the new major department.

Academic Honors

The President's Honor Roll
Recognizes students who have completed six (6) or more credits coursework during the semester, with a 3.80 grade point average or better.

The Dean's Honor Roll
Recognizes students who have completed six (6) or more credits coursework in a semester with a 3.50-3.79 grade point average.

Academic honors are noted on a student's official transcript and grade reports.

Graduation Requirements

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

1. Complete the course as outlined in the academic catalog under which the student enrolled.
2. Complete unit and course requirements with a minimum of a 2.0 CGPA
3. Complete within 150% of the program units
4. Achieve a minimum grade of "C" in the program's major courses
5. Complete at least 30% of the units from Cogswell

Graduation Procedure

The graduation check is the official confirmation of the completion of all the requirements for a degree. A graduation check is necessary to ensure all appropriate paperwork has 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 contact their advisor each semester. A student initiates a graduation check when he/she is within twelve (12) credits of graduation

To initiate a graduation check a student must:

1. Request an Application for Graduation form from the Registrar's Office (also available from the website)
2. Submit appropriate fees to the Business Office and return the completed Application for Graduation form to Registrar's Office.

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

Fees: A $100.00 fee is required for processing a graduation check. The fee includes graduation expenses such as cap, gown and diploma.

Graduation Commencement Ceremony

Students who have completed the requirements for their degree are invited to participate in the spring Commencement Ceremony, held in May each year. Graduating Seniors with less than seven remaining credits will be allowed to participate in the Graduation Ceremony provided they are registered for the remaining classes in the following term. The Graduating Senior must complete a Participation form in the Office of Student Life in order to walk in the Commencement Ceremony.

Graduation with Honors

A student who maintains a 3.50, 3.65 and 3.8 or better at degree completion will graduate *cum laude* (honors), *magna cum laude* (high honors), or *summa cum laude* (highest honors) respectively.

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
2. Monitor their progress toward completion of graduation requirements
3. Obtain correct information before making a decision
4. Make efficient use of the resources of the College
5. Know and comply with the content of the Student Handbook and Student's Rights and Responsibilities.

Cogswell College expects high standards of honesty and integrity from all members of the community. The College is committed to creating an environment that facilitates the academic and personal growth of its members. The College, therefore, has a duty to protect its educational purpose through the setting of standards of scholarship and conduct. To this end, it is each student's responsibility to read and comply with the Code of Student Conduct. The Student Rights and Responsibilities and the Code of Student Conduct manuals are available through the Admissions Office and the Office of Student Life.

Academic Honesty

Academic honesty is a fundamental principle of the educational process. It is essential to maintaining the value of the academic degree students receive and the credibility of the institution.

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, and any other assignments used by the faculty to ascertain the student's command of the course material. Any willful act that invalidates the process of evaluation is an act of academic dishonesty.

The following activities are examples of academic dishonesty. The list is not comprehensive; any act that satisfies the above definition is to be considered academic dishonesty.

1. Alteration of grades or official records
2. Use of unauthorized materials or sources of information on exams
3. Changing already graded documents
4. Inventing or changing laboratory data
5. Use of purchased or acquired papers
6. Submission of homework, take-home exams, reports, and projects mostly prepared by another person
7. Representation of the work of others as one's own
8. Facilitation or assistance in any act of academic dishonesty
9. Providing or getting information about the contents and answers for an exam prior to the time the exam is given
10. Altering another student's work or academic records.

Academic Freedom

Academic freedom is the cornerstone of higher education. It guarantees that faculty and students may engage in the classroom in candid discussions of issues important to society, even if their views are controversial, without fear of censorship or reprisal. The College endorses the 1940 Statement of Principles and 1940 and 1970 interpretive comments of the American Association of University Professors on academic freedom. It is the policy of Cogswell College that in the context of classroom discussion and written assignments students may freely express their own perspectives or opinions on

substantive issues. Students may be evaluated or challenged by their professors based on the quality of their reasoning and verbal or written skills. Faculty may not penalize or censor students for dissenting or controversial views.

STUDENT LIFE

New Student Orientation

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

ID Cards

The IT Office issues student ID cards at the beginning of each semester during registration. ID cards are required to check out books from the College Library and equipment from the audio/video lab.ID cards also provide access to the building during regular office hours as well as most labs and studios.

Student Housing

Cogswell Student Housing is available for one year only to students coming from a distance greater than 75 miles. It is intended to provide convenient housing close to campus while you get to know the area, find housing on your own, and meet potential roommates. The Office of Student Life provides resources to help you in all of those areas. Exceptions can be made on a case-by-case basis by writing a letter of appeal to the Office of Student Life.

Apartments include furniture, and free activities through Resident Assistants who live on-site. The Apartments are located within a reasonable distance from the campus. Please contact the Office of Student Life for more information and for other housing resources.

Health and Wellness

Information on student health insurance plans and referrals regarding health services can be obtained from the Office of Student Life. Students covered under their parents' health plans should know that many plans will not cover medical costs unless you are seen by your primary care physician. This could mean that you would have to return home for your medical care. It is advisable to contact your health plan to find out if you will be covered while away at school.

The Office of Student Life also maintains information on general wellness, drug and alcohol abuse, nutrition, and volunteer opportunities.

Career Development

Cogswell's Career Development Center provides services and resources to students and alumni to assist in all aspects of their career development. Career workshops are offered each month on topics such as interviewing, resumes and cover letters, job search strategies, and portfolio and demo reel preparation.

Website resources, magazines, books, bulletins, job descriptions, and salary information are among the resources available to students and alumni.

Tutoring

Cogswell College helps to provide tutoring to students who need assistance with academic subject matters. Students interesting in receiving or providing tutoring services may pick up an application in the Office of Student Life.

Student Activities

In promoting camaraderie and community amongst the student body, a variety of activities are scheduled throughout the year. Activities include ski trips, movie nights, barbeques, game nights, etc. All student activities must be approved by the Office of Student Life.

Associated Student Body (ASB)

The Associated Student Body 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 student body officers consisting of representatives from each degree program and at least one representative from each officially recognized club. In conjunction with the ASB advisor, the Executive Board is responsible for administering the ASB budget, coordinating student activities, and granting approval to student groups and organizations who seek official recognition.

Student Clubs

There are a number of active student clubs on campus. Club membership is open to all current students and alumni. Please see the Student Life Office for an application if you are interested in starting a new club. Current Clubs include Game Development Club, Friday Night Magic, Audio Producers and Engineers Club, and Comic Club.

Student Lounge

The Student Lounge is located next to the ASB and Student Life offices. The lounge features comfortable seating, tables, billiards, and other games and recreational equipment. It offers a microwave oven and vending machines stocked with hot and cold drinks and snack foods.

Student Handbook

The Student Handbook provides important information on institution policies, people, campus activity, student conduct and expectations.

THE LIBRARY

The Cogswell College Library offers a focused collection of print and digital materials for the use of students, faculty and staff. The collection includes approximately 12,000 book and periodical titles. Many titles are specialty items that supplement the college's

programs. Digital resources including commercial databases are also available for student use.

Library staff assists users with locating resources, information searching instruction and general library questions. The library also provides computers for student use.

The Lyle E. Patton Archives identifies, collects, preserves and makes available catalogs, marketing materials, photographs, memorabilia and other items that document and provide context for the history and functioning of the College since its founding in 1887.

ACADEMIC PROGRAMS

GENERAL EDUCATION

General Education Mission Statement

The General Education Program at Cogswell provides students with a quality liberal education characterized by active learning that prepares our graduates to excel as engaged and responsible members of a global society.

General Education Goals and Learning Outcomes

A core curriculum of courses in the humanities, English, mathematics, science, and the social sciences prepares graduates who can:

Goal I Communicate Effectively

1. Formulate correct and persuasive written papers based on appropriate research, critical analysis, and logical conclusions.

2. Make articulate oral presentations based on appropriate research, critical analysis, and logical conclusions.

Goal II Think Numerically and Scientifically

3. Apply and analyze quantitative methods and techniques to solve numerical problems.

4. Use scientific principles and reasoning to answer questions about the natural world and to distinguish science from non-science.

Goal III Understand and Responsibly Engage the Changing World

5. Identify, frame and analyze the processes by which human beings develop social, historical and artistic perspectives, and communicate the results in writing and orally.

6. Articulate in essays and presentations how values and ethics inform human understanding, structure and behavior/conduct.

7. Demonstrate in written assignments the connection between contemporary social, political and economic topics and their origins and analyze their effects on our globalized world.

DIGITAL ARTS AND ANIMATION (DAA)

Digital Arts and Animation (DAA) offers students preparation in four concentration areas: 3D Animation, Entertainment Design, Game Design, and 3D Modeling. The coursework bridges traditional and digital arts classes and includes solid components of theory, production, and general education. Digital Arts and Animation project classes provide many opportunities for collaborations with other programs at Cogswell, including Digital Audio Technology and Digital Arts Engineering. The 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.

3D Animation: The animation program 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.

Entertainment Design: 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 designed for 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.

Game Development: The Game Development concentration immerses students in realistic studio environments and situations. The project-based course work emphasizes non-technical, collaborative skills such as communication, teamwork, organization, management and leadership while fostering creativity and innovation in a student's particular area of interest. This concentration prepares aspiring digital artists and designers to be well-rounded leaders in the global video game industry.

3D Modeling: 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 skills necessary for model data set creation. These models find applications in movies, commercials, simulators and emulators, games, animation sequences, product design, and product development.

DAA Program Learning Outcomes

1. Students will identify the most critical components of a project by evaluating the contributing factors.
2. Students can develop a production plan that includes concepts, technology, and a schedule.
3. Students produce a senior reel that integrates the principles, techniques, and skills acquired in their coursework.
4. Students can utilize the most appropriate existing and emerging software technology in their work.
5. Students create computer-generated images that convey messages and emotions.
6. Students can apply the elements of design and color to their work.
7. Students use drawing and rendering techniques to invent expressive characters, sets, and props.
8. Students can define the role of each member of a group project.
9. Students will effectively contribute their expertise to a collaborative project.
10. Students develop a final project concept through experimentation and iteration.
11. Students design and implement a project that exhibits inventive combinations of ideas, techniques, and materials.

Digital Arts and Animation Course Requirements -123 Credits

General Education - 45 Credits			
English 9 credits	ENG100	Composition & Critical Thinking	3
	ENG227	Scriptwriting	3
		or	
	ENG228	Creative Writing	
	ENG310	Classics of Western Drama	3
		or	
	ENG320	Classics of World Drama	
Humanities 18 credits	HUM120	Nature and History of Western Art	3
		or	
	HUM130	Modern Art History	
	HUM122	World Music	3
		or	
	HUM125	Music in Western Culture	
	HUM200	History of the Modern World	3
	HUM227	Film History	3
		or	
	HUM230	History of Animation	
		or	
	HUM228	Video Games & Society	
	HUM361	Contemporary Ethical Issues	3
	HUM400	Gen Ed Capstone Research	3
Social Science 6 credits	SSC200	U.S. Government	3
	SSC332	Global Political Economics	3
Math 6 credits	MATH115	Basic Topics in Mathematics	3
	SWE100	Introduction to Scripting	3
Science 6 credits	SCI100	Basic Concepts of Physics	3
		or	
	SCI120	Science of Motion	
		or	
	SCI130	Basic Concepts of Anatomy & Physiology	
	SCI200	Gen Science: Principles & Trends	3
DAA Core - 42 Credits			
	DAA100	2D Design 1	3
	DAA105	Color Theory	3
	DAA106	Digital Imaging Concepts	3
	DAA108	Intro to Photography	3
	DAA109	Web Design	3
		or	
	DAA264	Drawing Animation 1	
	DAA110	Sketching	3
	DAA115	Figure Drawing 1	3
	DAA212	Perspective and Rendering	3
	DAA220	Video Editing	3
	DAA230	Intro to Sculpture	3
	DAA240	Intro to 3D Modeling	3
	DAA310	Storyboarding	3
	ENT220	Business Development & Negotiations	3
		or	
	ENT230	Project Management	

	DAA Lower Division Elective		3
DAA Concentrations – 36 credits ***(choose one)***			
3D Animation	DAA200	Acting	3
	DAA244	Intro to 3D Animation Principles	3
	DAA265	2D Animation 1	3
	DAA267	Character Rigging	3
	DAA360	3D Animation 1	3
	DAA364	Drawing Animation 2	3
	DAA365	3D Animation 2	3
	DAA460	2D Animation 2	3
	DAA465	3D Animation 3	3
	DAA Upper Division Elective		3
	DAA480A	Portfolio 1 or Project Course	3
	DAA485A	Portfolio 2 or Project Course	3
3D Modeling	DAA120	Painting	3
		or	
	DAA270	Illustration 1	
	DAA245	Texturing	3
	DAA248	Lighting & Layout	3
	DAA267	Character Rigging	3
	DAA330	Figure Sculpture	3
	DAA340	3D Modeling 1	3
	DAA345	3D Modeling 2	3
	DAA370	Concept Design	3
	DAA440	3D Modeling 3	3
	DAA442	Advanced Lighting & Layout	3
	DAA480M	Portfolio 1 or Project Course	3
	DAA485M	Portfolio 2 or Project Course	3
Entertainment Design	DAA120	Painting	3
	DAA210	Figure Drawing 2	3
	DAA245	Texturing	3
	DAA270	Illustration 1	3
	DAA320	Digital Painting	3
	DAA335	Portrait Sculpture	3
	DAA340	3D Modeling 1	3
	DAA370	Concept Design	3
	DAA470	Illustration 2	3
	DAA Upper Division Elective		3
	DAA480E	Portfolio 1 or Project Course	3
	DAA485E	Portfolio 1 or Project Course	3
Game Development	DAA225	Intro to Game Production	3
	DAA235	Game Usability	3
	DAA244	Intro to 3D Animation Principles	3
	DAA245	Texturing	3
	DAA350	Game Design 1	3
	DAA355	Game Level Design 1	3
	DAA375	Game Design 2	3
	DAA415	Game Level Design 2	3
	DAA430	Game Design 3	3
	DAA Upper Division Elective		3
	DAA475	Game Studio	6

DIGITAL AUDIO TECHNOLOGY (DAT)

The Digital Audio Technology (DAT) program offers students who seek professional careers in the audio industry the opportunity to focus on audio production (music production, sound effects design and other forms of audio asset creation) or audio engineering (the design and manufacture of audio software). The DAT program offers students an integrated curriculum that includes music theory and composition, studio recording, sound synthesis, soundtrack production, audio mastering and audio software development. DAT students learn a wide range of concepts fundamental to digital audio and engage in numerous hands-on assignments and projects. It culminates in a year-long senior portfolio project.

Audio Engineering: DAT offers a program of study that integrates audio technology and computer engineering for the manufacturing side of the audio industry. The program combines study in math, physics, computer engineering, digital signal processing, as well as digital audio technology conceptual foundations and production practices. Throughout the program there are many opportunities for hands-on learning and application. In the senior portfolio classes students synthesize all of the components of their study into the design and implementation of an audio device or computer application.

Audio Production: Central to the DAT program is audio production, which consists of desktop audio production, studio recording production, and soundtrack production for motion pictures and videogames. The emphasis here is on the whole concept-to-delivery pipeline for audio production: Students produce original creative work and market and distribute it themselves. The senior portfolio classes provide a format for bringing together all of the elements of concept-to-delivery in a major capstone project. Cogswell College provides many opportunities for collaborative work for DAT students, particularly in the crafting of soundtracks for animations and videogames.

Game Audio Production: DAT offers a specialization for students who specifically want to create soundtracks for videogames. The curriculum includes courses that introduce students to audio tools and formats particular to videogame production and then provides opportunities for them to create audio assets (musical score, sound effects and dialog) for collaborative game projects in an instructor-led studio environment.

Game Audio Programming
Video game production requires programmers who are able to integrate audio assets into the workings of a game. This requires professional-level programming skills as well as knowledge of audio tools and formats. The Game Audio Programming track combines study in math, physics, computer engineering, digital signal processing, digital audio technology conceptual foundations and production practices with practical experience working on collaborative game projects in an instructor-led studio environment.

Independent Artist: For audio students who are inclined toward starting and building a business, the Independent Artist track offers the opportunity to develop the business side of audio production along with audio production skills. This specialization track joins key parts of the Digital Audio Technology curriculum with the Entrepreneurship curriculum. The essential elements of desktop audio production and studio recording are combined with marketing, financial management, innovation and business development to turn creative skills into a livelihood.

DAT Program Learning Outcomes

Students who successfully complete the DAT program of study will be able to:

1. Implement an audio project according to a standard audio industry production pipeline.
2. Create a soundtrack for a motion picture or videogame that supports the meaning of the story or action.
3. Explain the conceptual basis of the tools and processes used in audio production from a scientific, mathematical or engineering perspective.
4. Explain landmark historical events in the music and audio industries.
5. Apply musical best practices to an audio project (musicianship).
6. Imbue an audio project with grace and style above and beyond minimal technical requirements (artistry).
7. Deliver a focused oral presentation with demonstration of a project or concept.
8. Document a project or concept on a website or using Internet resources.
9. Explain the perceptual and cognitive basis of digital audio technology.
10. Create an original library of audio assets for use in an audio project.

DAT Audio Engineering Course Requirements – 128 Credits

General Education - 54 Credits			
English 9 credits	ENG100	Composition & Critical Thinking	3
	ENG228	Creative Writing	3
		or	
	ENG227	Scriptwriting	
	ENG310	Classics of Western Drama	3
		or	
	ENG320	Classics of World Drama	
Humanities 18 credits	HUM120	Nature & History of Western Art	3
		or	
	HUM130	Modern Art History	
	HUM122	World Music	3
		or	
	HUM125	Music in Western Culture	
	HUM200	History of the Modern World	3
	HUM227	Film History	3
		or	
	HUM230	History of Animation	
		or	
	HUM228	Video Games and Society	
	HUM361	Contemporary Ethical Issues	3
	HUM400	General Ed Capstone Research	3
Social Science 6 credits	SSC200	U.S. Government	3
	SSC332	Global Political Economics	3
Math 10 credits	MATH133	Calculus 1	4
	MATH134	Calculus 2	3
	MATH240	Applied Probability & Random Proc	3
Science 11 credits	SCI145	College Physics 1	4
	SCI245	College Physics 2	4
	SCI	Physics Elective	3
Digital Audio Technology - 46 Credits			
	DAT110	Desktop Prod Fundamentals	3
	DAT115	Desktop Audio Production	3
	DAT210	Sound Synth and Orchestration	3
	DAT220	Studio Recording 1	3
	DAT280	Portfolio Preparation	3
	DAT310	Digital Orchestration	3
	DAT320	Studio Recording 2	3
	DAT330	Principles of Digital Audio	3
	DAT335	Music Perception and Cognition	3
	DAT360	Digital Signal Processing	3
	DAT365	Digital Filter Design	4
	DAT450	Audio Software Development	3
		or	
	DAT460	Digital Audio Electronics	
	DAT480	Portfolio 1	3

	DAT485	Portfolio 2	3
	DAT	Upper Division DAT Elective	3
Engineering - 28 Credits			
	SWE110	C Programming	4
	ELE270	Intro to Circuit Analysis	4
	SWE310	Data Structures & Algorithms	4
	ELE312	Signals and Systems	4
	SWE315	C++ Programming	4
	ELE350	Digital Circuits and Systems	4
	DAT/ELE/SWE	Upper Division Electives	4

DAT Audio Production Course Requirements - 128 Credits

General Education - 45 Credits			
English 9 credits	ENG100	Composition & Critical Thinking	3
	ENG228	Creative Writing	3
		or	
	ENG227	Scriptwriting	
	ENG310	Classics of Western Drama	3
		or	
	ENG320	Classics of World Drama	
Humanities 18 credits	HUM120	Nature & History of Western Art	3
		or	
	HUM130	Modern Art History	
	HUM122	World Music	3
		or	
	HUM125	Music in Western Culture	
	HUM200	History of the Modern World	3
	HUM227	Film History	3
		or	
	HUM230	History of Animation	
		or	
	HUM228	Video Games and Society	
	HUM361	Contemporary Ethical Issues	3
	HUM400	General Ed Capstone Research	3
Social Science 6 credits	SSC200	U.S. Government	3
	SSC332	Global Political Economics	3
Math 6 credits	MATH115	Basic Topics in Mathematics	3
	MATH120	Math for DSP	3
Science 6 credits	SCI100	Basic Concepts in Physics	3
	SCI220	Foundations of Musical Acoustics	3
Digital Audio Technology - 83 Credits			
Web Design	DAT109	Web Design for Audio and Video	3
Theory & Musicianship 19 credits	DAT100	Music Theory 1	3
	DAT101	Comprehensive Musicianship 1	1
	DAT105	Music Theory 2	3
	DAT106	Comprehensive Musicianship 2	1
	DAT200	Music Theory 3	3
	DAT201	Comprehensive Musicianship 3	1
	DAT205	Music Theory 4	3
	DAT206	Comprehensive Musicianship 4	1
	DAT300	Style and Idea in Music	3
Desktop Production 15 credits	DAT110	Desktop Prod Fundamentals	3
	DAT115	Desktop Audio Production	3
	DAT210	Sound Synth & Orchestration	3
	DAT310	Digital Orchestration	3
	DAT314	Comp for Soundtracks: Motion Picture	3
		or	
	DAT316	Comp for Soundtracks: Videogames	

Studio Production 12 credits	DAT220	Studio Recording 1	3
	DAT320	Studio Recording 2	3
	DAT324	Studio Recording 3	3
		or	
	DAT326	Digital Sound Design	
	DAT420	Audio Mastering	3
Conceptual Foundations 6 credits	DAT330	Principles of Digital Audio	3
	DAT335	Music Perception and Cognition	3
Historical Perspectives 6 credits	HUM222	Music in the Recorded Age	3
	HUM127	History of Music Technology	3
Programming 7 credits	SWE110	C Programming	4
	DAT350	Audio Programming	3
Portfolio 12 credits	DAT280	Portfolio Preparation	3
		or	
	DAT301	Songwriting	
	DAT480	Portfolio 1	3
	DAT485	Portfolio 2	3
Electives	DAT	Elective	3
	DAT	Upper Division Elective	3

DAT Game Audio Programming Course Requirements – 128 Credits

General Education - 54 Credits			
English 9 credits	ENG100	Composition & Critical Thinking	3
	ENG228	Creative Writing	3
		or	
	ENG227	Scriptwriting	
	ENG310	Classics of Western Drama	3
		or	
	ENG320	Classics of World Drama	
Humanities 18 credits	HUM120	Nature & History of Western Art	3
		or	
	HUM130	Modern Art History	
	HUM122	World Music	3
		or	
	HUM125	Music in Western Culture	
	HUM200	History of the Modern World	3
	HUM227	Film History	3
		or	
	HUM230	History of Animation	
		or	
	HUM228	Video Games and Society	
	HUM361	Contemporary Ethical Issues	3
	HUM400	General Ed Capstone Research	3
Social Science 6 credits	SSC200	U.S. Government	3
	SSC332	Global Political Economics	3
Math 10 credits	MATH133	Calculus 1	4
	MATH134	Calculus 2	3
	MATH240	Applied Prob and Random Proc	3
Science 11 credits	SCI145	College Physics 1	4
	SCI245	College Physics 2	4
	SCI	Physics Elective	3
Digital Art - 3 credits			
	DAA350	Game Design 1	3
Digital Audio Technology - 43 credits			
	DAT110	Desktop Prod Fundamentals	3
	DAT115	Desktop Audio Production	3
	DAT210	Sound Synth & Orchestration	3
	DAT212	Interactive Audio Production	3
	DAT220	Studio Recording 1	3
	DAT250	Programming Interactive Audio	3
	DAT320	Studio Recording 2	3
	DAT335	Music Perception and Cognition	3
	DAT386	Game Studio	3
	DAT360	Digital Signal Processing	3
	DAT365	Digital Filter Design	4
	DAT486	Game Studio	6
	HUM250	Nature of Interactive Audio	3

Engineering - 28 Credits			
	SWE110	C Programming	4
	SWE310	Data Structures & Algorithms	4
	SWE315	C++ Programming	4
	SWE212	Java Programming	4
	ELE350	ELE350 Digital Circuits and Systems	4
	DAT/ELE/SWE Upper Division Electives		8

DAT Game Audio Production Course Requirements– 128 Credits

General Education - 45 Credits			
English 9 credits	ENG100 ENG228 ENG227 ENG310 ENG320	Composition & Critical Thinking Creative Writing or Scriptwriting Classics of Western Drama or Classics of World Drama	3 3 3
Humanities 18 credits	HUM120 HUM130 HUM122 HUM125 HUM200 HUM228 HUM230 HUM228 HUM361 HUM400	Nature & History of Western Art or Modern Art History World Music or Music in Western Culture History of the Modern World Film History or History of Animation or Video Games and Society Contemporary Ethical Issues General Ed Capstone Research	3 3 3 3 3 3
Social Science 6 credits	SSC200 SSC332	U.S. Government Global Political Economics	3 3
Math 6 credits minimum	MATH115 MATH120	Basic Topics in Mathematics Math for DSP	3 3
Science 6 credits	SCI200 SCI220	Gen Science: Principles & Trends Foundations of Musical Acoustics	3 3
Digital Art - 6 Credits			
	DAT109 DAA350	Web Design for Audio and Video Game Design 1	3 3
Digital Audio Technology - 77 Credits			
Theory & Music 22 credits	DAT100 DAT101 DAT105 DAT106 DAT200 DAT201 DAT205 DAT206 DAT300 DAT305	Music Theory 1 Comprehensive Musicianship 1 Music Theory 2 Comprehensive Musicianship 2 Music Theory 3 Comprehensive Musicianship 3 Music Theory 4 Comprehensive Musicianship 4 Style and Idea in Music Game Scoring: Literature and Analysis	3 1 3 1 3 1 3 1 3 3
Desktop Production 18 credits	DAT110 DAT115 DAT210 DAT212 DAT310 DAT316	Desktop Prod Fundamentals Desktop Audio Production Sound Synth & Orchestration Interactive Audio Production Digital Orchestration Comp for Soundtracks: Videogames	3 3 3 3 3 3

Studio Prod 9 credits	DAT220 DAT320 DAT324 DAT326	Studio Recording 1 Studio Recording 2 Studio Recording 3 or Digital Sound Design	3 3 3
Concept Found	DAT335	Music Perception and Cognition	3
Historical Perspectives	HUM250	Nature of Interactive Audio	3
Programming 7 credits	SWE110 DAT250	C Programming Programming Interactive Audio	4 3
Production Pipeline 9 credits	DAT386 DAT486	Game Studio Game Studio	3 6
Electives	DAT	Upper Division Elective	6

DAT Independent Artist Course Requirements – 128 Credits

General Education - 45 Credits			
English 9 credits	ENG100	Composition & Critical Thinking	3
	ENG228	Creative Writing	3
		or	
	ENG227	Scriptwriting	
	ENG310	Classics of Western Drama	3
		or	
	ENG320	Classics of World Drama	
Humanities 18 credits	HUM120	Nature & History of Western Art	3
		or	
	HUM130	Modern Art History	
	HUM122	World Music	3
		or	
	HUM125	Music in Western Culture	
	HUM200	History of the Modern World	3
	HUM227	Film History	3
		or	
	HUM230	History of Animation	
		or	
	HUM228	Video Games and Society	
	HUM361	Contemporary Ethical Issues	3
	HUM400	General Ed Capstone Research	3
Social Science 6 credits	SSC200	U.S. Government	3
	SSC332	Global Political Economics	3
Math 6 credits	MATH115	Basic Topics in Mathematics	3
	ENT260	Financial Management & Accounting	3
Science 6 credits	SCI100	Basic Concepts in Physics	3
	SCI220	Foundations of Musical Acoustics	3
Digital Audio Technology - 59 Credits			
Theory & Music 19 credits	DAT100	Music Theory 1	3
	DAT101	Comprehensive Musicianship 1	1
	DAT105	Music Theory 2	3
	DAT106	Comprehensive Musicianship 2	1
	DAT200	Music Theory 3	3
	DAT201	Comprehensive Musicianship 3	1
	DAT205	Music Theory 4	3
	DAT206	Comprehensive Musicianship 4	1
	DAT300	Style and Idea in Music	3
Desktop Production 15 credits	DAT110	Desktop Prod Fundamentals	3
	DAT115	Desktop Audio Production	3
	DAT210	Sound Synth & Orchestration	3
	DAT310	Digital Orchestration	3
	DAT314	Comp for Soundtracks: Motion Picture	3
		or	
	DAT316	Comp for Soundtracks: Videogames	
Studio Production 12 credits	DAT220	Studio Recording 1	3
	DAT320	Studio Recording 2	3
	DAT324	Studio Recording 3	3
		or	
	DAT326	Digital Sound Design	

	DAT420	Audio Mastering	3
Historical Perspective	HUM127	History of Music Technology	3
Electives	DAT	DAT Electives	7
	DAT	DAT Upper Division Elective	3
Entrepreneurship - 24 Credits			
	ENT110	Building Blocks Of Entrepreneurship	3
	ENT115	Business Self-Defense and Communication	3
	ENT120	You, The Entrepreneur	3
	ENT140	Ideation, Innovation and Creativity	3
	ENT 210	Living Case Study 1 (Internship)	3
		or	
	ENT220	Business Development & Negotiations	
	ENT230	Project Management	3
	ENT250	Entrepreneurial Marketing	3
	ENT260	Financial Management and Accounting	3

ENGINEERING (ENG)

Engineering (ENG) offers a first-rate education for a great value. Students get hands-on experience working with faculty in small groups; benefit from an educational environment that focuses on learning, blends theory and practice, and integrates art and engineering; and join our successful alumni pursuing rewarding careers.

Innovation is key in the industries for which we prepare our students. Students can pursue any of the following programs.

Computer Engineering (CPE): CPE combines a necessary balance between hardware and software. Produces professionals who design, develop, and test next generation computer hardware. Graduates will have skills in circuit design, test, and verification and will be exposed to the latest advances in IC, VLSI, and MEMS technologies.

Digital Arts Engineering (DAE): DAE combines a necessary balance between software and digital arts. Produces professionals who are capable of working at the intersection of engineering and art. Graduates will have skills in programming languages, tools programming, scripting languages, and software development; concept design, modeling, texturing, rigging, and animation; and computer simulation, visualization and game engine programming.

Software Engineering (SWE): SWE offers an education covering the software development cycle: design, analysis, verification, validation, implementation, deployment, and maintenance. Graduates will have the skills to undertake large scale programming projects; be exposed to latest trends in software development, design, and testing; and be familiar with interface, tools, and game engines programming.

Engineering Program Learning Outcomes

CPE, DAE, and SWE are part of an educational system that promotes true integration among curricula, teaching and learning approaches, and people. Integration is at both the vertical level among the engineering programs and at the horizontal level among the engineering programs and the rest of the art programs at the College. The aim is to produce an engineer with marketable competencies including:

1. An ability to apply knowledge of mathematics, science, and engineering
2. An ability to design and conduct experiments, as well as to analyze and interpret data
3. An ability to design a system, component, or process to meet desired needs
4. An ability to function on multi-disciplinary teams
5. An ability to identify, formulate, and solve engineering problems
6. An understanding of professional ethical responsibility
7. An ability to communicate effectively
8. The broad education necessary to understand the impact of engineering solutions in a global and societal context
9. A recognition of the need for, and an ability to engage in life-long learning
10. A knowledge of contemporary issues
11. An ability to use the techniques, skills, and modern engineering tools necessary for engineering practice.

Computer Engineering Course Requirements – 130 Credits

General Education - 54 Credits			
English 9 Credits	ENG100	Composition & Critical Thinking	3
	ENG227	Scriptwriting	3
	or		
	ENG228	Creative Writing	
	ENG310	Classics of Western Drama	3
	or		
	ENG320	Classics of World Drama	
Humanities 18 Credits	HUM122	World Music	3
	or		
	HUM125	Music in Western Culture	
	HUM120	History of Western Art	3
	or		
	HUM130	Modern Art History	
	HUM200	History of the Modern World	3
	HUM227	Film History	3
	or		
	HUM230	History of Animation	
	or		
	HUM228	Video Games & Society	
	HUM361	Contemporary Ethical Issues	3
	HUM400	GE Capstone Research Project	3
Math 13 Credits	MATH143	Calculus 1	4
	MATH144	Calculus 2	3
	MATH245	Calculus 3	3
	MATH310	Engineering Math 1: Discrete Math	3
Science 8 credits	SCI145	College Physics 1	4
	SCI245	College Physics 2	4
Social Sciences 6 Credits	SSC200	U.S. Government	3
	SSC332	Global Political Economics	3
Engineering - 76 Credits			
Core 52 Credits	SWE110	C Programming	4
	SWE212	Java Programming	4
	SWE221	Linux Programming Environments	3
	SWE310	Data Structure & Algorithms	4
	SWE315	C++ Programming	4
	ELE320	Electronic Devices 1	4
	SWE320	Operating Systems	3
	SWE330	Compiler Design	4
	ELE321	Electronic Devices & Circuits 2	4
	SWE352	Embedded Software Systems	3
	ELE350	Digital Circuits and Systems	4
	ELE366	Sequential Logic Design	4
	SWE351	Computer Architecture	3
	ELE270	Introduction to Circuit Analysis	4
General Engineering 24 Credits	GEN270	Engineering Project Management	3
	GEN480	Senior Project 1: Planning	3
	GEN485	Senior Project 2: Execution	3
	GEN	Upper Division Engineering Electives	15

Digital Arts Engineering Course Requirements – 129 Credits

General Education - 53 Credits			
English 9 credits	ENG100	Composition & Critical Thinking	3
	ENG227	Scriptwriting	3
		or	
	ENG228	Creative Writing	
	ENG310	Classics of Western Drama	3
		or	
	ENG320	Classics of World Drama	
Humanities 18 credits	HUM120	Nature and History of Western Art	3
		or	
	HUM130	Modern Art History	
	HUM122	World Music	3
		or	
	HUM125	Music in Western Cultures	
	HUM200	History of the Modern World	3
	HUM227	Film History	3
		or	
	HUM228	Video Games & Society	
		or	
	HUM230	History of Animation	
	HUM361	Contemporary Ethical Issues	3
	HUM400	General Education Capstone Project	3
Social Sciences 6 credits	SSC200	U.S. Government	3
	SSC332	Global Political Economics	3
Mathematics 16 credits	MATH143	Calculus 1	4
	MATH144	Calculus 2	3
	MATH245	Calculus 3	3
	MATH310	Engineering Math 1: Discrete Math	3
	MATH320	Engineering Math 2: Geometry & Transform	3
Physics	SCI145	College Physics I	4
Engineering Core - 49 Credits			
Software 25 credits	SWE100	Introduction to Scripting	3
	SWE110	C Programming	4
	SWE212	Java Programming	4
	SWE313	C++ Programming	4
	SWE310	Data Structure and Algorithms	4
	SWE447	GUI & Graphics Programming	3
	SWE449	Tools Programming	3
Digital Arts 21 credits	DAA100	2D Design 1	3
	DAA110	Sketching	3
	DAA105	Color Theory	3
	DAA230	Introduction to Sculpture	3
	DAA240	Introduction to 3D Modeling	3
	DAA244	Introduction to 3D Animation	3
	DAA245	Texturing	3
Entrepreneurship	ENT120	You, the Entrepreneur	3

Concentrations *(choose one)*			
	Game Development - 27 Credits		
DAA 15 credits	DAA350	Game Design 1	3
	DAA355	Game Level Design 1	3
	DAA415	Game Level Design 2	3
	DAA225	Intro to Game Production	3
	DAA475	Game Studio	3
Software 12 credits	SWE451	Animation Programming	3
	SWE472	Artificial Intelligence Game Programming	3
	DAA/SWE/ GEN	Upper Division DAA or Engineering Electives	6
	Technical Director - 27 Credits		
DAA 21 credits	DAA248	Lighting and Layout	3
	DAA267	Character Rigging	3
	DAA356	Production Pipeline	3
	DAA358	Dynamics	3
	DAA400	Compositing & Visual Effects	3
	DAA476	Project X or Project Course	6
Electives 6 credits	DAA/SWE GEN	Upper Division DAA or Engineering Electives	6

Software Engineering Course Requirements– 128 Credits

General Education - 57 Credits			
English 9 credits	ENG100	Composition & Critical Thinking	3
	ENG227	Scriptwriting	3
	or		
	ENG228	Creative Writing	
	ENG310	Classics of Western Drama	3
	or		
	ENG320	Classics of World Drama	
Humanities 18 credits	HUM122	World Music	3
	or		
	HUM125	Music in Western Culture	
	HUM120	History of Western Art	3
	or		
	HUM130	Modern Art History	
	HUM200	History of the Modern World	3
	HUM227	Film History	3
	or		
	HUM230	History of Animation	
	or		
	HUM228	Video Games & Society	
	HUM361	Contemporary Ethical Issues	3
	HUM400	GE Capstone Research Project	3
Math 16 credits	MATH143	Calculus 1	4
	MATH144	Calculus 2	3
	MATH245	Calculus 3	3
	MATH310	Engineering Math 1: Discrete Math	3
	MATH320	Engineering Math 2: Geometry	3
Science 8 credits	SCI145	College Physics 1	4
	SCI245	College Physics 2	4
Social Sciences 6 credits	SSC200	U.S. Government	3
	SSC332	Global Political Economics	3
Engineering - 71 Credits			
Engineering core 46 credits	SWE110	C Programming	4
	SWE310	Data Structures & Algorithms	4
	SWE212	Java Programming	4
	SWE315	C++ Programming	4
	SWE221	Linux Programming Environments	3
	SWE320	Operating Systems	3
	SWE330	Compiler Design	4
	SWE340	Software Engineering Meth & Projects 1	3
	SWE351	Computer Architecture	3
	SWE352	Embedded Software Systems	3
	SWE360	Database Management Systems	4
	SWE422	Foundations of Computer Networks	4
	SWE442	Software Engineering Meth & Projects 2	3
General Engineering 9 credits	GEN270	Engineering Project Management	3
	GEN480	Senior Project 1: Design & Proposal	3
	GEN485	Senior Project 2: Implementation	3

Electives	GEN	Upper Division Engineering Electives	16

BA IN ENTREPRENEURSHIP AND INNOVATION (ENT)

The Entrepreneurship and Innovation program (ENT) recognizes that students will need to create their economic destiny, whether that involves forming a new venture, growing an existing venture, or taking on greater responsibilities within a larger organization. The Entrepreneurship program is immersive, hands-on and practice-based. Real-world experience is integral to the program at both the undergraduate and graduate levels, through internships or practicums, student ventures and contacts with successful entrepreneurs drawn from Silicon Valley.

Undergraduate Degree in Entrepreneurship and Innovation

The Bachelor of Arts program in Entrepreneurship and Innovation presents students with the knowledge and skills to plan, launch and grow a venture. It combines in-depth entrepreneurial coursework with hands-on learning and iteration, providing students with first-hand experiences and Silicon Valley networking opportunities. Students are encouraged to see themselves as entrepreneurs from their first term, working from their personal learning plan to develop their venture throughout their undergraduate program.

Undergraduate Degree in Entrepreneurship and Innovation for Digital Media

The Bachelor of Arts program in Entrepreneurship and Innovation for Digital Media offers students the specialized skills to create, manage and produce creative works within the context of a new or existing venture. Three areas of concentration are available: Audio Artist Management, Game Entrepreneurship and Interactive Marketing. These three concentrations combine coursework in entrepreneurship together with digital arts, audio and engineering coursework as appropriate.

Audio Artist Management

The Audio Artist Management concentration is designed for musically inclined students who are looking to open their own recording studio, record label or artist management company. This concentration offers students comprehensive training in properly recording themselves or other artists as well as the skill sets to promote, manage and monetize the creative endeavors produced by their artists.

Game Entrepreneurship

The Game Entrepreneurship concentration is geared toward students who aspire to create their own games or game studio. This concentration combines a foundation in asset creation with a strong focus in game design, along with sufficient entrepreneurship courses to enable students to form teams and incorporate customer insights as well as plan, model, prototype and launch an interactive game venture.

Interactive Marketing

The Interactive Marketing concentration is focused on how to connect organizations with their customers and constituencies through internet marketing, social media and interactive collateral. This concentration combines marketing fundamentals, customer insights, web analytics and digital media creation for students who want to apply their creativity towards marketing purposes.

Entrepreneurship and Innovation Program Learning Outcomes

Graduates of the BA in Entrepreneurship will be able to:

1. Create an innovation or new product or new business concept
2. Construct an entrepreneurial organization or partnership within Cogswell
3. Identify and explain the growth phases of a business
4. Present a written business plan to an investor
5. Identify and respond to the ethical issues of a potential strategic partnership
6. Effectively contribute as a leader to a collaborative project
7. Recruit advisors to a venture
8. Create innovative method of collaborating with advisors and partners
9. Write a personal development plan to access resources, knowledge and networks
10. Develop projects with students outside the United States.

ENT Entrepreneurship and Innovation Course Requirements– 120 Credits

General Education - 45 Credits			
English 9 credits	ENG100	Composition and Critical Thinking	3
	ENG227	Scriptwriting	3
		or	
	ENG228	Creative Writing	
	ENG310	Classics of Western Drama	3
		or	
	ENG320	Classics of World Drama	
Humanities 12 credits	HUM120	Nature & History of Western Art	3
		or	
	HUM130	Modern Art History	
	HUM122	World Music	3
		Or	
	HUM125	Music in Western Cultures	
	HUM200	History of Modern World	3
	HUM361	Contemporary Ethical Issues	3
	HUM400	General Ed Capstone Research	3
Social Science 12 credits	SSC200	U.S. Government	3
	SSC220	Consumer & Market Behavior	3
	SSC240	Principles Of Microeconomics	3
	SSC332	Global Political Economics	3
Math 6 credits	MATH115	Basic Topics in Mathematics	3
	MATH290	Business Analytics & Statistics	3
Physical Science 6 credits	SCI100	Basic Concepts of Physics	3
		or	
	SCI120	Science of Motion	
		or	
	SCI130	Basic Concepts of Anatomy	
	SCI200	Gen Science Principles & Trends	3
Entrepreneurship - 75 Credits			
	ENT110	Building Blocks Of Entrepreneurship	3
	ENT115	Business Self-Defense & Communication	3
	ENT120	You, the Entrepreneur	3
	ENT140	Ideation, Innovation & Creativity	3
	ENT210	Entrepreneurship: Living a Case Study 1	3
	ENT220	Business Development & Negotiations	3
	ENT230	Project Management	3
	ENT250	Entrepreneurial Marketing	3
	ENT260	Financial Management and Accounting	3
	ENT270	Team Building & Collaboration	3
	ENT310	Entrepreneurship: Living a Case Study 2	3
	ENT315	Effective Writing and Presentations	3
	ENT320	Prototyping Design Lab	3
	ENT330	New Venture Creation	3
	ENT340	The Entrepreneurship Forum 1	3
	ENT355	Engagement Tools	3
	ENT360	Entrepreneurial Finance	3
	ENT370	Creating Your Entrepreneurial Experience	3
	ENT390	Corporate Innovation & Intrapreneurship	3

	ENT410	Venture Growth Strategies	3
	ENT420	Product Design Lab	3
	ENT440	The Entrepreneurship Forum 2	3
	ENT470	Leadership and Emerging Issues	3
	ENT480	Full-Throttle Entrepreneurship 1	3
	ENT485	Full-Throttle Entrepreneurship 2	3

ENT for Digital Media – Audio Artist Management Course Requirements – 120 Credits

General Education - 48 Credits			
English 9 credits	ENG100	Composition & Critical Thinking	3
	ENG227	Scriptwriting	3
		or	
	ENG228	Creative Writing	
	ENG310	Classics of Western Drama	3
		or	
	ENG320	Classics of World Drama	
Humanities 18 credits	HUM122	World Music	3
		Or	
	HUM125	Music In Western Cultures	
	HUM127	History Of Music Technology	3
	HUM222	Music In The Recorded Age	3
	HUM200	History of Modern World	3
	HUM361	Contemporary Ethical Issues	3
	HUM400	General Ed Capstone Research	3
Social Science 9 credits	SSC200	U.S. Government	3
	SSC220	Consumer and Market Behavior	3
	SSC332	Global Political Economics	3
Math 6 credits	MATH115	Basic Topics in Mathematics	3
	MATH120	Math For DSP	3
Physical Science 6 credits	SCI200	Gen Science Principles & Trends	3
	SCI220	Foundations Of Musical Acoustics	3
Audio Artist Management Concentration - 72 Credits			
Entrepreneurship 39 credits	ENT110	Building Blocks Of Entrepreneurship	3
	ENT115	Business Self-Defense & Communication	3
	ENT120	You, the Entrepreneur	3
	ENT140	Ideation, Innovation & Creativity	3
	ENT210	Entrepreneurship: Living a Case Study 1	3
		or	
	ENT220	Business Development & Negotiations	
	ENT230	Project Management	3
	ENT250	Entrepreneurial Marketing	3
	ENT260	Financial Management and Accounting	3
	ENT270	Team Building & Collaboration	3
	ENT315	Effective Writing and Presentations	3
	ENT355	Engagement Tools	3
	ENT360	Entrepreneurial Finance	3
	ENT	ENT Upper Division Elective	3
Audio Production 33 credits	DAT110	Desktop Production Fundamentals	3
	DAT109	Web Design For Audio & Video	3
	DAT115	Desktop Audio Production	3
	DAT210	Sound Synthesis and Orchestration	3
	DAT212	Interactive Audio Production	3

	DAT220	Studio Recording 1	3
	DAT320	Studio Recording 2	3
	DAT335	Music Perception and Cognition	3
	DAT324	Studio Recording 3	3
	DAT420	Audio Mastering	3
	DAT485	Portfolio 2	3

ENT for Digital Media –Game Entrepreneurship Course Requirements – 120 Credits

General Education - 45 Credits			
English 9 credits	ENG100	Composition & Critical Thinking	3
	ENG227	Scriptwriting	3
		or	
	ENG228	Creative Writing	
	ENG310	Classics of Western Drama	3
		or	
	ENG320	Classics of World Drama	
Humanities 15 credits	HUM120	Nature & History of Western Art	3
		or	
	HUM130	Modern Art History	
	HUM200	History of Modern World	3
	HUM228	Video Games and Society	3
	HUM361	Contemporary Ethical Issues	3
	HUM400	General Ed Capstone Research	3
Social Science 9 credits	SSC200	U.S. Government	3
	SSC220	Consumer and Market Behavior	3
		or	
	SSC240	Principles Of Microeconomics	
	SSC332	Global Political Economics	3
Mathematics 6 credits	MATH115	Basic Topics in Mathematics	3
	SWE100	Introduction to Scripting	3
Physical Science 6 credits	SCI100	Basic Concepts of Physics	3
		or	
	SCI120	Science of Motion	
		or	
	SCI130	Basic Concepts of Anatomy	
	SCI200	Gen Science Principles & Trends	3
Game Entrepreneurship Concentration -75 Credits			
Entrepreneurship 30 credits	ENT110	Building Blocks Of Entrepreneurship	3
	ENT115	Business Self-Defense & Communication	3
	ENT120	You, the Entrepreneur	3
	ENT140	Ideation, Innovation & Creativity	3
	ENT210	Entrepreneurship: Living a Case Study 1	3
	ENT220	Business Development & Negotiations	3
	ENT230	Project Management	3
	ENT250	Entrepreneurial Marketing	3
	ENT260	Financial Management and Accounting	3
	ENT270	Team Building & Collaboration	3
Game Development 45 credits	DAA100	2D Design	3
	DAA109	Web Design	3
	DAA106	Digital Imaging Concepts	3
	DAA110	Sketching	3
	DAA	Lower Division DAA Elective	3
	DAA225	Introduction To Game Production	3
	DAA235	Game Usability	3
	DAA350	Game Design 1	3
	DAA355	Game Level Design 1	3
	DAA375	Game Design 2	3
	DAA415	Game Level Design 2	3

	DAA430	Game Design 3	3
	DAA475	Game Studio	6
	DAA/SWE/ ENT	Upper Division DAA, SWE, or ENT Elective	3

ENT for Digital Media –Interactive Marketing Course Requirements – 120 Credits

General Education - 45 Credits			
English 9 credits	ENG100	Composition & Critical Thinking	3
	ENG227	Scriptwriting	3
		or	
	ENG228	Creative Writing	
	ENG310	Classics of Western Drama	3
		or	
	ENG320	Classics of World Drama	
Humanities 12 credits	HUM120	Nature & History of Western Art	3
		or	
	HUM130	Modern Art History	
	HUM200	History of Modern World	3
	HUM361	Contemporary Ethical Issues	3
	HUM400	General Ed Capstone Research	3
Social Science 12 credits	SSC200	U.S. Government	3
	SSC220	Consumer and Market Behavior	3
	SSC240	Principles Of Microeconomics	3
	SSC332	Global Political Economics	3
Mathematics 6 credits	MATH115	Basic Topics in Mathematics	3
	MATH290	Business Analytics & Statistics	3
Physical Science 6 credits	SCI100	Basic Concepts of Physics	3
		or	
	SCI120	Science of Motion	
		or	
	SCI130	Basic Concepts of Anatomy	
	SCI200	Gen Science Principles & Trends	3
Interactive Marketing Concentration -75 Credits			
Entrepreneurship 45 credits	ENT110	Building Blocks Of Entrepreneurship	3
	ENT115	Business Self-Defense & Communication	3
	ENT120	You, the Entrepreneur	3
	ENT140	Ideation, Innovation & Creativity	3
	ENT210	Entrepreneurship: Living a Case Study 1	3
	ENT220	Business Development & Negotiations	3
	ENT230	Project Management	3
	ENT250	Entrepreneurial Marketing	3
	ENT260	Financial Management and Accounting	3
	ENT270	Team Building & Collaboration	3
	ENT315	Effective Writing and Presentations	3
	ENT320	Prototyping Design Lab	3
	ENT330	New Venture Creation	3
		or	
	ENT390	Corporate Innovation & Entrepreneurship	
	ENT470	Leadership and Emerging Issues	3
	ENT	Upper Division ENT Elective	3
Interactive Marketing 30 credits	ENT355	Engagement Tools	3
	ENT450	Analytics to Action	3
	ENT570	Analytics, Brands, and Conversations	3
	DAA100	2D Design	3
	DAA109	Web Design	3

	DAT109	Web Design for Audio and Video	3
	DAT110	Desktop Production Fundamentals	3
	DAA	Elective	3
	SWE100	Introduction To Scripting	3
	SWE355	Intro to User Analytics	3

MASTERS OF ARTS IN ENTREPRENEURSHIP AND INNOVATION

The Entrepreneurship and Innovation program (ENT) recognizes that students will need to create their economic destiny, whether that involves forming a new venture, growing an existing venture, or taking on greater responsibilities within a larger organization. The Entrepreneurship program is immersive, hands-on and practice-based. Real-world experience is integral to the program at both the undergraduate and graduate levels, through internships or practicums, student ventures and contacts with successful entrepreneurs drawn from Silicon Valley.

The Master of Arts in Entrepreneurship and Innovation is a one-year, comprehensive program for students to learn the entrepreneurial skills needed to sustain their creative pursuits in the face of the rapid change impacting creative industries. The program provides the core knowledge, skills and conceptual models to create or grow creative ventures within startups as well as larger organizations. It is intensive and experiential—students will learn from creative entrepreneurs and their companies in addition to coursework.

Each student chooses one of 5 areas of specialization: - Technology, Animation, Audio, Games and Interactive Marketing. The program culminates in an intensive practicum that requires students to create or grow a venture by addressing business growth challenges, researching new opportunities, moving the venture to a new level or market; or otherwise developing some aspect of their venture.

MA in Entrepreneurship and Innovation Learning Outcomes

Graduates of the MA in Entrepreneurship will be able to:

1. Communicate effectively, efficiently and compellingly to achieve business goals.
2. Demonstrate teamwork best practices as a leader, peer and subordinate.
3. Expand and leverage professional networks to further a new or existing venture.
4. Demonstrate the ability to solve novel business problems.
5. Iterate financial models and operations systems for a new or existing venture.
6. Apply ideation techniques to multiple aspects of a venture.
7. Formulate a growth plan for multiple stages of a new or existing venture.
8. Grow a new or existing venture through at least one lifecycle stage.

MA in Entrepreneurship and Innovation Course Requirements– 30 Credits

Creative Ventures Core - 18 Credits			
	ENT500	Fundamentals of Creative Ventures (Internal)	3
	ENT505	Fundamentals of Creative Ventures (External)	3
	ENT510	Skills for Creative Ventures (Internal)	3
	ENT515	Skills for Creative Ventures (External)	3
	ENT520	Creative Ventures in Action (Internal)	3
	ENT525	Creative Ventures in Action (External)	3
Specialization - 6 Credits *(choose one area)*			
Technology/ Engineering	ENT530	Technology Venture Finance and Management	3
	ENT533	Technology Product Development	3
Animation	ENT540	Animation Film Marketing	3
	ENT543	Animation & Visual Effects Production Management	3
Audio	ENT550	Audio Production	3
	ENT553	Audio Engineering	3
Games	ENT560	Game Concept to Greenlight	3
	ENT563	Game Preproduction to Release	3
Interactive Marketing	ENT570	Analytics, Brands and Conversations	3
	ENT573	Interactive Campaigns	3
Practicum - 6 Credits			
	ENT590	Creative Ventures Practicum	6

BACHELOR OF SCIENCE IN FIRE SCIENCE

The Fire Science has been offered by Cogswell since 1981. It was designed to give fire service professionals the opportunity to complete a Bachelor of Science degree in Fire Science with a concentration in either Fire Administration or Fire Prevention/Technology through distance learning. Courses are delivered via the online course management system ETUDES-NG. In addition, Cogswell College offers five-day Residency Programs each term at various locations in our three-state territory (California, Nevada and Arizona). In a residency program, students take a concentrated course for full credit in a classroom setting with other students and a faculty member face-to-face. Attendance of residency programs is optional, but highly recommended.

The curriculum in Fire Science covers fire prevention and the administration of fire-protection services, encompassing all areas of incendiary-fire management. Developed in conjunction with the National Fire Academy of the Federal Emergency Management Agency, the curriculum serves fire-service professionals seeking state of-the-art knowledge to support advancement to chief executive management and senior leadership positions. It also serves professional in related fields such as public safety, law enforcement, government, health services, insurance, and private-industry emergency response, as well as those in military fire departments in the United States and abroad.

The curriculum provides an understanding of the interagency coordination necessary for fire prevention, emergency management, safe and successful fire-incident command, and arson investigation. The curriculum includes analytical approaches to fire protection and investigation, personnel management, disaster and fire-defense planning, hazardous materials management, fire-protection structure and system design, the role of the fire service within the community and political structure, and the phenomena of fire propagation

Fire Science Program Goals

To develop a common body of knowledge in fire, life safety and emergency services, the mission of the Fire Science baccalaureate curriculum is to:

1. Prepare graduates for professional fire and allied service positions in government, business and industry
2. Provide an interdisciplinary curriculum with studies in Fire Science, administration and prevention technology leading toward a baccalaureate degree
3. Develop the knowledge, skills and abilities necessary to apply the theories and practices of fire administration and prevention technology effectively

Foster leadership in the preservation of life and property.

Fire Science Student Learning Outcomes

By completion of the Fire Science Program of Study, graduates will:

1. Apply Fire Department administrative principles to career and volunteer fire protection organizations
2. Develop community-based fire prevention strategies for fire protection and emergency management
3. Develop a comprehensive hazardous materials management program from planning to post-incident phases.
4. Demonstrate knowledge of principles involved in structural fire protection systems

5. Analyze the legal implications and aspects of the fire department's role in public safety
6. Conduct research using the scientific method to predict and control fire problems.

Benefits of Online Learning

The minimum requirement for students to participate in an online course is access to a computer, the Internet, and motivation to succeed in a nontraditional classroom.

Online courses provide an excellent method of course delivery unbound by time or location allowing for accessibility to instruction at anytime from anywhere. Adult learners in particular, find the online environment a convenient way to fit education into their busy lives. The ability to access a course from a home computer via the Internet, 24 hours a day, and seven days a week is a tremendous incentive for the FIRE SCIENCE students to reach their academic and career goals.
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Fire Science Certificates

NFA Completion and Achievement Certificates: Because Cogswell College is one of seven consortium schools in the United States sponsored by the National Fire Academy; Fire Science students who meet a certain requirements earn two NFA Certificates, besides a BS in Fire Science.

NFA Certificate of Completion: When a Fire Science student completes successfully a core Fire Science baccalaureate course with a grade C or better and successfully registers with NFA Online, an NFA Certificate of Completion per course completed will be issued to the students.

NFA Certificate of Achievement: When a Fire Science student completes the required 120 credits for a BS in Fire Science with a 3.5 GPA or better and received unconditional faculty recommendations, the graduate is eligible for an NFA certificate of Achievement.

Bachelor of Science in Fire Science Course Requirements

Lower Division Transfer Credits - 60 Credits			
General Education 27 credits		English Composition	3
		Speech Communication	3
		Humanities Electives	9
		Social Science Electives	9
Math/Science 9 credits		College Algebra	3
		Biology/Physical Science	6
Fire Science		Fire Science	27
Upper Division - 60 Credits			
General Education 15 credits	ENG300	Essentials of Written Communication	3
	SSC320	Organizational Leadership	3
	HUM360	Ethics and the Fire Service	3
	SSC400	Topics in International Studies	3
	MA355	Statistics	3
Fire Science 21 credits	FS355	Advanced Fire Administration	3
	FS357	Fire Prevention, Organization, & Management	3
	FS359	Personnel Management for the Fire Service	3
	FS482	Political & Legal Foundations of Fire Protection	3
	FS484	Community Risk Reduction	3
	FS486	Managerial Issues of Hazardous Materials	3
	FS344	Application of Fire Research	3
Business Admin 12 credits	PA300	Public Administration	3
	MGT310	Management	3
	BLW320	Business Law	3
	ACC300	Accounting/Budgeting	3
		Fire Science Core Total	48
Concentrations – 12 Credits *(choose one)*			
Fire Administration			
	FS362	Analytical Approach to PFP	3
	FS440	Disaster and Fire Defense PL	3
	FS474	Fire Pro. Structure & Systems Design	3
	FS494	Senior Project	3
Fire Prevention Technology			
	FS415	Fire Related Human BH	3
	FS442	Fire Dynamics	3
	FS446	Fire Invest & Analysis	3
	FS494	Senior Project	3

Interdisciplinary Degree Program

The Interdisciplinary Degree Program was created to meet the academic needs of students who are enthusiastic about Cogswell College's classes and institutional culture, but do not identify strongly with any particular degree program or specialization. It also exists to support the aspirations of students who want to cross-disciplinary boundaries within their degree program.

Degree Requirements

1. All General Education requirements must be met (45 credits minimum)
2. All course prerequisites must be completed in sequence
3. The Course of study must have a balance and distribution of upper and lower division courses comparable to other degree programs (37 credits maximum for lower division and 30 credits minimum for upper division)
4. The total number of earned/transfer credits must be comparable to other degree programs (120-130 credits)
5. The course of study must culminate in a senior project or portfolio project comparable to other degree programs.

The degree awarded may be either a BS or BA, depending on the preponderance of engineering versus digital arts courses.

Creating an interdisciplinary degree plan requires an advisor. An advisor may be assigned or chosen from any of the regular degree programs. The student and his/her advisor devise an initial program of study at the time of admissions. A detailed program of study must be completed and signed by the Dean of the College by the end of the student's third term. Admission requirements for new students wanting to start in an interdisciplinary degree program are comparable to other degree programs. For more information, please contact the Dean of the College.

Entrepreneurship Minor

15 Credits	ENT110	Building Blocks Of Entrepreneurship	3
	ENT120	You, the Entrepreneur	3
	ENT115	Business Self-Defense & Communication	3
	ENT140	Ideation, Innovation & Creativity	3
	ENT210	Entrepreneurship: Living a Case Study 1	3
	ENT220	Business Development & Negotiations	3
	ENT230	Project Management	3
	ENT250	Entrepreneurial Marketing	3
	ENT260	Financial Management and Accounting	3
	ENT270	Team Building & Collaboration	3

COURSE DESCRIPTIONS

UNDERGRADUATE COURSE DESCRIPTIONS

Engineering – Computer Engineering Courses

CPE334 Digital Signal Processing (3 credits) (3 lecture, 0 lab)
Introduction to digital signal processing, sampling and quantization, A/D and D/A converters, discrete time systems, convolution, z-transforms, transfer functions, digital filter realizations, and fast Fourier transforms. Introduction to filter design and digital audio applications. Prerequisite: ELE270

CPE335 Filter Design (4 credits) (3 lecture, 2 lab)
Design of analog lowpass, bandpass and highpass filters; design of digital FIR and IIR filters; implementation of general purpose digital signal processors. Applications to music, speech, and video. Requires use of MATLAB. Prerequisite: CPE334

CPE370 Microprocessors (3 credits) (2 lecture, 2 lab)
Basic computer organization, microprocessor instruction sets, assembly language, and software and hardware design and interfacing. Software and hardware development, testing, and validation. Prerequisite: SWE 315

CPE380 Advanced Digital Design (3 credits) (2 lecture, 2 lab)
Advanced techniques in the design of digital systems. Hardware description languages, combinatorial and sequential logic synthesis and optimization methods, partitioning, and mapping to regular structures. Emphasis on reconfigurable logic as an implementation medium. Memory system design. Digital communication including serial/parallel and synchronous/asynchronous methods. Prerequisite: CPE370

CPE470 VLSI Systems (3 credits) (2 lecture, 2 lab)
Digital systems and VLSI, Transistors and layout, logic gates, combination logic, networks, sequential machines, subsystem design, chip design, CAD systems and algorithms, survey of VLSI circuit components and design procedures. MOS fabrication, MOS gates, circuit architecture device design, manufacturing and interface techniques. Prerequisite: CPE380

CPE480 Microelectromechanical Systems (3 credits) (2 lecture, 2 lab)
This course is an introduction to MicroElectroMechanical Systems (MEMS) intended for senior students. MEMS promise reliable performance, miniaturization and low-cost production of sensors and actuator systems with broad applications in data storage, biomedical systems, inertial navigation, micromanipulation, optical display and microfluid jet systems. The course covers materials properties, fabrication techniques, packaging, calibration and testing. Prerequisite: ELE321

CPE490 Analysis and Design of Digital Integrated Circuits (3 credits) (2 lecture, 2 lab)
Analysis and design of CMOS digital integrated circuits using DC and transient analysis techniques. Junction diode, MOSFET characteristics; CMOS static inverter analyses; CMOS combinatorial and sequential gates; MOS memory circuits and systems; low-power design, circuit simulation techniques. Prerequisite: ELE366

CPE491 Modeling and Computer Simulation (3 credits) (2 lecture, 2 lab)

Mathematical modeling and computer simulation for predicting the behavior of complex systems. Prerequisites: SWE315

CPE492 Computer Visualization (3 credits) (2 lecture, 2 lab)
Two and tree dimensional geometry and transformations, image synthesis, shading, realism, special effects. Animation techniques, physics-based modeling, real-time animation. Prerequisite: CPE491

Digital Arts and Animation Courses

DAA100 2D Design 1 (3 credits) (2 lecture, 3 lab)
An introduction to the principles of two-dimensional image making with an emphasis on visual communication. Traditional and digital production techniques are covered. Students will learn about the form and function of graphic design various principles of perception and Gestalt theory, and how they relate to graphic design. The course also serves as an introduction to image editing software. Prerequisite: None

DAA105 Color Theory (3 credits) (2 lecture, 3 lab)
Introduction to color theory. Subtractive color principles are addressed through exercises using traditional pigments. Additive color principles are addressed through exercises using image editing software. This class is designed to be taken with or after Digital Imaging Concepts. Prerequisite: DAA100

DAA106 Digital Imaging Concepts (3 credits) (2 lecture, 3 lab)
Explores advanced image processing using the computer. Additive color principles are introduced through exercises using computers and image editing software. Coursework includes image creation, compositing, manipulation, creating backgrounds, textures, patterns, tiling, texture mapping, and matte paintings using image-editing software. Students practice graphics principles by applying them to web, CG, and other art forms. Prerequisite: DAA100, DAA105 (May be taken together)

DAA108 Intro to Photography (3 credits) (2 lecture, 3 lab)
An introduction to traditional photographic image making with the addition of a digital perspective. Students learn the technical issues of photography and learn to control the photographic medium. Studio lighting techniques and working with ambient situational lighting is explored. Students examine various photographic approaches and philosophies to explore how photographic imagery can be used for personal artistic expression. Prerequisite: DAA100

DAA109 Web Design (3 credits) (2 lecture, 3 lab)
Introduces World Wide Web concepts, visual and technical web site design, information management and delivery. Topics include: building content for the web, HTML, preparation of graphics for the web, Cascading Style Sheets (CSS), information architecture, interface design and web development tools. Students practice basic principles of interactivity by learning how to create, publish, and maintain a multi-page interactive web site. Prerequisite: DAA100

DAA110 Sketching (3 credits) (2 lecture, 3 lab)
Introduction to the fundamentals of drawing. Perceptual skills and the use of line, shade, perspective, and composition. Students learn and practice these skills by working independently three hours per week. May be repeated once for credit with recommendation from the instructor. Prerequisite: None

DAA115 Figure Drawing 1 (3 credits) (2 lecture, 3 lab)
Life drawing from unclothed models. Students study proportion, volumes, light and shade, simple anatomy of the human form, and develop a basic understanding of the

figure in motion. Students learn and practice these skills by working independently three hours per week. Prerequisite: DAA110

DAA120 Painting (3 credits) (2 lecture, 3 lab)
The course in painting emphasizes perception development through specific painting exercises to develop an orderly approach and disciplined perception. Students learn about painting materials and their specific uses, and increase their understanding of color theory. May be repeated once for credit with recommendation from the instructor. Prerequisites: DAA105 (May be taken together), DAA110

DAA200 Acting (3 credits) (2 lecture, 3 lab)
Basic concepts of acting for stage, screen and animation. 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: HUM227

DAA207 Creativity and Concept Development (3 credits) (2 lecture, 3 lab)
Class consists of a series of experiential problems that provide a logical explorative format. The problems begin with elements of artistic expression, especially 2D imagery. Further investigation includes written and oral discussions of various field experiences. Prerequisite: HUM120 or HUM130

DAA210 Figure Drawing 2 (3 credits) (2 lecture, 3 lab)
A continuation of Figure Drawing I. Life drawing from unclothed models. Study of proportion, volumes, light and shade, and simple anatomy of the human form. Maybe repeated once for credit with recommendation from the instructor. Prerequisite: DAA115

DAA212 Perspective and Rendering (3 credits) (2 lecture, 3 lab)
In depth study of perspective and the application of light and dark values to geometric forms to convey a sense of form. Students learn to create core shadows and shadow projections to achieve believable grounding in space and they examine the color of shadow and light. Rapid visualization techniques are used to create the desired shape and material finish. Prerequisite: DAA110

DAA220 Video Editing (3 credits) (2 lecture, 3 lab)
Basic concepts of digital video editing, theory and techniques of motion picture editing, post-production methods, media file management, sound editing, titling, and effects. Students are introduced to graphic matching, rhythmic editing, coverage, continuity, and montage editing. Uses video editing software. Prerequisite: DAA100

DAA225 Intro to Game Production (3 credits) (2 lecture, 3 lab)
Introduction to video game development, project production models and team structures. The study of project post-mortems and case studies will introduce principles of ideation, iteration, troubleshooting, risk assessment, adaptation, communication, team management, organization and leadership. Prerequisite: HUM228

DAA230 Intro to Sculpture (3 credits) (2 lecture, 3 lab)
Explores three-dimensional form. Emphasizes concept development, expression, spatial concepts, and comprehension of 3D space. Students learn techniques and tools used to create 3D artworks. Students work in traditional clay media. Prerequisite: DAA115

DAA235 Game Usability (3 credits) (2 lecture, 3 lab)
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: DAA225

DAA240 Introduction to 3D Modeling (3 credits) (2 lecture, 3 lab)
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. Co-requisites: DAA230

DAA 244 Introduction to 3D Animation (3 credits) (2 lecture, 3 lab)
Principles of 3D animation using the latest 3D software applications. Topics include using the user interface, basics of motion, and basic kinematic set-up. Student will learn how to create and manage files in a production pipeline environment. Prerequisite: DAA240

DAA245 Texturing (3 credits) (2 lecture, 3 lab)
This course involves the use of layering color maps on digital surfaces to create specific material shaders. Texture map painting in 2D 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. Prerequisites: DAA106, DAA240

DAA248 Lighting and Layout (3 credits) (2 lecture, 3 lab)
Storytelling and evocation of 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

DAA356 Production Pipelines (3 credits) (2 lecture, 3 lab)
Workflow for efficient production in a multi-person environment. Distributed computing for high-throughput rendering. File and asset management and environment control. Scripting and programing for pipeline implementation and customization. User interfaces, reporting, notification tools for a render farm. Prerequisites: DAA240, SWE100

DAA358 Dynamics (3 credits) (2 lecture, 3 lab)
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. Prerequisites: MATH143, DAA244, SWE100

DAA264 Drawing Animation 1 (3 credits) (2 lecture, 3 lab)
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: DAA115, May be taken with DAA212

DAA265 2D Animation 1 (3 credits) (2 lecture, 3 lab)

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

DAA267 Character Rigging (3 credits) (2 lecture, 3 lab)
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: DAA240

DAA270 Illustration 1 (3 credits) (2 lecture, 3 lab)
This course is designed to present the student with the fundamentals of traditional illustration for professional application. Primarily, traditional painting media are used. The course will cover illustration theory but will emphasize studio practice and skill development. Prerequisite: DAA105, DAA115

DAA310 Storyboarding (3 credits) (2 lecture, 3 lab)
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 and how to utilize these to best get across a theme or storyline. 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: DAA115, DAA212, DAA220

DAA312 Animal Drawing and Motion (3 credits) (2 lecture, 3 lab)
This class takes the basics of core animation and illustration courses and applies them to the practice of drawing animals through zoo trips 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 a 10 to 30 second traditional animation final or illustrated book involving their chosen animal. Prerequisite: DAA115, DAA264, DAA265

DAA320 Digital Painting (3 credits) (2 lecture, 3 lab)
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. May be repeated once for credit. Prerequisite: DAA106

DAA330 Figure Sculpture (3 credits) (2 lecture, 3 lab)
This course is designed to develop the student's understanding of the gestural, constructive and anatomical structures of the figure – applying the knowledge to unique character and figural sculpture in traditional sculpting mediums. May be repeated once with recommendation from instructor. Prerequisite: DAA115, DAA230

DAA335 Portrait Sculpture (3 credits) (2 lecture, 3 lab)

Explores portrait sculpture for character development. Emotive qualities of human expression using plasticine. Students focus on the anatomy of the head and neck as critical to the development of emotionally convincing characters. Prerequisites: DAA115, DAA230

DAA340 Modeling 1: Development of Form (3 credits) (2 lecture, 3 lab)
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. Prerequisites: DAA240

DAA345 Modeling 2: Hard Surface Modeling (3 credits) (2 lecture, 3 lab)
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: CV340 Co-requisite: DAA480M

DAA350 Game Design 1 (3 credits) (2 lecture, 3 lab)
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

DAA355 Game Level Design 1 (3 credits) (2 lecture, 3 lab)
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, DAA350

DAA356 Production Pipelines (3 credits) (2 lecture, 3 lab)
Workflow for efficient production in a multi-person environment. Distributed computing for high-throughput rendering. File and asset management and environment control. Scripting and programing for pipeline implementation and customization. User interfaces, reporting, notification tools for a render farm. Prerequisites: DAA240, SWE171 of higher.

DAA358 Dynamics (3 credits) (2 lecture, 3 lab)
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. Prerequisites: MATH143, DAA244, SWE171 or higher.

DAA360 3D Animation 1 (3 credits) (2 lecture, 3 lab)
Introduction to the principles of animation as applied to 3D computer graphics. Uses provided 3D models to focus on the principles of motion: physics, easing, weight, timing, and blocking using the animation software module. Serves as the base for students interested in studying character/creature animation. Covers a bouncing ball, physical animation of tops, principles of a jump, flour sack, pantomime, basic posing fundamentals and walk cycles. Prerequisite: DAA265, DAA267

DAA364 Drawing Animation 2 (3 credits) (2 lecture, 3 lab)

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

DAA365 3D Animation 2 (3 credits) (2 lecture, 3 lab)
Continuation of 3D Animation 1. Explores the creation of character walks, acting and posing using the animation software module. Introduction to character development, scene blocking, and animating using dialogue tracks, and quadruped walks. Uses provided 3D models for pantomime animation, staging, silhouette, performance, weight and overlap exercises that emphasize character. Prerequisite: DAA360, DAA364. Co-requisite: DAA480A

DAA370 Concept Design (3 credits) (2 lecture, 3 lab)
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. May be repeated once for credit with recommendation from the instructor. Prerequisites: DAA212, DAA270

DAA375 Game Design 2 (3 credits) (2 lecture, 3 lab)
Students will analyze the similarities and differences in analog and digital games. Design of simple digital games. Topics covered: Modern game design, development methodologies, storytelling, rapid prototyping and iteration, reverse engineering, basic troubleshooting, user interface, and artificial intelligence. Prerequisite: DAA350

DAA400 Compositing and Special Effects (3 credits) (2 lecture, 3 lab)
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). teams to create Topics covered: match/moving lighting, blue/green screen compositing, color correction, and motion graphics. The relationship of 'previsualization' to a finished work will also be explored, and how these techniques are affecting the traditional working approach to movie making. Prerequisite: DAA220

DAA410 Storyboarding 2 (3 credits) (2 lecture, 3 lab)
This class is a continuation of DAA310. 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: DAA364

DAA415 Game Level Design 2 (3 credits) (2 lecture, 3 lab)
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: DAA355

DAA430 Game Design 3 (3 credits) (2 lecture, 3 lab)
The creation of rich interactive experiences for wider audiences and social networks. Topics include: player interaction scripting, asset integration, sound, persistence, virality, monetization strategies, and user interface design. Prerequisite: DAA375

DAA440 Modeling 3: Organic Modeling (3 credits) (2 lecture, 3 lab)
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 Co-requisite: DAA485M

DAA442 Advanced Lighting and Layout (3 credits) (2 lecture, 3 lab)
Advanced lighting techniques are mastered to convey storytelling through light. Students apply techniques attained in Lighting and layout to further master 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

DAA460 2D Animation 2 (3 credits) (2 lecture, 3 lab)
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

DAA465 3D Animation 3 (3 credits) (2 lecture, 3 lab)
Continuation of 3D Animation 2 with an emphasis on acting and performance. Advanced scene blocking for dialogue and introduction to facial animation and expression. Focus on refining animation, breaking joints for overlap, subtle movement and settling. Analysis of phonemes for speech and expression in eyes and mouth to maximize expression. Students will produce original animation with the option of using their own models. Prerequisite: DAA365. Co-requisite: DAA485A

DAA470 Illustration 2 (3 credits) (2 lecture, 3 lab)
Students explore personal style in illustration. Course focuses on development of a cohesive body of work. Symbolic and narrative concept development is central. Various traditional media and digital applications will be used. Prerequisite: DAA270, Specialization Status

DAA475 Game Studio (3 credits) (1 lecture, 5 lab)
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: DAA 375, DAA430 or advisor approval.

DAA476 Short Animated Film Production (Project X) (3 credits) (1 lecture, 5 lab)
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. May be repeated once for credit. Prerequisite: Entrance by portfolio. Recommend senior level status.

DAA480A Animation Portfolio 1 (3 credits) (1 lecture, 5 lab)

Students write a project proposal and production schedule as they develop an animated short film that will be completed 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. Co-requisite DAA365.

DAA480E Entertainment Design Portfolio 1 (3 credits) (1 lecture, 5 lab)
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. Co-requisite: DAA470

DAA480M Modeling Portfolio 1 (3 credits) (1 lecture, 5 lab)
Students produce a demo reel to demonstrate an understanding of the concepts of modeling and proficiency in its techniques. Co-requisite: DAA345

DAA485A Animation Portfolio 2 (3 credits) (1 lecture, 5 lab)
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. Co-requisite: DAA465

DAA485E Entertainment Design Portfolio 2 (3 credits) (1 lecture, 5 lab)
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 demonstrates their abilities in Entertainment Design. The portfolio will have a recognizable aesthetic and professional presentation quality. Prerequisite: DAA480E Co-requisite: DAA370

DAA485M Modeling Portfolio 2 (3 credits) (1 lecture, 5 lab)
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 Co-requisite: DAA440

DAA497 Internship (3-5 credits)
Students have the opportunity to work and learn in a “real-world” professional environment while earning credits towards their degree. The average requirement for a 3-credit internship is 10-15 hours per week during the 15-week trimester. Cogswell has several local, national and international placement opportunities available to students. Students interested in pursuing an internship must start the application process the trimester before they intend to work. Prerequisite: Junior Status

DAA498 Special Project (1-6 credits)
Individual or group research and development on a special area of interest in digital arts and animation. Topics are developed in consultation with a faculty advisor. Prerequisite: Permission of the Dean of the College

DAA499 Special Topic (1-4 credits)
Advanced course on a special topic in digital arts and animation. May be used as a technical elective and repeated as topic changes. Prerequisite: Permission of instructor and advisor

Digital Audio Technology Courses

DAT051 Music Fundamentals 1 (1 lecture, 0 lab)
Bridge course to DAT100 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 DAT100.To be offered online or as a in-person intensive.

DAT100 Music Theory 1 (3 credits) (3 lecture, 0 lab)
Thorough exercise in rudiments (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. Prerequisite: Placement exam. Co-requisite: DAT101

DAT101 Comprehensive Musicianship 1 (1 credit) (0 lecture, 3 lab)
Beginning solfege, rhythmic studies and keyboard musicianship.
Prerequisite: Placement exam. Co-requisite: DAT100

DAT105 Music Theory 2 (3 credits) (3 lecture, 0 lab)
Diatonic part writing up through secondary dominants. Cadences and nonharmonic tones. Basic functional theory and simple musical forms. Ear training and aural analysis. Prerequisite: DAT100. Co-requisite: DAT106

DAT106 Comprehensive Musicianship 2 (1 credit) (0 lecture, 3 lab)
Intermediate solfege, rhythmic studies and keyboard musicianship.
Prerequisite: DAT101. Co-requisite: DAT105

DAT109 Web Design for Audio and Video 3 (2 lecture, 3 lab)
Introduction to website design with special emphasis on the streaming of audio and video, and the utilization of social networking to promote artistic work. Rudiments of page layout, user interface, navigation. Introduction to HTML, CSS and Javascript. Streaming content. Using external media presentation capabilities. Media presentation within social networking.
Prerequisite: None. Co-requisite: DAT110

DAT110 Desktop Production Fundamentals (3 credits) (2 lecture, 3 lab)
Introduction to the methods and practices of desktop audio production, video editing and DVD authoring. Topics include setting up work environments, importing audio and video files, editing and processing audio and video assets, and rendering audio and video files to disk. Techniques of professional DVD authoring.

DAT115 Desktop Audio Production (3 credits) (2 lecture, 3 lab)
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

DAT200 Music Theory 3 (3 credits) (3 lecture, 0 lab)
Theory of mainstream music styles. Harmonic, rhythmic, textural and formal analysis and construction. Introduction to acoustic instrument characteristics and score layout.
Prerequisite: DAT105. Co-requisite: DAT201

DAT201 Comprehensive Musicianship 3 (1 credit) (0 lecture, 3 lab)
Intermediate solfege, rhythmic studies and keyboard musicianship. Prerequisite: DAT106. Co-requisite: DAT200

DAT205 Music Theory 4 (3 credits) (3 lecture, 0 lab)
Extension of theory of mainstream styles to introduce scoring and arranging techniques. Chromatic harmony and chord substitution.
Prerequisite: DAT200. Co-requisite: DAT206

DAT206 Comprehensive Musicianship 4 (1 credit) (0 lecture, 3 lab)
Advanced solfege, rhythmic studies and keyboard musicianship.
Prerequisite: DAT201. Co-requisite: DAT205

DAT210 Sound Synthesis and Orchestration (3 credits) (2 lecture, 3 lab)
Introduction to the methods and techniques of waveform synthesis and sampling. Topics include timbre, waveforms and spectra, basic synthesis methods (additive, synthesis, subtractive synthesis, amplitude modulation, and frequency modulation), digital sampling methods and practices, and voicing. This course also introduces digital orchestration concepts, including acoustic instrument ranges and characteristics, acoustic instrument families, virtual ensembles and basic digital orchestration effects.
Prerequisite: DAT115

DAT212 Interactive Audio Production (3 credits) (2 lecture, 3 lab)
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. Prerequisite: DAT210

DAT220 Studio Recording 1 (3 credits) (2 lecture, 3 lab)
Introduction to recording in a studio environment. Basics of tracking, editing and mixing. Signal flow and audio processing with outboard hardware and plug-ins. File management. Microphone selection and placement. Prerequisite: DAT115

DAT228 Audio for Motion Picture (3 credits) (2 lecture, 3 lab)
Theory and practice of motion picture sound. Focus on the aesthetics, theory and techniques of field and studio sound recording for motion pictures. Practice in sync recording, sound effects, narration, Foley, ADR production, multi-track mixing and audio editing for video post-production. Prerequisite: DAT110.

DAT250 Programming Interactive Audio (3 credits) (2 lecture, 3 lab)
Programming audio assets and processes for interactive media. Audio compression decoding, audio file playback, audio event triggering. MIDI and real-time audio services by platform. Implementing adaptive audio techniques. Prerequisite: SWE110

DAT280 Portfolio Preparation (3 credits) (2 lecture, 3 lab)
Supervised audio project that demonstrates the first two years of student achievement in the DAT curriculum. This project will provide a working model for Portfolio I & II.
Prerequisite: DAT200

DAT300 Style and Idea in Music (3 credits) (2 lecture, 3 lab)
Focus on craft of arranging musical ideas to various musical styles. Topics include developing melodic, harmonic, textural and rhythmic patterns typical of different instruments and working in a hybrid acoustic/digital environment. Prerequisites: DAT205 and Upper Division status.

DAT301 Songwriting 3 (2 lecture, 3 lab)
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. Prerequisite: DAT205

DAT305 Game Music: Literature and Analysis (3 credits) (2 lecture, 3 lab)
In-depth evaluation and musical analysis of selected video game scores. Analysis of compositional strategies and the game contexts to which they apply. Evaluation of orchestrational resources and limitations in interactive media. Includes listening lab. Prerequisite: DAT300

DAT310 Digital Orchestration (3 credits) (2 lecture, 3 lab)
Techniques of orchestration applied to a digital music production environment. Examination of traditional orchestrational techniques along with methods specific to digital instruments. Application to both studio music and soundtrack production projects. Prerequisites: DAT280 and Upper Division Status

DAT314 Composition for Soundtracks: Motion Picture (3 credits) (2 lecture, 3 lab)
Application of digital audio production techniques to the creation of soundtracks for motion pictures. Examples drawn from acclaimed traditional soundtrack composers, as well as electronic and digitally orchestrated film scores. Focus on relating musical ideas to setting, character, and/or action. Prerequisite: DAT310

DAT316 Composition for Soundtracks: Videogames (3 credits) (2 lecture, 3 lab)
Applications of digital production environment to creation of soundtracks for videogames. Examples drawn from classic videogame soundtracks. Focus on creating adaptive music that varies interactively according to context. Prerequisite: DAT310

DAT320 Studio Recording 2 (3 credits) (2 lecture, 3 lab)
Intermediate level of tracking, editing, mixing automation and synchronization. In-depth coverage of signal flow, the use of plug-ins, and project management. Prerequisites: DAT220 and Upper Division Status

DAT324 Studio Recording 3 (3 credits) (2 lecture, 3 lab)
Advanced recording and studio production. Students at this level should work on complex projects that demonstrate knowledge and experience in managing a recording session, mixing, working with effects, etc. Prerequisites: DAT320

DAT326 Digital Sound Design (3 credits) (2 lecture, 3 lab)
Application of studio production skills to environmental sounds and sound effects for film and video post-production. Professional audio editing techniques, synchronization and mixing for film and video. Prerequisites: DAT320

DAT330 Principles of Digital Audio (3 credits) (3 lecture, 0 lab)
Survey of digital audio technologies. Topics include disk and tape media and formats, network protocols, basic DSP, error detection and correction, sub-codes, and data compression. Prerequisites: MATH120, Upper Division Status

DAT335 Music Perception and Cognition (3 credits) (3 lecture, 0 lab)
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: SCI220

DAT350 Audio Programming (3 credits) (2 lecture, 3 lab)
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. Prerequisites: MATH120, SWE110, Upper Division Status

DAT355 Game Audio (3 credits) (2 lecture, 3 lab)
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 which successfully applies course concepts. Prerequisite: DAT350

DAT360 Digital Signal Processing (3 credits) (3 lecture, 0 lab)
Introduction to digital signal processing, sampling and quantization, A/D and D/A converters, discrete time systems, convolution, z-transforms, transfer functions, digital filter realizations, and fast Fourier transforms. Introduction to filter design and digital audio applications. Prerequisites: ELE 270, CPE 333

DAT365 Digital Filter Design (4 credits) (3 lecture, 2 lab)
Design of analog lowpass, bandpass and highpass filters; design of digital FIR and IIR filters; implementation of general purpose digital signal processors. Applications to music, speech, and video. Requires use of Matlab. Prerequisite: DAT360

DAT386 Game Studio (3 credits) (1 lecture, 5 lab)
Practical application of game audio design and techniques in a multi-discipline team working on an instructor-led game project. Opportunities to compose a game score, design sound effects, write, record and edit dialogue and manage audio assets. Prerequisite: DAT212

DAT420 Audio Mastering (3 credits) (2 lecture, 3 lab)
Final preparation of a recording for disk manufacture. Advanced use of audio compression and EQ for mastering. Understanding of manufacturing standards for optical media. Includes some treatment of SACD and multi-channel surround mastering. Prerequisites: DAT324 or DAT326

DAT424 Advanced Studio Recording (3 credits) (2 lecture, 3 lab)
Advanced recording, editing, automation and synchronization within a music production environment. Configuration and troubleshooting. Expert mixing concepts. Prerequisite: DAT324

DAT426 Advanced Digital Sound Design (3 credits) (2 lecture, 3 lab)
Advanced recording, editing, automation and synchronization within a film/video postproduction environment. Linear and non-linear conforming. Advanced layoff. Prerequisite: DAT326

DAT440 Computer Music 1 (3 credits) (2 lecture, 3 lab)
Study of the creative and expressive applications of computer technology. The first term will present an overview of the aesthetics and methods of computer music and include the study of landmark computer music compositions. The practical focus of this course will be on the acquisition of the skills specific to computer music in the areas of advanced waveform synthesis, algorithmic music generation, signal processing and techniques of multi-channel audio effects. Prerequisite: DAT324 or DAT326

DAT445 Computer Music 2 (3 credits) (2 lecture, 3 lab)

The second term of the computer music sequence will focus on the creation of one or more original works which demonstrate the unique sonic capabilities of computer audio technology. Practical instruction will introduce the role of pre-compositional planning, creating gestural and timbral models, project organization and global expressive considerations. The course will culminate in a performance of student works. Prerequisite: DAT440

DAT450 Audio Software Development (3 credits) (2 lecture, 3 lab)
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: SWE310

DAT460 Digital Audio Electronics (3 credits) (2 lecture, 3 lab)
Applications of DSP concepts to DSP devices. DSP chip architecture and opcodes. Circular buffers and convolution. Algorithm design and cross-compilation. Digital audio systems architecture and design considerations. Lab experiments taken from real-world applications such as digital filter design, reverberation and special audio effects. Prerequisites: DAT210, ELE350

DAT470 Ensemble (1 credit) (0 lecture, 1.5 lab)
Group ensemble instruction and preparation. Each term's work will culminate in a performance for the Cogswell community. May be repeated for credit. Prerequisite: Permission of instructor

DAT480 Portfolio 1 (3 credits) (1 lecture, 5 lab)
Part I of the senior capstone project. The practical focus will be on project planning and gathering resources. Students will complete their marketing plan and create an artist one-sheet. The lecture part of the course will be on intellectual property as it applies to audio production and distribution. May include applying for a barcode. The course will culminate with a written progress report. Prerequisites: DAT314 or DAT316, DAT324 or DAT326

DAT485 Portfolio 2 (3 credits) (1 lecture, 5 lab)
Part II of the senior capstone project. The practical focus will be production and may include registering intellectual property, packaging finished product and setting up a merchant account support for a website. The lecture part of the course will be music distribution, with special emphasis on web delivery mechanisms. Final delivery of the project will include an oral presentation and a URL to a web-based written presentation. Prerequisites: DAT420, DAT480

DAT486 Game Studio (3 credits) (1 lecture, 5 lab)
Practical application of game audio design and techniques in a multi-discipline team working on an instructor-led game project. Opportunities to compose a game score, design sound effects, write, record and edit dialogue and manage audio assets. Prerequisite: DAT386 or advisor approval. Class may be repeated for credit.

DAT497 Internship (3-5 credits)
Students will have the opportunity to work and learn in a "real-world" professional environment while earning credits towards their degree. The average requirement for a 3-credit internship is 10-15 hours per week during the 16-week semester. Cogswell has local, national and international placement opportunities available to students. Students interested in pursuing an internship must start the application process the semester before they intend to work. Prerequisite: Upper Division status

DAT498 Special Project (1-6 credits)
Individual or group research and development on a special area of interest in digital audio. Topics are developed in consultation with a faculty advisor. Prerequisite: Permission of the Dean of the College

DAT499 Special Topic (1-4 credits)
Advanced course on a special topic in digital audio. May be used as a technical elective and repeated as topic changes. Prerequisite: Permission of advisor.

Engineering – Electrical Engineering Courses

ELE270 Introduction to Circuit Analysis (4 credits) (3 lecture, 3 lab)
Analysis of linear circuits; energy and power considerations; The Venin and Norton equivalent circuits; various network theorems. Applications of Kirchhoff's voltage and current laws. Transients in RL and RC circuits. Students learn basic principles to analyze electronic circuits. Prerequisites: MATH134, SCI245

ELE312 Signals and Systems (3 credits) (3 lecture, 0 lab)
Operational methods, system functions, and the complex frequency domain in a circuit context leading to an input-output characterization of linear time-invariant (LTI) circuit behavior. Lumped continuous-time systems and discrete-time systems. Laplace and Z series and transforms and applications to sampling the filtering. Students are introduced to fundamental tools of signals and systems used to analyze and design electric systems. Prerequisite: ELE270 and MATH245

ELE315 Electrical Circuit Analysis (3 credits) (2 lecture, 2 lab)
Mathematical modeling and analysis of electric circuits in steady and transient states. Circuit analysis in the frequency domain (Laplace transforms, frequency response, Bode plots, Fourier analysis). Building and testing circuits. Prerequisite: MATH 144, Co-requisite MATH310

ELE320 Electronic Devices & Circuits 1 (4 credits) (3 lecture, 3 lab)
Diodes, bipolar junction transistors, field-effect transistors, and operational amplifiers. Characterization of device parameters and design of biasing circuits. Equivalent circuits and models. Analysis and design of small-signal and large-signal amplifiers. Characterization of device parameters and design of biasing circuits to obtain specified operation criteria. The terminal properties of the devices and their models are emphasized, together with physical relations necessary to determine the values and limitations of the parameters of the device. Laboratory experiments include the analysis and design of diode circuits, BJT and FET amplifiers and switching circuits, and operational amplifiers. Students are introduced to the basic electronic devices, including device characteristics, circuit models, limitations, and applications. Prerequisite: ELE270

ELE321 Electronic Devices & Circuits2 (4 credits) (3 lecture, 3 lab)
Analysis and design of small and large signal amplifiers using discrete and integrated components. Frequency response considerations. Analysis and design of amplifiers, comparators, regulators, oscillators, active filters, and other analog circuits including analog-to-digital and digital-to-analog converters. Design and testing of amplifiers and other analog circuits. Students apply basic device design principles to design and evaluate analog circuits. Prerequisite: ELE320

ELE350 Digital Circuits and Systems (4 credits) (3 lecture, 3 lab)
Number systems and number representations; binary codes; Boolean algebra axioms and theorems; logic gates, including the IEEE standard 91-1984 logic symbols; minimization techniques, including algebraic, Karnaugh maps, and Quine-McCluskey; combinatorial logic analysis and synthesis; adders and subtractors; code conversion;

comparators; decoders; encoders; multiplexers; programmable logic devices; analysis and synthesis of synchronous sequential machines; synchronous counters; Moore and Mealy machines. Laboratory experiments use Verilog HDL. Students learn the analysis and synthesis of combinatorial and sequential logic circuits. Prerequisite: ELE321

ELE366 Sequential Logic Design (4 credits) (3 lecture, 3 lab)
Sequential machine classification, including Moore and Mealy machines. Analysis of synchronous sequential machines. Terminal states, strongly-connected machines. Moore-Mealy equivalence. Synthesis of synchronous sequential machines, state assignment techniques, minimization techniques (state equivalence).Performance analysis. Sequence detectors. Linear-select multiplexers, non-liner-select multiplexers. Decoders. PLDs. Microprocessor synchronous sequential machines. Error detection in synchronous sequential machines. Analysis of asynchronous sequential machines. Hazards: static, dynamic, essential, multi-level. Oscillations. Races: noncritical, critical. Synthesis of asynchronous sequential machines: primitive flow table, state equivalence, row merging. Synthesis of pulse-mode asynchronous sequential machines. Converting from iterative combinatorial machines to equivalent sequential machines. Laboratory experiments use Verilog HDL. Students practice combinatorial logic principles to design sequential circuits. Prerequisite: ELE350

ELE370 Computer Architecture (4 credits) (3 lecture, 3 lab)
Organization and architecture of medium and large-scale computer systems. Addressing modes, instruction sets, processor design, microprogramming techniques, input/output subsystem organization, direct memory access, input/output processors, including interrupt structures and priority arbitration techniques, computer arithmetic, memory hierarchies, memory organization, virtual memories, cache memories, and introduction to reduced-instruction-set computer architecture. Students practice sequential logic design techniques to design a 32-bit pipelined reduced-instruction-set computer (RISC) using Verilog HDL. Prerequisites: ELE366, SWE310

ELE497 Internship (3-6 credits)
Students have the opportunity to work and learn in “real-world” professional environment while earning credits towards their degree. The average requirement for a 3-credit internship is 10-15 hours per week during the 15-week trimester. Cogswell has several local, national and international placement opportunities available to students. Students interested in pursuing an internship must start the application process the trimester before they intend to work. Prerequisite: Junior Status

ELE498 Special Project (1-6 credits)
Individual or group investigation, research, or study to pursue a special area of interest. Prerequisite: Permission of Program Coordinator

ELE499 Special Topic (1-3 credits)
Advanced course dealing with special topics in the engineering field. May be used as elective and may be repeated when topic changes. Prerequisites: Permission of instructor and advisor

General Education – English Courses

ENG100 Composition and Critical Thinking (3 credits) (2 lecture, 3 lab)
This course develops written communication and critical thinking skills. It explores techniques and practices of expository and argumentative writing. Students learn to generate ideas for writing based on readings, learn to organize and support their ideas, and learn to apply techniques of revision to produce polished, professional work. Content, format and correct grammatical structures are emphasized. Prerequisites: ENG050 or an appropriate score on the English placement test

ENG210 Cultural Diversity in Literature (3 credits) (3 lecture, 0 lab)
Develops analytical and critical thinking skills through literature, which deals directly with issues of multiculturalism. Students apply the concepts learned in ENG100. Must be taken at Cogswell College. Prerequisites: ENG100 and HUM120, HUM130, HUM122 or HUM125

ENG227 Scriptwriting (3 credits) (3 lecture, 0 lab)
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

ENG228 Creative Writing (3 credits) (3 lecture, 0 lab)
An introduction to techniques for brainstorming and developing story with an emphasis on how these tools are relevant to visual media. Creative writing is used to teach professional methods for developing effective characters, story concepts, plots, and dialogue. Prerequisite: ENG100

ENG300 Essentials of Written Communication (3 credits) (3 lecture, 0 lab)
Intermediate course in expository writing available to students who have completed their lower division writing requirements. Students enrolled in English 300 should have developed sufficient writing and research skills to meet the demands of college level writing. This course provides the additional opportunity for students to review, reassess, and further develop their writing skills. This course does not fulfill the General Education requirements for either Engineering or Digital Arts degrees. Prerequisite: ENG100

ENG310 Classics of Western Drama (3 credits) (3 lecture, 0 lab)
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. Prerequisites: ENG227 or ENG228 and HUM227 or HUM228 or HUM230

ENG320 Classics of World Drama (3 credits) (3 lecture, 0 lab)
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. Prerequisites: ENG227 or ENG228 and HUM227 or HUM228 or HUM230.

ENG498 Special Project (1-3 credits)
Individual or group investigation, research, and study of pre-selected topics. Prerequisites: ENG227 or ENG228, permission of Director of General Education

ENG499 Special Topic (1-3 credits)
Group study of topic selected by instructor. Maybe repeated for credit. Prerequisites: ENG227 or ENG228, permission of Director of General Education

Entrepreneurship and Innovation Courses

ENT110 Building Blocks of Entrepreneurship (3 credits) (3 lecture, 0 lab)
Initial course exploring all aspects of entrepreneurship through a hands-on, interactive exploration of the company building process. Students will look at feasibility, business models, markets, costs, budgets, finance, operations, and channels. Prerequisite: None

ENT115 Business Self-Defense & Communication (3 credits) (3 lecture, 0 lab)
A basic understanding of business frameworks, concerns and numeracy is presented in the context of a comprehensive survey of business communication and media. Essential business risk reduction topics are covered, along with business protocol and etiquette. Techniques for succinct and effective communication are presented and practiced with peer review. Prerequisite: None

ENT120 You, the Entrepreneur (3 credits) (3 lecture, 0 lab)
Concepts of personal development, lifelong learning, team building and leadership are taught utilizing the context of a personal business plan. Students create an on-going self-development plan by completing a personal self-assessment, developing a mental model of who they want to be as an entrepreneur, and creating a team of mentors. Prerequisite: ENG100 or ENT110

ENT140 Ideation, Innovation & Creativity (3 credits) (3 lecture, 0 lab)
Course explores the lateral thinking aspect of entrepreneurship, how new ideas and concepts are created, and different creative processes can be utilized to think outside the box. Students will work in teams to generate new ideas & concepts in a particular space. Prerequisite: ENG100 or ENT110

ENT210 Entrepreneurship: Living a Case Study 1 (3 credits) (3 lecture, 0 lab)
The first of two internships within an entrepreneurial company. Guided by an academic mentor, the student will create learning goals and a map of potential milestones. Students are expected to log a minimum of 150 clock hours for their internships and to provide their mentors with weekly, written updates at weekly or bi-weekly meetings. Prerequisite: ENT120

ENT220 Business Development and Negotiations: (3 credits) (3 lecture, 0 lab)
The basic foundations and processes of partnerships, negotiations and selling—with superiors, subordinates, co-workers, clients, suppliers, and others. Students practice cross-cultural negotiation, dispute resolution, coalition formation and multiparty negotiations, competitive negotiations, and negotiating via information technology. Prerequisite: ENG100 or ENT115

ENT230 Project Management (3 credits) (3 lecture, 0 lab)
Project management is the discipline of planning, organizing, and managing resources to bring about the successful completion of specific project goals and objectives. Project teams will gain practical experience in completing an assigned project by organizing it, assigning tasks, developing a sequence of activities, a timetable and schedule, doing the project and tracking it, and evaluating the results. Prerequisite: ENG100 or ENT115

ENT250 Entrepreneurial Marketing (3 credits) (3 lecture, 0 lab)
Marketing concepts are studied and applied to entrepreneurial companies and new products and services, from initial feasibility and market analysis through customer services. Students will work in groups to create marketing strategies for new products/services. Prerequisite: ENT120

ENT260 Financial Management and Accounting (3 credits) (3 lecture, 0 lab)

Provides an understanding of how to measure, analyze and manage the growing business through the gathering and managing of financial data, financial statements and key return metrics. Key focus is the fundamental methods by which decision are made, both by management and by external capital providers. Prerequisite: ENT120 or MATH115

ENT270 Team Building and Collaboration (3 credits) (3 lecture, 0 lab)
Multiple aspects of team work are studied, with models of entrepreneurial leadership, as the students create and test their own collaboration styles for efficacy. Team building is explored during expanding cycles of business growth, while maintaining an entrepreneurial culture. Prerequisite: ENG100 or ENT110

ENT299 Special Topics (3 credits) (3 lecture, 0 lab)
Group study of topics selected by instructor. May be repeated for credit. Prerequisite: Permission of instructor.

ENT310 Entrepreneurship: Living a Case Study 2 (Internship) (3 credits) (3 lecture, 0 lab)
The second of two internships within an entrepreneurial company. Guided by an academic mentor, the student will create learning goals and a map of potential milestones. Students are expected to log a minimum of 150 clock hours for their internships and to provide their mentors with weekly, written updates at weekly or bi-weekly meetings. Prerequisite: ENT210

ENT315 Effective Writing and Presentation (3 credits) (3 lecture, 0 lab)
The ability both to recognize effective written and oral communication and to communicate effectively in speech or writing are essential to garner the enthusiasm and support of others. Provides practice in presenting oneself, one's company, and one's ideas orally and in writing. Guided practice for group analysis of the effectiveness of the presentations of peers. Prerequisite: ENG227 or ENG228

ENT320 Prototyping Design Lab (3 credits) (3 lecture, 0 lab)
Learn the concepts, tools and tricks of customer-oriented design to iterate initial products, experiences, services and ideas into prototypes and mockups that can be tested. Practice collection of multiple kinds of data from potential users and customers. Final projects will be presented along with prototype evolution and user reactions. Prerequisite: ENT140

ENT330 New Venture Creation (3 credits) (3 lecture, 0 lab)
A hands-on tour of the tools and methods required to craft, test and launch a creative venture. With an emphasis on learning reusable frameworks and developing rapid venture prototypes to reduce experience and business risk, students will advance their concepts to the point of having a validated business model, clear target market and a path to sustainable revenue by the end of the course. Prerequisite: ENT210 and ENT260

ENT340 The Entrepreneurship Forum 1 (3 credits) (3 lecture, 0 lab)
An introduction to forum based learning focused on self-help through shared learning and peer-to-peer support. Participants will walk through the process of creating a personal board of advisors comprised of fellow entrepreneurship students building companies in non-competing industries by a trained moderator. In addition, students are guided through multiple exercises to simulate how forum learning can be useful to business owners by exploring such topics as hiring good employees or expansion. Prerequisite: Upper division status

ENT355 Engagement Tools (3 credits) (3 lecture, 0 lab)

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 engagement and keeping up with the fast-changing social engagement landscape. Students will develop and evaluate an online marketing campaign for themselves or their venture. Prerequisite: ENT250 and SSC220

ENT360 Entrepreneurial Finance (3 credits) (3 lecture, 0 lab)
All facets of entrepreneurial finance, from bootstrapping to venture capital, will be studied, compared and contrasted so that students understand what types of financing are most appropriate at what times. Students will learn about valuation methodologies and harvesting opportunities. Prerequisite: ENT260 and SSC240

ENT370 Creating Your Entrepreneurial Experience (Independent Study) (3 credits) (3 lecture, 0 lab)
Independent study will enable the student to work with their advisor or mentor to fashion a deeper learning experience in a special area of interest, including but not limited to family business, social entrepreneurship or corporate entrepreneurship. The student and mentor will design learning goals and outcomes and a particular course of study, with milestone as well as a defined final project to incorporate and communicate the learning. Prerequisite: ENT210

ENT390 Corporate Innovation & Intrapreneurship (3 credits) (3 lecture, 0 lab)
A detailed exploration of innovation and entrepreneurship as practiced in a growing corporate setting. Course will utilize live-cases of companies in the Silicon Valley to compare and contrast those who utilize core concepts on entrepreneurship and innovation. Prerequisite: ENT140 and ENT270

ENT410 Venture Growth Strategies (3 credits) (3 lecture, 0 lab)
Class 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. Special focus on how the leadership needs shift and change during growth, and why many entrepreneurs have difficulty scaling their business. Prerequisite: ENT330

ENT420 Product Design Lab (3 credits) (3 lecture, 0 lab)
This course utilizes key concepts of design to take ideas and concepts and develop them into a variety of products/services. Key is a customer-oriented design process, using methods such as client observation and crowd-sourcing, to design new products. Prerequisite: ENT320

ENT440 The Entrepreneurship Forum 2 (3 credits) (3 lecture, 0 lab)
Building off the foundation set in ENT340, students continue the forum based learning with the added dimension of learning to become moderators of the forum themselves. Students continue to pull lessons learned from the forum regarding issues facing their business in addition to bring in topics focusing on personal growth of each entrepreneurship student. As each students takes on the role of Forum Chair, they acquire hands on experience in facilitating sessions that emphasize personal responsibility and confidentiality. Prerequisite: ENT340

ENT470 Leadership & Emerging Issues (3 credits) (3 lecture, 0 lab)
Examines key emerging issues related to leadership and opportunity in the rapidly changing global digital world, including the effects of technological change, culture, communications, product life cycles and competition. Prerequisite: ENT270 and SSC332

ENT480 Full-Throttle Entrepreneurship 1 (3 credits) (3 lecture, 0 lab)

The first of two capstone courses enable the complete hands-on and integrated experience of incubating a venture, utilizing all the frameworks and concepts taught in previous courses and learning under the guidance of experienced entrepreneurial mentors. Students will utilize all facets of entrepreneurship, culminating in a written plan and launching of their business. Prerequisite: ENT330

ENT485 Full-Throttle Entrepreneurship 2 (3 credits) (3 lecture, 0 lab)
The second of two capstone courses enable the complete hands-on and integrated experience of incubating a venture, utilizing all the frameworks and concepts taught in previous courses and learning under the guidance of experienced entrepreneurial mentors. Students will utilize all facets of entrepreneurship, culminating in a written plan and launching of their business. Prerequisite: ENT480

Engineering Courses

GEN270 Engineering Project Management (3 credits) (3 lecture, 0 lab)
Approach to project management, project life cycle, project selection and evaluation, organizational concepts in project management, project planning, conflict and negotiation, budgeting and cost estimation, scheduling, resource allocation, monitoring, project control and project termination. The course emphasizes teamwork, case discussions, and student project presentations. Prerequisite: ENG100.

GEN480 Senior Project 1: Planning (3 credits) (1,4)
Design and planning of a major portfolio piece. Covers proposal writing; design specifications, testing and validation; project management; intellectual property; and the impact of technology. Students will demonstrate their ability through multidisciplinary group projects. Written proposals, plans, and public presentations are required. Prerequisites: Senior standing and permission of adviser.

GEN485 Senior Project 2: Execution (3 credits) (1 lecture, 4 lab)
Implementation of the portfolio piece planned out in GEN 480. Working products/prototypes, written project reports, documentation, and public presentations are required. Prerequisites: GEN 480 and permission of adviser. Prerequisite: GEN480

GEN497 Internship (3-6 credits)
Students have the opportunity to work and learn in “real-world” professional environment while earning credits towards their degree. The average requirement for a 3- credit internship is 10-15 hours per week during the 15-week trimester. Cogswell has several local, national and international placement opportunities available to students. Students interested in pursuing an internship must start the application process the semester before they intend to work. Prerequisite: Junior Status

GEN498 Special Project (1-6 credits)
Individual or group research of preselected problems. Maybe used to support senior project. Prerequisite: Permission of Program Coordinator

GEN499 Special Topic (1-3 credits)
Group study of preselected topics to be specified by the instructor. Maybe repeated for credits. Prerequisite: Permission of instructor and advisor

General Education – Humanities Courses

HUM120 The Nature and History of Western Art (3 credits) (3 lecture, 0 lab)
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?"

HUM122 World Music (3 credits) (3 lecture, 0 lab)
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.

HUM125 Music in Western Culture (3 credits) (3 lecture, 0 lab)
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.

HUM127 History of Music Technology (3 credits) (3 lecture, 0 lab)
Survey of innovative technical advances in music from Ancient China and Greece to present. Includes tuning and intonation, notational systems and printing, development of families of musical instruments, mechanical and electric music machines, analog and digital synthesis technology, modern digital audio technology. Prerequisite: HUM122 or HUM125

HUM130 Modern Art History (3 credits) (3 lecture, 0 lab)
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.

HUM200 History of the Modern World (3 credits) (3 lecture, 0 lab)
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

HUM222 Music in the Recorded Age (3 credits) (2 lecture, 3 lab)
Survey of recorded music from 1900 to the present. Emphasis on popular trends and artists in recorded music as well as soundtrack music from film and video games. Includes listening lab. Prerequisite: ENG100 and HUM122 or HUM125

HUM227 Film History (3 credits) (3 lecture, 0 lab)
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

HUM228 Video Games and Society (3 credits) (3 lecture, 0 lab)
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

HUM230 History of Animation (3 credits) (3 lecture, 0 lab)
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

HUM250 Nature of Interactive Audio (3 credits) (2 lecture, 3 lab)
Broadly-based examination of interactive music and sound design in performance, installations and interactive media. Identification of landmark examples, consideration of aesthetic assumptions and understanding of the strengths and limitations of media/platforms. Includes listening lab. Prerequisite: HUM122 or HUM125

HUM 350 World War II in History, Memory and Film (3 credits) 3 (3 lecture, 0 lab)
This course will explore United States participation in World War II by examining significant works of history, memoirs, novels, and films. Students will be introduced to the war at sea, in the air, and on land, and will become familiar with the campaigns in Europe and in the Pacific. Based on this material, students will write critical film reviews and will further hone writing skills by producing an analytical research paper. They will also develop communication skills in group discussions and by making a formal oral presentation. Prerequisite: ENG100

HUM361 Contemporary Ethical Issues (3 credits) (3 lecture, 0 lab)
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. Prerequisites: HUM200 and SSC200 or equivalent.

HUM400 General Education Capstone Research Project (3 credits) (3 lecture, 0 lab)
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 and make an oral presentation. Must be taken at Cogswell Prerequisites: ENG310 or ENG320 and senior status

HUM498 Special Projects (1-3 credits)
Individual or group investigation, research, and study of pre-selected problems. Prerequisites: ENG227 or ENG228, Permission of Director of General Education

HUM499 Special Topics (1-3 credits)
Group study of topic selected by instructor. Maybe repeated for credit. Prerequisites: ENG227 or ENG228, Permission of Director of General Education

General Education – Math Courses

MATH112 College Algebra (3 credits) (3 lecture, 0 lab)
Covers the real and complex numbering systems, equations, inequalities, function theory, polynomial functions, exponential and logarithmic functions.
Prerequisite: Intermediate Algebra or appropriate score on placement test. This course does not fulfill the General Education requirements for either Engineering or Digital Arts degrees. Placement exam.

MATH115 Basic Topics in Mathematics (3 credits) (3 lecture, 0 lab)
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: MATH003 or an appropriate score on the math placement test

MATH 116 Pre-Calculus (4 credits) (4 lecture, 0 lab)
Topics include principles and applications of factoring, rational expression, radicals, solutions and graphs of linear, quadratic equations and inequalities; polynomial, rational, exponential, trigonometric, and logarithmic functions; matrices, determinants, complex numbers. Prerequisite: MATH003 or appropriate score on math placement test

MATH120 Math for DSP (3 credits) (3 lecture, 3 lab)
This course offers a non-calculus approach 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

MATH143 Calculus 1 (4 credits) (4 lecture, 0 lab)
Functions. Limits. Derivatives. Curve sketching. Mean Value Theorem. Trigonometric functions. Related rates. Maximum-minimum problems. Inverse functions. Definite and indefinite integrals. Logarithmic, exponential, and hyperbolic functions. Applications of integration. Simple differential equations. Students are introduced to calculus concepts for science and engineering and to MATLAB software to learn calculus. Prerequisite: MATH116 or an appropriate score on the math placement test

MATH144 Calculus 2 (3 credits) (3 lecture, 0 lab)
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. Powerseries. Separable differential equations. First order linear differential equations. Homogeneous second order linear differential equations with constant coefficients. Students are introduced to calculus concepts for science and engineering and to MATLAB software to learn calculus. Prerequisite: MATH143

MATH240 Applied Probability and Random Processes (3 credits) (3 lecture, 0 lab)
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. Requires use of MATLAB. Prerequisite: MATH134

MATH245 Calculus 3 (3 credits) (3 lecture, 0 lab)
Vectors. Lines. Planes. Quadratic surfaces. Polar. Cylindrical and spherical coordinates. Partial derivatives. Directional derivatives. Gradient. Divergence. Curl. Chain rule. Maximum-minimum problems. Multiple integrals. Parametric surfaces and curves. Students are introduced to calculus concepts for science and engineering and to MATLAB software to learn calculus. Prerequisite: MATH144

MATH310 Engineering Mathematics 1: Discrete Mathematics (3 credits) (3 lecture, 0 lab)
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: MATH134

MATH320 Engineering Mathematics 2: Geometry & Transformations (3 credits) (3 lecture, 0 lab)
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. Prerequisites: MATH310, MATH134

MATH498 Special Project (1-3 credits)
Individual or group investigation, research, or study of preselected problems. Prerequisite: Permission of Director of General Education

MATH499 Special Topic (1-5 credits)
Group study of a preselected topic as specified by the instructor. May be repeated for credit. Prerequisite: Permission of Director of General Education

MATH355 Statistics (3 credits) (3 lecture, 0 lab)
Covers topics in descriptive and inferential statistics, including data collection, condensations, permutations, combinations and probability theory, binomial and normal distributions, confidence limits, hypothesis testing; level of significance, errors, distribution tests, regression and correlation. This course does not fulfill the General Education requirements for either Engineering or Digital Arts degrees. Prerequisite: MATH112.

General Education – Science Courses

SCI100 Basic Concepts of Physics (3 credits) (2 lecture, 2 lab)
Basic principles: motion, gravitation, electricity and magnetism, light, relativity and atomic physics. Students are exposed to the fundamentals of physics. Prerequisite: MATH 115 or higher

SCI110 The Science of Motion: Humans, Animals, Objects (3 credits) (2 lecture, 2 lab)
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. Prerequisite: MATH 115 or higher

SCI130 Basic Concepts of Anatomy and Physiology (3 credits) (2 lecture, 2 lab)
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 systems: 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: MATH 115 or higher

SCI145 College Physics 1 (4 credits) (3 lecture, 2 lab)
Fundamentals of mechanics, fluids, and heat, including vectors, translation and equilibrium, acceleration, projectile motion, Newton's Laws, work, energy, power, impulse, momentum, uniform circular notion, 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

SCI200 General Science: Principles and Trends (3 credits) (2 lecture, 3 lab)
This course introduces the fundamentals of classical and modern physics. Topics include basic principles of mechanics, fluids and thermodynamics, wave motion, sound,

light, electricity and magnetism, and modern physics, including special theory of relativity, quantum mechanics, atomic and nuclear physics. Must be taken at Cogswell College. Prerequisites: SCI100 or SCI110 or SCI130

SCI220 Foundations of Musical Acoustics (3 credits) (2 lecture, 2 lab)
Simple vibrating systems, waves and wave propagation, complex vibrations and resonance, intensity and loudness, frequency and pitch, scales, tuning and temperament, characteristics of acoustic musical instruments, room acoustics. Prerequisite: MATH115 and SCI100

SCI245 College Physics 2 (4 credits) (3 lecture, 2 lab)
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 complement theory. Students are introduced to physics concepts for science and engineering. Prerequisite: SCI145

SCI345 College Physics 3 (4 credits) (3 lecture, 2 lab)
This course introduces the fundamentals of classical and modern physics. Topics include principles of Newtonian mechanics, thermodynamics, electricity and magnetism, and modern physics, including special theory of relativity, quantum mechanics, atomic and nuclear physics, and subatomic particle physics. Prerequisite: SCI245

SCI361 Semiconductor Physics (3 credits) (3 lecture, 0 lab)
Atomic structure and Quantum Physics, the Bohr atom, the Shrödinger equation, physical meaning of the state function, atoms in crystals, energy bands semiconductors, intrinsic and extrinsic semiconductors, Fermi-Dirac statistics, Fermilevels, N-type and P-type semiconductors, carrier concentration and mobility, drift and diffusion, generation and recombination, PN junction, quantitative analysis at equilibrium, reverse bias and forward bias, dynamic hetero junctions, metasemiconductor junction, ohmic contact, Schottky diode, MOSFET structure, band diagrams, minority carrier concentrations, current components, Ebers-Moll model, high injection effects, heterojunction BJT. Prerequisites: MATH134, SCI155

SCI498 Special Project (1-3 credits)
Individual or group investigation, research, study, or surveys of preselected problems. Prerequisite: Permission of Director of General Education

SCI499 Special Topic (1-5 credits)
Group study of pre-selected topic, the title to be specified by the instructor. May be repeated for credit. Prerequisite: Permission of Director of General Education

General Education – Social Science Courses

SSC200 U. S. Government (3 credits) (3 lecture, 0 lab)
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

SSC 220 Consumer & Market Behavior (3 credits) (3 lecture, 0 lab)
Learn the concepts and techniques of service and design thinking. Gain experience with quantitative, qualitative and design tools for user-oriented exploration, innovation and improvement. Includes surveys of consumer psychology around the world, demographics, psychographic, segmentation and behavioral economics. Prerequisite: MATH115

SSC 240 Principles of Microeconomics (3 credits) (3 lecture, 0 lab)
Economics is the study of how people choose under conditions of scarcity. It is comprised of two main fields: microeconomics and macroeconomics. Microeconomics concerns itself with the choices that individuals and firms make in a competitive world characterized by scarcity. Macroeconomics concerns itself with the economy as a whole. This course will focus 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: MATH115

SSC332 Global Political Economics (3 credits) (3 lecture, 0 lab)
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. Prerequisites: HUM200 and SSC200 or equivalent.

SSC498 Special Project (1-3 credits)
Individual or group investigation, research, and study of pre-selected problems. Prerequisites: ENG100, Permission of Department Chair

SSC499 Special Topic (1-3 credits)
Group study of topic selected by instructor. Maybe repeated for credit. Prerequisites: ENG100, Permission of Director of General Education

Engineering – Software Engineering Courses

SWE100 Introduction to Scripting (3 credits) (3 lecture, 0 lab)
This class is a practical introduction to scripting languages. Topics include declarative and imperative knowledge ("what" vs. "how"), problem breakdowns, and examples of declarative and imperative systems of computation. Students will implement several small programming projects in areas chosen by the class. By the end of the course, students will be able to implement their own programming projects, either independently or in collaboration with others. Prerequisite: MATH115 or MATH116 or permission from Program Director

SWE110 C Programming (4 credits) (3 lecture, 2 lab)
Introduction to hardware and software tools. CPU, memory, disks, and files. Program development flow. Introduction to C programming: lexical elements, operators, fundamental data types, flow of controls, functions, recursions, arrays, pointers, strings, bit-wise operators, structures, unions, file manipulation. Students learn structured programming paradigm. Prerequisite: MATH115 or MATH116

SWE212 Java Programming (4 credits) (3 lecture, 3 lab)
Primitive types, strings, classes, objects, methods, references, polymorphisms, inheritance, exception handling. Streams and file I/O. Arrays. Vectors. Applets and HTML. Some fundamental data structures in Java. AWT/Swing programming. Introduction to threaded programming. Students are introduced to the object oriented paradigm. Prerequisite: SWE110

SWE220 UNIX/LINUX Programming Environment (4 credits) (3 lecture, 3 lab)
Structure of UNIX/LINUX file systems. Shell programming. Discuss different shells. Filters. UNIX/LINUX system calls. Documentation Preparation. Standard I/O Library. AWK

programming language. SED editor. Students practice programming in the UNIX/LINUX environment. Prerequisite: SWE110

SWE221 LINUX Programming Environments (3 credits) (2 lecture, 2 lab)
Structure of UNIX/LINUX file systems. Shell programming. Discuss different shells. Filters. UNIX/LINUX system calls. Documentation Preparation. Standard I/O Library. AWK programming language. SED editor. Students practice programming in the UNIX/LINUX environment. Prerequisite: SWE110

SWE310 Data Structures and Algorithms (4 credits) (3 lecture, 3 lab)
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

SWE315 C++ Programming (4 credits) (3 lecture, 2 lab)
Non-object oriented features of C++. Classes. Constructors and destructors. Type Conversions. Friends. Overloading functions and operators. References. Polymorphisms. I/O streams. Multiple Inheritances. Templates. Memory Management. Students practice the object oriented paradigm. Prerequisite: SWE310

SWE320 Operating Systems (3 credits) (3 lecture, 0 lab)
General multitasking operating system. Scheduling Algorithms. Deadlocks. Concurrency problems and solutions. Process management. Thread management. Disk management. Memory management. Virtual memory. File system organization. Security. Students learn how UNIX, LINUX, and Windows operating systems are designed. Students practice data structures in operating system design. Prerequisites: SWE220, SWE310

SWE330 Compiler Design (4 credits) (3 lecture, 3 lab)
Lexical Analysis. Parsing techniques. Semantics analysis. Run time environments. Introduction to code generation and optimization. Students apply discrete mathematical concepts and data structures in compiler theory. Prerequisites: SWE220, SWE310

SWE340 Engineering Project 1 (3credits) (3 lecture, 0 lab)
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: SWE315

SWE351 Computer Architecture (3 credits) (3 lecture, 0 lab)
Introduction to generic computer architecture. The Processing Unit; ALU, CPU. Instruction cycle behavior and sequencer. Microprogrammed control. Main Memory .Memory Management. I/O subsystem, disk controller. A complete simple computer design. Computer Arithmetic Algorithms. Principles of pipelining. Discuss CISC and RISC architectures. Prerequisite: SWE310

SWE352 Embedded Software Systems (3 credits) (2 lecture, 2 lab)
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 languages. Linking C and Assembly Language. Co-requisite: SWE351

SWE360 Database Management Systems (4 credits) (3 lecture, 2 lab)
File Organization. Indexing techniques. Data models. Query Languages. B-trees, B*-trees, B+-trees. Study design and implementation of a relational database. Students apply concepts from data structures and compiler design in database management. Prerequisite: SWE315

SWE372 Scripting Languages (3 credits) (2 lecture, 2 lab)
Fundamentals of Lua, Perl, and Python as scripting languages. Applications of scripting languages in data structures and algorithms, animation and games. Prerequisite: SWE310

SWE422 Foundations of Computer Networks (4 credits) (3 lecture, 2 lab)
Network Communication: Internal Structure, Interfaces, Routing, Buffering and Congestion Control, Sockets. Network Protocols. TCP algorithms. Prerequisites: SWE320, SWE315

SWE443 Software Engineering Project 2 (3 credits) (2 lecture, 2 lab)
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

SWE447 GUI and Graphics Programming (3 credits) (2 lecture, 2 lab)
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 curves. B-splines surfaces 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: SWE315

SWE449 Tools Programming (3 credits) (2 lecture, 2 lab)
Advanced Scripting. Mel Scripting. C++ Plug-in. Prerequisites: SWE315, SWE371. Co-requisite: SWE449

SWE451 Animation Programming (3 credits) (2 lecture, 2 lab)
Sprite Animation. Frame Animation. Theory and Practice of anti-aliasing techniques. Rendering techniques: Shadow algorithms, Texture mapping. Volume rendering. Visualization techniques. Global illumination. Motion control. Students apply computer graphics in animation. Prerequisites: SWE447

SWE472 Artificial Intelligence Game Programming (3 credits) (2 lecture, 2 lab)
The design and implementation of computer games such as chess and checkers. Combinatorial games. Application of AI techniques, concrete mathematics, and animation techniques to games. Prerequisite: SWE310 Co-requisite: SWE450

SWE473 Game Engine 1 (4 credits) (3 lecture, 3 lab)
The design and implementation of game engines. Modifying existing game engines. Design of game engines. Application of computer graphics, AI, and animation techniques to game engines. Prerequisite: SWE450 Co-requisite: SWE472

SWE474 Game Engine 2 (4 credits) (3 lecture, 3 lab)
Implementation part of a game engine. Students apply computer graphics, AI and animation techniques in game engines. Prerequisite: SWE473

GRADUATE COURSE DESCRIPTIONS

Entrepreneurship and Innovation Courses

ENT500 Fundamentals of Creative Ventures (Internal). (3 credits) (3 lecture, 0 lab)
All aspects of financial and operational systems are presented for the launch, management, and growth of a new venture. Material provides an understanding of how to measure, analyze and manage the new venture through key metrics. Financial statements, accounting methods, operational assessments, and personnel performance are topics of focus. Project based learning through close observation of multiple firms in action with emphasis on life cycle implementation. Prerequisite: None

ENT505 Fundamentals of Creative Ventures (External). (3 credits) (3 lecture, 0 lab)
The basic foundations and processes of contracts, business development, intellectual property, and business law. How to enter contracts and evaluate their execution is presented. The tasks and processes necessary for developing the venture beyond its current capabilities, the support and implementation of growth opportunities, and the analytic techniques required to develop the business successfully are presented. Legal structures of the new firm are evaluated including the impact regulations and rules have in such areas as employment law, liabilities, and taxation. Project based learning through close observation of multiple firms in action with emphasis on life cycle implementation. Prerequisite: None

ENT510 Skills for Creative Ventures (Internal). (3 credits) (3 lecture, 0 lab)
Develops the key entrepreneurial skills necessary for creating and managing a new venture. Effective communication, team building, leadership, networking, and goal setting are studied and assessed through applied learning. Feedback through evaluative techniques and instruments are used around each skill to enhance strategies for improvement. Role playing, exercises, presentations, and assessment instruments are used. Prerequisite: None

ENT515 Skills for Creative Ventures (External). (3 credits) (3 lecture, 0 lab)
The basic foundations and processes of effective marketing, selling and negotiation. Examines the full range of marketing strategies for new products and services including such methods as subversive marketing, disruptive marketing, radical marketing, guerrilla marketing, viral marketing, and expeditionary marketing. Students practice cross-cultural negotiation, dispute resolution, coalition formation and multiparty negotiations, competitive negotiations, and negotiating via information technology. Uses cases, role-plays, and simulations for hands-on practice to develop skills in dealing with real situations. Prerequisite: None

ENT520 Creative Ventures in Action (Internal). (3 credits) (3 lecture, 0 lab)
Topics and exercises around creativity, innovation, business modeling and project management are presented. Techniques to enhance creativity and innovation are applied to situations to evaluate market potential. Consideration of multiple business models is covered based on revenue goals and market potential. Applications of project management techniques are presented with students developing specific tasks, sequence of activities, a timetable, and establishing results. Project management will be used for commercialization of products, marketing plans, launch of a new venture, and to compliment strategies for business development. Prerequisites: ENT510, ENT515, ENT520, ENT525

ENT525 Creative Ventures in Action (External). (3 credits) (3 lecture, 0 lab)

Techniques and methods for commercializing products, identifying and capturing opportunity, recruiting and developing advisory boards and boards of directors, and the art of pitching for early stage funding are presented. Identifies how to develop a path for commercialization and evaluate the resources needed for its successful execution. Different ways to position the product with the market opportunity is provided. Successful recruitment for boards and their engagement is evaluated. Successful techniques for preparing and presenting a pitch to capture early stage funding is practiced. Prerequisites: ENT510, ENT515, ENT520, ENT525

ENT590 Creative Ventures Practicum (6 credits) (6 lecture, 0 lab)
The practicum is the Masters program capstone project. With mentoring, students will address a business challenge; research a new direction or a new opportunity; move to a new level or to a different market; or apply the knowledge and skills they have learned otherwise to develop or improve some aspect of their venture. Practicums are a minimum of 6 weeks full-time, or equivalent, including preparatory work. Success in the practicum is determined by the ability to delivery on the goal, or, if not successful, to demonstrate that they understand why on a deep level. Prerequisites: ENT530, ENT535

ENT530 Technology Venture Finance and Management (3 credits) (3 lecture, 0 lab)
Activities and resource gathering for the venture launches are studied, including team formation, bootstrapping and financial backing. Financial concerns throughout venture growth cycles are a focus, along with fundamental methods by which decision are made. Provides methodologies to measure, analyze and manage the growing business, as well as techniques for working with advisory boards and Boards of Directors. Prerequisites: Permission of Instructor and Program Director.

ENT533 Technology Product Development (3 credits) (3 lecture, 0 lab)
Brings together best practices for creating a technology-based venture from the ground up, including lean start-ups, design thinking and user-centered innovation. Progresses from technology development or acquisition through market assessment, business model development, venture funding and preparing to launch. Prerequisites: Permission of Instructor and Program Director.

ENT540 Animation Film Marketing (3 credits) (3 lecture, 0 lab)
Students get hands-on experience in marketing a product from Cogswell's animation production studio. Activities include creating marketing plans and executing on them via, for example, film festivals, television, and Internet media marketing, as well as designing marketing collateral. May involve some travel. Prerequisites: Permission of Instructor and Program Director.

ENT543 Animation and Visual Effects Production Management (3 credits) (3 lecture, 0 lab) This class focuses on management and production of an animated short or short film featuring VFX (Visual Effects). Students get hands-on experience, learning the approaches, tools and techniques to run a professional-quality production. Topics include creating and tracking milestones; SCRUM management methodology and the team dynamics of complex creative ventures. Prerequisites: Permission of Instructor and Program Director.

ENT550 Audio Production (3 credits) (3 lecture, 0 lab)
Graduate-level project in audio content production. May be a soundtrack for a film or video game, or a standalone music or sound design project with potential for distribution. Individual and team projects with critique by audio faculty and guest audio professionals. Requires an initial proposal, a plan, documentation of the implementation

steps and a final written report with oral presentation. Prerequisites: Permission of Instructor and Program Director.

ENT553 Audio Engineering (3 credits) (3 lecture, 0 lab)
Graduate-level project in audio engineering. Typical projects include the design and constructions of audio device, software or subsystems for interactive media. Individual and team projects with critique by audio faculty and guest audio engineering professionals. Emphasis on audio products that are ready for distribution. Requires an initial proposal, a plan, documentation of the implementation steps and a final written report with oral presentation. Prerequisites: Permission of Instructor and Program Director.

ENT560 Game Development: Concept to Greenlight (3 credits) (3 lecture, 0 lab)
In teams, students create, evaluate and iterate game concepts using various techniques such as proofs of concept, prototypes and vertical slices, in interactive and non-interactive ways. Promising concepts will be further developed into interactive demonstrations with corresponding business models. Teams will pitch their games and produce pitch materials, along with design documentation and game specifications. Prerequisites: Permission of Instructor and Program Director.

ENT563 Game Development: Preproduction to Proof-of-Concept (3 credits) (3 lecture, 0 lab)
This class focuses on how to take an existing game concept from preproduction to commercial launch. Topics include marketing, funding, personnel recruitment, budgeting, project planning and scheduling. Students create and prepare to execute on plans that address key concerns such as team communication processes, source control, task management, schedules and asset pipelines. Prerequisites: Permission of Instructor and Program Director.

Interactive Marketing

ENT570 Analytics, Brands and Conversations (3 credits) (3 lecture, 0 lab)
Students will study social engagement models, social value creation and social metrics for not-for-profits, government agencies and social enterprises as well as commercial enterprises. Topics include how content and conversations are shifting between new and old media; social gaming and gamification; and new ways of measuring campaign impact. Students will ideate engagement models and create metrics for an enterprise of their choosing. Prerequisites: Permission of Instructor and Program Director.

ENT573 Interactive Campaigns (3 credits) (3 lecture, 0 lab)
This class will focus on effective communication for a wide range of stakeholders. Pitch, produce, and promote a campaign in a rapid cadence for a local client, from organizational need analysis through segmentation, channel selection, campaign design, narrative development, deployment, and outcome measurement. Prerequisites: Permission of Instructor and Program Director.

FIRE SCIENCE COURSE DESCRIPTIONS

ACC300 Accounting/Budgeting (3 credits) (3 lecture, 0 lab)
Introduces the basic principles of management accounting including manufacturing and cost accounting, budgeting, accounting for management decision-making, and financial statement analysis.

BLW320 Business Law (3 credits) (3 lecture, 0 lab)

Presents an integrated approach to the legal environment of business with a fresh up to date introduction to those aspects of our legal system which cut across all areas of law, establishing a vital foundation for understanding the substantive subjects such as the American system of jurisprudence, constitutional law, the dual court system, administrative agencies, consumer protection, environmental law, Uniform Commercial Code, torts and crimes and a thorough understanding of the Law of Contracts. Prerequisite: ENG300

EN300 Essentials of Written Communication (3 credits) (3 lecture, 0 lab)
Is an intermediate course in expository writing available to students who have completed their lower division writing requirements. Students enrolled in English 300 should have developed sufficient writing and research skills to meet the demands of college level writing. This course provides the additional opportunity for students to review, reassess, and further develop their writing skills. Prerequisite: ENG 100. This course does not fulfill the General Education requirements for other degree programs.

FS362 Analytic Approaches to Public Fire Protection (3 credits) (3 lecture, 0 lab)
Examines tools and techniques of rational decision-making in fire departments, including databases, statistics, probability, decision analysis, utility modeling, resource allocation, cost-benefit analysis, and linear programming. Prerequisites: FS355, FS359, Statistics highly recommended

FS344 Applications of Fire Research (3 credits) (3 lecture, 0 lab)
Examines the rationale for conducting fire research, various fire protection research activities, and research applications, including fire test standards and codes, structural fire safety, automatic detection and suppression, life safety, and firefighter health and safety. Prerequisite: SSC320

FS355 Advanced Fire Administration (3 credits) (3 lecture, 0 lab)
Examines organization and management in the fire service, including new technologies, changing organizational structures, personnel and equipment, municipal fire protection planning, manpower and training, and financial management. Prerequisite: ENG300

FS357 Fire Prevention Organization and Management (3 credits) (3 lecture, 0 lab)
Examines the factors that shape fire risk and the tools for fire prevention, including risk reduction education, codes and standards, inspection and plans review, fire investigation, research, master planning, various types of influences, and strategies. Prerequisite: ENG300

FS359 Personnel Management for the Fire Service (3 credits) (3 lecture, 0 lab)
Examines relationships and issues in personnel administration and human resource development within the context of fire-related organizations, including personnel management, organizational development, productivity, recruitment and selection, performance management systems, discipline, and collective bargaining. Prerequisite: ENG300

FS415 Fire Related Human Behavior (3 credits) (3 lecture, 0 lab)
Examines human aspects of the fire problem, including research and analysis of the problem and related issues in residential properties, wild land fires, assisted living/group home situations, commercial/industrial settings and multi-use high-rise buildings. Prerequisite: ENG 300

FS440 Disaster and Fire Defense Planning (3 credits) (3 lecture, 0 lab)
Examines the concepts and principles of community risk assessment, planning, and response to fires and natural disasters, including the Incident Command System (ICS),

mutual aid and automatic response, training and preparedness, communications, civil disturbances, natural disasters, hazardous materials planning, mass casualty disasters, earthquake preparedness, and disaster recovery.

FS442 Fire Dynamics (3 credits) (3 lecture, 0 lab)
Examines fire dynamics within the context of firefighting and its applications to fire situations, including combustion, flame spread, flashover, and smoke movement, as well as applications to building codes, large-loss fires, and fire modeling.

FS446 Fire Investigation and Analysis (3 credits) (3 lecture, 0 lab)
Examines technical, investigative, legal, and managerial approaches to the arson problem, including principles of incendiary fire analysis and detection, environmental and psychological factors of arson, gang-related arson, legal considerations and trial preparations, managing the fire investigation unit, intervention and mitigation strategies, and shaping the future.

FS474 Fire Protection Structure and Systems Design (3 credits) (3 lecture, 0 lab)
Examines design principles involved in structural fire protection and automatic suppression systems, including fire resistance and endurance, flame spread evaluation, smoke control, alarm systems, sprinkler innovations, evaluation of sprinkler system designs, and specialized suppression systems. Prerequisite: ENG300

FS482 Political and Legal Foundations of Fire Protection (3 credits) (3 lecture, 0 lab)
Examines the legal, political and social aspects of the government's role in public safety, including the American legal system, liability, negligence, code enforcement, and public sector personnel issues. Prerequisite: ENG300

FS484 Community Risk Reduction (3 credits) (3 lecture, 0 lab)
Examines concepts of community sociology, the role of fire-related organizations within the community, and their impact on the local fire problem, including fire service relationships within the community and other agencies, developing a community inventory, shaping community policy, master planning, and shaping community perceptions about the local fire service. Prerequisite: ENG300

FS486 Managerial Issues in Hazardous Materials (3 credits) (3 lecture, 0 lab)
Examines regulatory issues, hazard analysis; multi-agency contingency planning; response personnel; multi-agency response resources; agency policies, procedures and implementation; public education and emergency information systems; health and safety; command post dynamics; strategic and tactical considerations; recovery and termination procedures; and program evaluation. Prerequisite: ENG 300

FS494 Senior Project (3 credits) (3 lecture, 0 lab)
Requires a formal, written paper that presents a project the student has handled at his/her place of employment. Prerequisites: SSC320, and completion core and concentration Fire Science courses

HUM360 Applied Ethics & the Fire Service (3 credits) (3 lecture, 0 lab)
Helps students develop a critical, analytic, and constructive perspective regarding the ethical issues, which arise in contemporary world and in the fire and emergency services. For this purpose, the course draws on philosophical, psychological, and religious resources and insights as important conceptual tools. First, major competing contemporary approaches to ethical theory including psychological perspective on moral development are discussed. The course covers ethical theories such as Utilitarianism, Deontology, and Virtue Ethics and problems such as relativism. In addition to these, several issues related to ethics in our modern world will be examined. Prerequisite: ENG

300. This course does not fulfill the General Education requirements for other degree programs.

MATH112 College Algebra (3 credits) (3 lecture, 0 lab)
Covers the real and complex numbering systems, equations, inequalities, function theory, polynomial functions, exponential and logarithmic function. Prerequisite: Intermediate Algebra or appropriate score on placement test. This course does not fulfill the General Education requirements for other degree programs.

MA355 Statistics (3 credits) (3 lecture, 0 lab)
Covers topics in descriptive and inferential statistics, including data collection, condensations, permutations, combinations and probability theory, binomial and normal distributions, confidence limits, hypothesis testing; level of significance, errors, distribution tests, regression and correlation. Prerequisite: MATH112. This course does not fulfill the General Education requirements for other degree programs.

MGT310 Management (3 credits) (3 lecture, 0 lab)
Examines the different ways to manage organizational change and meet the rapid pace of change in the business environment. Cases and current research inform class discussions of different types of restructuring. Topics may include creating learning organizations, designing for innovation, managing growth and downsizing, and building sustainable organizations. Prerequisite: ENG300

PA300 Public Administration (3 credits) (3 lecture, 0 lab)
Provides a broad understanding of basic concepts and principles of public administration, including role, structure, and functions of public agencies and how they operate. Prerequisite: ENG300

SSC320 Organizational Leadership (3 credits) (3 lecture, 0 lab)
This course concentrates on understanding the challenges faced by today's leaders. Participants compare and contrast management and leadership and discover a natural approach to the leadership style that works for them while at the same time exploring techniques to develop leadership skills in others. The focus of the course is to bridge the distance between leadership theory and management practice. Students will leave the course with a clearer and stronger understanding of their own leadership style and gain an appreciation for seeing its potential in others. Prerequisite: ENG 300

SSC400 Topics in International Studies: GPE (3 credits) (3 lecture, 0 lab)
Provides students with an introduction to the issues, history, perspectives, and analytical methods in the field of Global Political Economy (GPE). The course tries to create a conceptual landscape of the global political economy, to grasp some big trends and processes and movements related to it. This is a “big picture” course that serves as an introduction to the fields of International Economics and Political Science. Prerequisite: ENG 300. This course does not fulfill the General Education requirements for other degree programs.