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President's Welcome

On behalf of all the faculty and staff, welcome to Cogswell College. Like you, I am new to Cogswell, having arrived only as of May 1, 2004. I have come to Cogswell for reasons that center on students, faculty and the unusual opportunities they have to work and learn here.

This is a place where creativity thrives, where art and engineering come together. But it is not simply a college that allows one to pursue an artistic vision or a technological future. Rather, this is an institution that helps prepare you for professional careers in a range of dynamic, rapidly evolving fields. Here you work with faculty members who are leaders in their areas of expertise, who understand and contribute directly to the development of the technology, arts, communication, and information industries that are one of the hallmarks of our increasingly interconnected world. Some are full-time at the College, while others are practicing professionals in their fields of expertise. Together, they provide the best possible mixture of theory and practice for you to build your future.

And you don't just take classes from these individuals. Instead, because of the College's small size and the faculty's commitment, you work and learn in a very personalized academic setting. You and your equally creative fellow students will learn from each other, as well as from the professors. This is the essence of collegiate professional education. Indeed, the entire staff of Cogswell College is committed to providing you with the best possible environment for doing so.

Finally, I remind you that this catalog and the programs and courses it describes are but a framework for your education. You also have considerable freedom in academic programs, which are designed to provide the professional base you need, while being able to be tailored to your particular interests. These programs – described in detail in this catalogue – give you the tools, exposure, and perspectives for your educational and professional success.

I came to Cogswell because it provides the exciting, focused, professional academic experiences noted above. It is a wonderful school in an extraordinary geographic and professional setting. Its programs are first-rate and its students have gone on to superb careers in all manner of settings. But, at the core, this is an institution dedicated to individuals, especially students. And as someone with extensive experience in higher education, I know the importance of concentrating on the students. This is what is done here.

I look forward to meeting you and to being a part of preparing you for the great things you have before you.

Sincerely,

Dr. Chester D. Haskell

MISSION STATEMENT

Strategically located in Silicon Valley and with over one hundred years of academic history, Cogswell provides accredited higher education that empowers students to innovate through the integration of art and engineering.

The College

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)

ACADEMIC AFFILIATIONS

The College is an institutional member of the Association of Independent California Colleges and Universities.

The College is approved for veterans' training and cooperates with the State of California Department of Vocational Rehabilitation.

DEGREES

Bachelor of Arts in Digital Art and Animation
Bachelor of Arts in Digital Motion Picture
Bachelor of Science in Digital Arts Engineering
Bachelor of Science in Digital Audio Technology
Bachelor of Science in Electrical Engineering
Bachelor of Science in Software Engineering
Bachelor of Science in Fire Science

CERTIFICATES

Fire Science (National Fire Academy)

ACADEMIC YEAR

Trimester System

Directors and Administration

Board of Directors

Timothy K. Garfield, Chair

Joe Boeddeker, Vice Chair

Michel Anderson **Kevin Hughes**

Douglas P. Crane **Yvonne W. Larsen**

Ralph Boy

Administration

Foundation for Educational Achievement

Dr. William Pickens, Chancellor of the College System of the Foundation for Educational Achievement*

Cogswell Polytechnical College

Dr. Chester D. Haskell, President

Dr. Gabriella Sechi, Academic Dean/Vice President for Academic Affairs

Rejino Castaneda, Vice President Finance and Administration

Guillermo Gaeta, Director of Financial Aid

Patricia Del Rio, Director of Admissions

Barb Bloom, Director of Student Services

Lisa Willett, Registrar

Academic Departments

Digital Arts
Acting Chair: **Howard Lieberman**

Engineering (Electrical, Software and Digital Arts)
Chair: **Vinh Phat**

General Education
Chair: **Sharon Burbano**

Library
Librarian: **Bruce Dahms**

Fire Science & Fire Administration
Director: **Linda Nanfria**

* Cogswell Polytechnical College is affiliated with the Foundation for Educational Achievement, a non-profit entity, located in San Diego, CA.

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 emigrated to America in 1635 from England. Dr. Cogswell cherished his family crest and motto, "Nec Sperno Nec Timeo," 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. One year later, in 1846, he married Caroline E. Richards, daughter of Ruel Richards, a manufacturer in Providence.

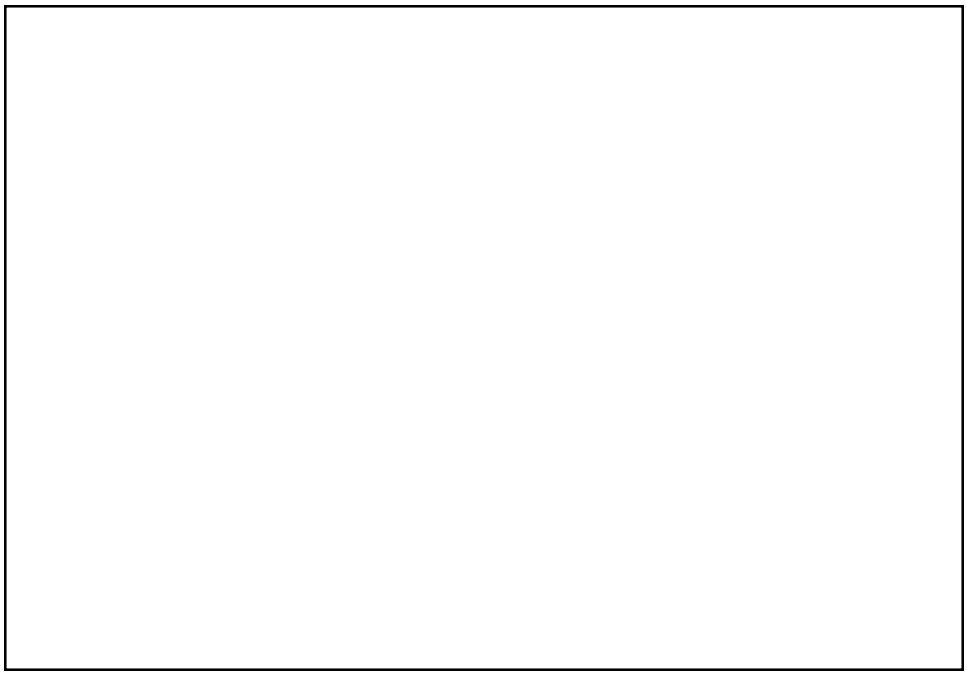
When gold was discovered in California, Dr. Cogswell followed the pioneering urge he inherited from his ancestors. He left for California by sea and after 152 days aboard the clipper ship "Susan G. Owens", landed in San Francisco on October 12, 1849. Rather than enter the rugged and uncertain business 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.

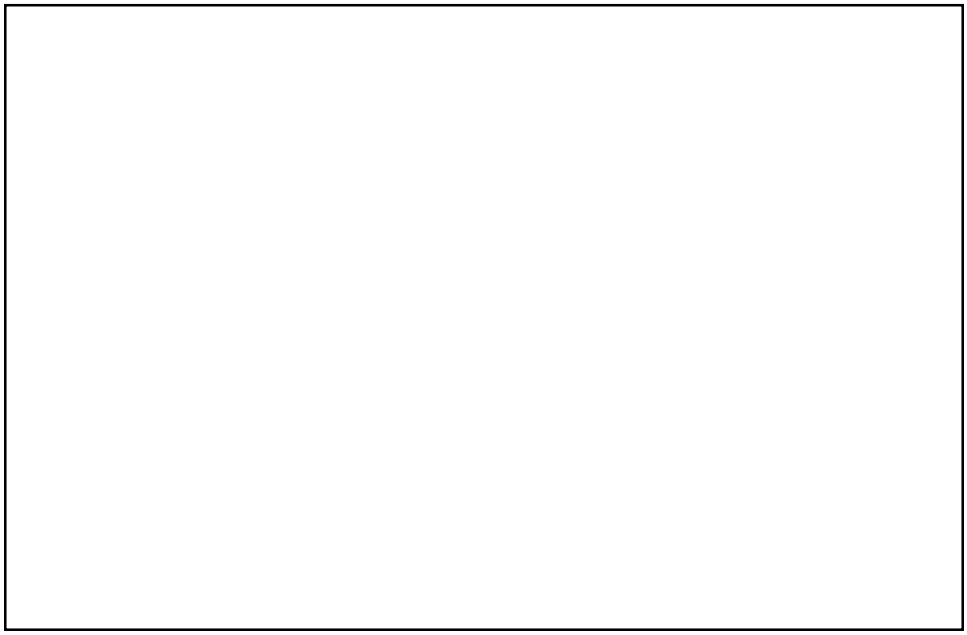
On March 19, 1887, Dr. and Mrs. Cogswell executed a trust deed setting apart real property (valued at approximately one million dollars) to establish and endow Cogswell Polytechnical College. It was, as far as is known, the first school of its kind west of the Mississippi River.

The purpose of the College as a 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 true now as it was at that time. He spoke, in part, as follows:

> *"Educated working men and women are necessary to solve the great labor problems that will arise in the future. For the purpose of this education, there is room and need for technical schools in all quarters of our country.*
>
> *For the purpose, then, of providing boys and girls of the state a thorough training in mechanical arts and other industries, we have made the grant, as set forth in these papers, providing for the founding and maintaining of Cogswell Polytechnical College."*



"Cogswell College 1915"



"Class of 1915"

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. Cogswell College now offers a Bachelor of Science in Fire Science, a Bachelor of Science in Electrical Engineering, a Bachelor of Science in Software Engineering, a Bachelor of Science in Digital Arts Engineering, a Bachelor of Arts in Digital Art and Animation, a Bachelor of Art in Digital Motion Picture, and a Bachelor of Science in Digital Audio Technology.

Cogswell College was singled out and originally written into the California State Constitution, along with the Huntington Library, Lick School (Lick-Wilmerding), the Mechanics Institute (Library), and Stanford University, as a tax-exempt institution. Cogswell College's contribution to the community justified this honor. That contribution marks Cogswell College as a continuing and vital institution in California as well as the nation.

The Campus

The College has inhabited five campuses during its history. The first building, located in the Mission District in San Francisco, was occupied in 1888. When the 1906 earthquake partially destroyed the campus, a new building was built across the street at Army and Folsom Streets which was occupied in 1917. In 1974, the College purchased and moved to a location at Stockton and California Streets. In 1985, the College moved to Cupertino, where it remained until 1994. The College purchased its present Sunnyvale campus in 1993.

Degree Programs

Cogswell College degree programs are designed to empower students with the knowledge of fundamental principles and methods used in advanced technical/ professional environments. The programs emphasize personalized learning with extensive practical laboratory work. Class size ranges from 10 to 20 students for lecture and laboratory sessions.

Each program is designed to be completed in 8 trimesters (trimesters are 15 weeks long). Trimesters start in September, January, and May. Students may choose to enroll in three trimesters per year or two trimesters per year, **but must enroll in at least one of three consecutive trimesters to remain in active academic status.**

Accreditations and Affiliations

Cogswell College is accredited by the Accrediting Commission for Senior Colleges and Universities of the Western Association of Schools and Colleges (WASC). WASC is an institutional accrediting body recognized by the Council for Higher Education Accreditation (CHEA) (http://www.chea.org) and the U.S. Department of Education (DOE).

Admissions

Cogswell College operates on a rolling admissions basis. We continuously accept and review completed applications, rendering admission decisions to students throughout the admission cycle. Priority deadlines facilitate timely admission and increase financial aid, scholarship, and housing opportunities. We strongly recommend that high school seniors applying for the fall term submit their completed application by March 15th.

Priority Deadlines by Term:

Spring: November 1st Fall: June 1st Summer: March 1st

Admission Requirements and Procedures

Admission decisions are based on a careful evaluation of the applicant's academic record, written application, essay, recommendation, and portfolio (Digital Arts). Although applications for admission are accepted at any time, the deadline is 12 weeks prior to the beginning of the trimester for which the student is applying. Admitted students may begin either full-time or part-time study during the fall, spring, or summer trimesters. Prospective applicants interested in learning more about Cogswell College are invited to visit the campus. Information regarding programs is available from the Admissions office.

Admissions Office
Cogswell Polytechnical College
1175 Bordeaux Drive
Sunnyvale, California 94089
408-541-0100
1-800-COGSWLL (800-264-7955)
www.cogswell.edu

Freshman Admission Requirements

Freshman Requirements for Engineering majors:

1. Satisfactory completion of:
   - three years of mathematics to include algebra, geometry, and trigonometry
   - one year of a lab science
   - three years of English to include composition and literature
2. High School GPA of 2.7
3. Placement tests in mathematics and English prior to enrolling in classes.

Freshman Requirements for all other majors:

1. Satisfactory completion of:
   - two years of mathematics, including algebra and geometry
   - one year of a lab science
   - three years of English to include composition and literature
2. High School GPA of 2.7
3. Placement tests in mathematics and English prior to enrolling in classes
4. A portfolio of artwork. See page 13 for details.

Students who do not satisfy the regular entrance requirements may be considered for admission by exception. Consideration will be based upon the student's academic record, personal interview, portfolio (where applicable) and a recommendation by the Department Chair.

Application Procedures

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

1. A completed application form
2. A non-refundable $50 application fee
3. A typed essay
4. A completed recommendation form
5. An official high school transcript; or if not a high school graduate, an official copy of scores of the General Educational Development (GED) test.
6. A portfolio (if applicable)

Early Admissions

High school students may apply for admission after completion of their junior year. Preliminary acceptance will be given to high school students during their senior year. An up-to-date transcript and a final term work-in-progress report must be sent to the College. Final acceptance is contingent upon receipt of an official transcript including graduation and satisfactory completion of final term courses.

College Level Examination Program (CLEP)

7
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. A maximum of 18 Cogswell credits may be fulfilled with CLEP and/or DANTES, and/or Cogswell challenge examinations. See page 25 for information on Cogswell challenge examinations.

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 three 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:

Art
Studio Art (CV125 Sketching - 3 credits (with acceptable portfolio))
History of Art (HU120 The Nature and History of Western Art - 3 credits)

Computer Science
Computer Science A/AB will be considered on an individual basis

Economics
Microeconomics/Macroeconomics (either one for SS130 Intro to Economics - 3 credits)

English
Language and Composition (EN100 Composition and Critical Thinking - 3 credits)
Literature and Composition (EN100 Composition and Critical Thinking - 3 credits as an elective)

Government and Politics
United States (SS100 U.S. Government - 3 credits)
Comparative Governments (SS elective)

History
U.S. History (HU170 U.S. History - 3 credits)
European History (HU elective)

Music
Music Listening and Literature (MU elective)

Mathematics
Calculus AB (MA133 Calculus I - 4 credits)
Calculus BC (MA133/134 Calculus I and II - 8 credits)

Physics
Physics B and Physics C (together they transfer for SC145 Physics I and SC155 Physics II-8 credits. They do not transfer if only one, B or C, is taken.)

Transfer Admission Requirements

To qualify as a transfer student for the purpose of admission, the student must have completed a minimum of 12 semester credits of transferable coursework. Students with fewer than 12 transferable credits will be considered for admission based on the Freshman Requirements guidelines as described on page 8.

Applicants to Cogswell College who have been previously enrolled at a college or university will be required to have an overall cumulative 2.5 GPA from all previous institutions.

Applicants who have previously attended colleges must submit official transcripts to Cogswell College at the time of application. Official transcript evaluations will only be conducted after all transcripts have been received. Admission is contingent upon the receipt of all necessary documentation.

Application Procedures

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

1. A completed application form
2. A non-refundable $50 application fee
3. A typed essay
4. A completed recommendation form
5. Official transcripts from all colleges attended
6. A copy of the high school diploma or of the General Educational Development (GED) test.
7. A portfolio (if applicable)

Evaluation of Transfer Credit

Transfer credit is granted for individual courses equivalent to those in the Cogswell College curricula, if they have been completed at a regionally accredited institution (for transfer credit from a non-accredited institution, see below). Transferable courses that do not fulfill curriculum course requirements may be counted toward elective credit only. Award of transfer credit is subject to the following conditions:

1. Courses for which transfer credit has been granted will not have to be repeated.
2. Cogswell College does not offer lower-division work experience, physical education, or ESL courses for academic credit, nor does it award transfer credit in those areas.
3. Cogswell College will accept credits from international schools for specific courses with the approval of the Dean.
4. The College retains the option to designate particular courses as requirements to be taken in residence.
5. Coursework taken at another college or university ten or more years ago will be transferred to satisfy required courses for graduation only with the approval of the Dean.
6. Specific questions for transfer credits may be directed to the Dean.

Transfer credit will be granted only for coursework completed with a grade of "C" or better. 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.

Transfer Credit From Non-accredited Institutions

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

ADDITIONAL CREDITS EARNED
Military Service and Schools

Cogswell College is approved for veterans' training. Credit will be given, at the sole discretion of the College, for U.S. Armed Forces Institute courses if in compliance 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 service courses. No credit will be given for basic training or military service. The student must satisfactorily complete one trimester (12 credits) at Cogswell College before the award of credit becomes final.

Requirements and Procedures for International Applicants

Cogswell College welcomes students from different countries and cultures. International students must complete the application process early to allow time to process required documents for the United States Citizenship and Immigration Services (USCIS). International students may enroll as full-time students only.

Applicants are to submit the following to the Admissions Office:

1. A completed International Application with an essay and non-refundable application fee of $50 US
2. An official transcript from each college attended. Applicants are requested to send certified English translations of transcripts,
3. TOEFL test results; the minimum accepted score is 525.
4. Affidavit of Financial Support

Upon the receipt of an acceptance letter, the student is to forward to Cogswell College payment for the first trimester tuition. All tuition for each subsequent trimester attended must be paid in full during that trimester's registration.

International students will be required to take placement examinations in mathematics and English.

International students must maintain at all times good academic standing.
Consult the International Students Advisor (ISA) for additional information.

Requirements for Visitor Status

Students enrolled at Cogswell College who are not working toward completion of a degree program (non-degree seeking or auditor) are classified as visitors. Students may register for classes by submitting:

1. A completed Visitor Registration Form
2. A non-refundable $30.00 Visitor fee
3. A typed essay
4. A copy of the high school diploma or of the General Education Development (GED) test
5. The appropriate tuition

Visitors are required to interview with a department representative for approval to register for classes.

A non-degree seeking visitor may change to degree seeking status upon the completion of application requirements as listed in this catalog. **International students may not register as visitors.**

Requirements for Returning Students

A returning student is one who has not attended Cogswell for three consecutive trimesters (may include the summer trimester). When re-entering Cogswell, the returning student must reapply according to the application procedures listed in this catalog.

Notification of Admission

All applicants will receive an acknowledgement of their admission status approximately three weeks after their file is complete and processed. Information regarding registration and advising, and the Statement of Intent to Register will be included with the notification.

Statement of Intent to Register (SIR)

Newly admitted students are required to submit the Statement of Intent to Register (SIR) form by the date specified in their notification of admission. The SIR form indicates acceptance of our offer of admission and the student's intent to enroll at Cogswell College. The SIR needs to be accompanied by the student's Initial Tuition Payment (ITP).

Enrollment and Registration

Prior to registration, all enrolled students will receive information on current class scheduling. See page 24 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 health, safety, or welfare to others or him/herself, (3) a student disrupts the orderly process of the College, or (4) a student violates any policy outlined in the Student Handbook.

Portfolio Entrance Requirement:

Please contact the Admissions department for Portfolio specifications.

Digital Art and Animation Portfolio Requirement:

A portfolio of the student's best work must accompany the admission request to the Digital Art and Animation program. Your portfolio must contain 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 CD.

Digital Audio Technology Portfolio Requirement:

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

1. Original MIDI sequences,
2. Tape or CD of instrumental or vocal performance,
3. Evidence of studio recording engineering, such as a tape or CD of original studio-type recording work,
4. High School band, orchestra or chorus experience (will be on transcript),
5. Evidence of private music lessons (what instrument, how long, with whom)

Digital Motion Picture Portfolio Requirement:

A portfolio of the student's best work must accompany the application to the Digital Motion Picture program. One of the following may be sent as a sample of the student's work:

1. Original film: fiction or documentary on VHS tape or DVD,
2. An original short story, treatment or excerpt from a novel*,
3. Original Script*,
4. Website either designed or authored by the student
5. Original photography (color copies are accepted).

As part of the portfolio requirements, an essay must be submitted by answering one of the following questions.

1. What do you think is the social significance of film in modern society?
2. How does technology affect the visual methods of telling a story?
3. What artistic and intellectual strengths would you bring to the Digital Motion Picture program?

** (if longer than 20 pages only a sample scene is required)*

Financial Information

Tuition

Tuition and fees are subject to change upon approval by the Board of Trustees. Please call the Registrar's Office for current costs.

Tuition Information for Registration

All outstanding debts to Cogswell College must be paid in full before registration. 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 Registrar's Office can provide a detailed explanation of payment methods and plans.

No student will be allowed to schedule or attend classes unless his/her tuition is paid in full, or unless arrangements for payment have been made with the Registrar's Office. Tuition paid during late registration will include a late registration fee.

Tuition payments may be made by mail with a certified or cashier's check, with a money order, MasterCard, Visa, or with a personal check. Checks are to be made payable to: **Cogswell Polytechnical College**. All payments should be sent to:

Office of the Registrar
Cogswell Polytechnical 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.

Initial Tuition Payment (ITP)

The Initial Tuition Payment (ITP) of $100 is required of all students (continuing, returning, visiting, and international) upon registering each term, and is required with the Statement of Intent to Register (SIR) for newly admitted students. The initial Tuition Payment (ITP) is deducted from the students' regular tuition for the stated academic term (Fall, Summer, or Spring). The ITP may not be waived and is non-refundable in all cases.

Special Tuition Policy for Cogswell College Bachelor's Degree Graduates

Cogswell College encourages Cogswell graduates holding a bachelor's degree to return as non-degree seeking students by allowing them to take one course each trimester at one-half of the regular tuition charge and by waiving the admission application and the late registration fee. 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. Graduates must follow the registration process.

Refund Policy

Refunds resulting from a change in enrollment status during the trimester will be paid upon request within 21 days. Refunds are made only after the student has submitted a Change in Program (Add/Drop) Form or has officially withdrawn. The date a refund is disbursed is fixed by the signature of the Registrar's Office. A full refund will be made for classes canceled due to insufficient enrollment.

The College will refund tuition at the following rates to students reducing their course load:

First Week of Class	100%
Second Week of Class	80%
Third Week of Class	60%
Fourth Week of Class	40%
Fifth Week of Class	20%

Refunds for students who withdraw from the College will also be calculated according to the above rates.

Title IV Financial Aid Refund Policy

The purpose of the Title IV Refund Policy is to determine the amount of aid the student has earned while in school and to return funds that have been overpaid or disburse funds the student has earned but not received.

To calculate a refund or post withdrawal disbursement, the College will use the R2T4 Software provided by the Department of Education.

The College will establish the student's withdrawal date according to the following policies and procedures.

Official Withdrawals. To establish the withdrawal date for students who officially withdraw, the College will use the later of the date the student notifies the Registrar of his withdrawal, or the date of the withdrawal specified by the student.

Unofficial Withdrawal. To establish the withdrawal date for students who unofficially withdraw (drop out without notifying the Registrar), the Registrar may use either the mid-point of the period or the later or earlier date of the student's participation in an academically related event as documented by the College.

As required by Federal Title IV Regulations (CFR 668.22), the Financial Aid Office (FAO) will determine the percentage of financial aid earned by the student during the period of enrollment. If the student has been paid more than the amount earned, the overpayment will be repaid to the specific student aid program in the following order:

Unsubsidized Stafford Loans
Subsidized Stafford Loans
Federal PLUS loans
Federal Pell Grants
Federal SEOG

The College will make Pell or SEOG repayments directly to the Department of Education. The student must make repayment arrangements with the College within 45 days.

Students who fail to make payment arrangements or fail to follow the payment arrangement agreed upon, will be reported to the Department of Education as having received an overpayment of a grant and will no longer be eligible to receive further aid until the overpayment has been paid in full.

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 FAO 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 time frame. 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 FAO.

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 refund process will be initiated by the Financial Aid Office. All other students must file a refund request application form with the Registrar's Office. Requests may take up to 14 days to process.

Fee Schedule

Application fee for new and returning students*	$ 50.00	(non-refundable)
Initial Tuition Payment (ITP)	$ 100.00	(non-refundable)
Visitor Fee	$ 30.00	
Associate Student Body fee		
(12 credits or more)	$ 20.00/trimester	(non-refundable)
(11 credits or less)	$ 10.00/trimester	(non-refundable)
Tuition deferment fee	$ 50.00	(non-refundable)
Late registration fee (continuing students)	$ 80.00	(non-refundable)
Schedule Change:		
First week of class	No charge	
Second week of class	$ 10.00	
Third week of class and after	$ 15.00	
Official Transcripts and Documents**	$ 10.00	
Graduation Check	$ 100.00	
Credit by Examination Fee	$ 100.00	
Check return fee	$ 15.00	
Late Payment Charge	$ 20.00	
Diploma Reprint Charge	$ 75.00	

* *Students returning after more than one year's absence*

** *The first three official transcripts and/or documents are free.*

Financial Aid

Financial aid is available to assist students in their efforts to better themselves through education. Financial aid availability is regulated by various federal and state agencies. To receive federal financial aid student must also possess a high school diploma or GED, demonstrate financial need except for some loan programs, be enrolled as a regular student working toward a degree in an eligible program, have a valid social security number (unless student is from the Republic of the Marshall Islands, the Federated States of Micronesia, or the Republic of Palau), student must meet satisfactory academic progress (SAP) standards, certify that student will use federal student aid only for educational purposes, certify that student is not in default on a federal student loan and that student does not owe money on a federal grant, and comply with selective service registration. Applicants must be U.S. citizens or eligible non-citizens as defined by the U.S. Department of Education. Incoming and continuing students are eligible for financial aid. International students are not eligible to receive federal or state aid.

Students enrolled in the Degrees at a Distance Program (DDP) are not eligible to receive Title IV financial aid funding. This includes the Pell Grant, SEOG Grant, and Stafford Loans. Veteran Administration benefits are available to DDP students as well as various loan programs.

Applicants must submit the institutional financial aid application and the Free Application for Federal Student Aid (FAFSA). Results from these applications may require that additional documentation be provided. To be considered for the California Grant Program, the FAFSA and a Grade Point Average (GPA) Verification Form must be postmarked or electronically transmitted by March 2 prior to the award year that aid is being sought. Application materials may be obtained from the financial aid office.

Deadlines and Fund Availability

Cal Grant Deadline: March 2 for the following fall.

Students may apply for Federal Student Aid at any time during the year; however, due to the limited funding of some programs, applications will be considered in the order completed. Since the application process can take eight weeks or more to complete, students are encouraged to apply early.

Expected Family Contribution (EFC)

The expected family contribution (EFC) is calculated by a federal formula, using the information provided by the student on the FAFSA. The EFC is the amount of money the student and his/her family can reasonably contribute toward the student's education each year. The EFC also determines the types and amounts of aid the student is eligible to receive.

Cost of Attendance (COA)

The cost of attendance estimates the cost of attending college for an academic year (two trimesters). The COA includes tuition, fees, books, supplies, housing, food,

transportation, and personal expenses for the academic year. The cost of attendance will vary depending on whether the student lives with his/her parents or away from his/her parents, and the student's expected enrollment status (full-time, three quarter-time, or half-time). The total aid package cannot exceed the cost of attendance. Cost of attendance values are based on the student expense budget figures published yearly by the California Student Aid Commission. The current cost of attendance chart is available at the Financial Aid Office.

Financial Need

To be eligible for financial aid, the student must demonstrate financial need, with the exception of some loan programs. Financial need is determined by taking the total cost of attendance (COA) and subtracting the expected family contribution (EFC). Students should not disqualify themselves by not applying for financial aid. Students do not need to be from a low-income household to be considered for financial aid. Students are encouraged to apply for financial aid to determine financial aid eligibility.

Satisfactory Academic Progress (SAP) for Continued Financial Aid Eligibility

A student must maintain a cumulative GPA of 2.0 and complete at least 66% of all units attempted to make satisfactory academic progress (SAP). A student not making SAP will be placed on financial aid probation for one academic year (two trimesters). At the end of this probationary period if the student is not making SAP the student is no longer eligible for additional financial aid until the student has regained SAP. To re-establish financial aid eligibility, the student must once again meet the SAP standards. A determination of unsatisfactory academic progress for financial aid eligibility may be appealed to the Financial Aid Director.

For financial aid evaluation only, grades of 'I' (Incomplete) will be counted as completed courses. Withdrawals ('W'), Failure (F), and Audits ('AU') will not be considered as completed courses.

Verification Policy

Students selected for verification will be required to submit requested forms to the Financial Aid Office in order to complete the financial aid process. Verification is the random selection by the Department of Education to confirm the information submitted on the FAFSA. This federal regulation requires the College to collect certain documents from the student. Documentation may also need to be collected from the student's parents or spouse. Documents requested may consist of, but are not limited to: signed copies of tax returns, verification worksheets, and any additional documentation requested. Verification needs to be completed before the student is eligible to receive any funds.

If a student is selected for verification, the student will be notified in writing. The notice will indicate the required documentation needed to complete the verification process. Verification forms will be supplied by the Financial Aid Office. Students are required to promptly respond to verification requests in order to avoid delays in funding. Students will need to complete the verification process prior to the next registration period or no later than 45 days before the last day of the student's

enrollment. Failure to meet the deadlines will prevent the Financial Aid Office from processing any financial aid. In addition, any balance on account will become due per the terms of the institutional promissory note.

Students will be notified in writing of any changes made as a result of the verification process within 30 days of the Financial Aid Office receiving the verification documentation from the student. In the event a student is overpaid and the institution is not successful in collecting the overpaid funds, the overpayment will be referred to FSA's Student Management Collections (ED Collections). An overpayment will disqualify the student from further federal financial aid eligibility until resolved.

Types of Financial Assistance

Financial aid is available in many forms. ***Grants*** are typically awarded on the basis of financial need and repayment is not required. ***Loans*** are typically low-interest awards that must be repaid, in most cases after the student ceases to be enrolled at least half-time, graduates, or stops attending school. ***Work-study*** is awarded on the basis of need and employment may include on-campus or certain approved off-campus sites. ***Scholarships*** are usually awarded on basis of need and/or merit. Scholarships usually do not need to be repaid.

Types of Financial Aid

The following types of financial aid are available to students:

Federal Pell Grant
This grant is awarded to undergraduate students who demonstrate financial need. Students who have already obtained a bachelors, masters or professional degree are unable to receive a Federal Pell Grant. The Expected Family Contribution (EFC) as calculated when the Free Application for Federal Student (FAFSA) Aid is processed will determine the Pell Grant award amount and eligibility. Federal Pell Grant funds are directly sent to the college and then disbursed to the student's account.

Federal Supplemental Educational Opportunity Grant (FSEOG)
This grant is awarded to undergraduate students who have exceptional financial need. Priority is given to Federal Pell Grant recipients. Students who have already obtained a bachelors, masters or professional degree are unable to receive FSEOG funds. Grant awards range between $100 and $4,000. FSEOG award amounts are based upon and limited by the annual allocation provided by the Department of Education. Federal SEOG funds are directly sent to the college and then disbursed to the student's account.

Federal Work Study (FWS)
The Federal Work Study program provides jobs for students with financial need. Earning at least the federal minimum wage, the FWS program allows students to earn money to help pay for educational related expenses. Positions available may be on-campus or off-campus. To be eligible for FWS a student must have financial need. FWS funds are limited by the annual allocation provided by the Department of Education. FWS recipients are required to record hours worked on timecards and submit timecards in a timely manner. Information on job openings is available at the Student Services Center. Students will receive a pay check for earned hours according to the payroll schedule.

Federal Stafford Loans
The Stafford loans offered at Cogswell are part of Federal Family Education Loan Program (FFELP). These loans are made by banks, credit unions, and other commercial lenders. As with any other loans, these funds do have to be paid back with interest. After the student graduates, drops below half-time, or leaves school, the student will have a six month grace period before starting his/her repayment on the loans. These loans are generally paid back over a ten year period, depending on the amount borrowed. There are two types of loans students may borrow: subsidized and unsubsidized. For subsidized loans, the government pays the interest that accrues on the loan while the student is in school and during the grace period. Subsidized loans are awarded to students demonstrating financial need. For unsubsidized loans, the student is responsible for all interest that accrues on the loan. Interest may be paid while attending school or interest may be allowed to accumulate while attending school and during the grace period. At repayment, the interest will be capitalized, therefore increasing the balance and future interest being calculated on the entire balance. Unsubsidized loans are awarded to all eligible students regardless of income or assets. Loan amounts available are based on the cost of attendance, the EFC, the student's year in school, enrollment status, dependency status, and other aid. The interest rate on Stafford loans is variable and can be adjusted every July 1, but it will not exceed 8.25%. Origination fees and insurance fees of up to 4% may be deducted from each loan disbursement. First-year, first-time borrowers may not receive the first loan disbursement until thirty (30) days after classes begin. In addition, first-year, first-time borrowers will need to complete loan entrance requirements before loan funds can be disbursed. Students graduating or exiting from the college need to complete loan exit requirements. Loan counseling provides students with information on rights and responsibilities, loan terms, and loan and repayment options. Loan funds are sent directly to the college and then disbursed to individual student accounts.

Federal PLUS Loans
This loan is available to parents or stepparents of undergraduate dependent students. This loan is not based on income or assets. Parents may borrow up to the total cost of attendance minus any other financial aid being received. Origination and insurance fees of up to 4% may be deducted from each loan disbursement. The interest rate on PLUS loans are variable and can be adjusted every July 1. PLUS loans will never exceed an interest rate of 9% and interest accrues from the date the loan funds are first disbursed. Repayment begins sixty (60) days after the last disbursement. Parents will usually begin repayment while student is still in college. To qualify, parents must meet the eligibility requirements for federal financial aid and also be creditworthy. Loan funds are sent directly to the college and then disbursed to the respective student's account.

Cal Grants
These grants are available to qualifying residents of California. Cogswell College participates in both the Cal Grant A and Cal Grant B programs. These awards are funded for up to four years. Cal Grant A assists with tuition and fees while Cal Grant B provides a living allowance. Within each Cal Grant program are entitlement and competitive awards. Entitlement awards are guaranteed to high school seniors who meet the academic, financial and eligibility requirements. Competitive awards are limited and selection is based on a composite score that takes into consideration family income, GPA, time out of high school, parents' educational levels and other factors. To apply for any of the Cal Grant programs, the student must submit a Grade Point Average (GPA) Verification form and the FAFSA by March 2. Cal Grant A funds are sent directly to the school and then disbursed to individual student accounts. Cal Grant B funds are

sent directly to the school, disbursed to the student's account and then a check is issued for the amount received unless the school has prior written authorization from the student to apply funds towards any tuition and fees on his/her account.

U.S. Veterans Administration (VA) Benefits
Educational assistance benefits through the Montgomery G.I. Bill program are available to individuals who served on active or reserve duty or in the Selective Reserves. Students who qualify receive payments directly from the Veteran's Administration. To apply for the Montgomery G.I. Bill program for the first time, students must complete VA form 22-1990. If the student has used benefits elsewhere, he/she will need to complete VA form 22-1995. In addition, students discharged from active duty will need to submit a copy of their DD-214. Active duty students may also qualify for Military Tuition Assistance. To apply for military tuition assistance, visit the Educational Officer on base. Once tuition assistance payments have been received by the institution they are applied to the student's account.

Alternative Loans
Private loans are also available to students to help pay for their education. These private loans usually carry higher interest rates and fees than federal loans and are typically based on creditworthiness. The amount borrowed may not exceed the total cost of attendance minus any other financial aid being received. Funds are sent directly to the school and then disbursed to each student's account.

Institutional Scholarships

Cogswell College offers institutional scholarships which are awarded by the Scholarship Committee. For deadline dates and applications please contact the Financial Aid Office. Awarded funds are disbursed to the student's account.

Alumni Scholarship
Awarded to a U.S. Citizen in financial need. Funding for this scholarship is through individual donations and memorial gifts.

Harry C. Bigglestone Scholarship
Awarded to students in the Degrees at a Distance Program for the Fire Science who have completed at least 9 units at Cogswell with a minimum GPA of 3.0. Harry C. Bigglestone, charter member of the Society of Fire Protection Engineers, negotiated the relationship between Cogswell College and the Open Learning for the Fire Science program in 1979.

Geraldine Brush Scholarship
Awarded annually to a U.S. citizen who has completed 24 credits at Cogswell and maintained a 3.0 GPA or above. Geraldine W. Brush was a member of the Board of Trustees for five years (1981 - 1986). The scholarship was established in 1985.

Cogswell Family Association Scholarship
The Scholarship Committee of the Cogswell Family Association (CFA) will provide an annual scholarship of $250 to a deserving student at Cogswell College. The amount will be matched from the Cyril Cogswell Fund, making the scholarship award $500. Awarded to a student with severe need and a minimum GPA of 3.0. Also required is an essay of not more than 500 words discussing career objectives and how the applicant hopes achievement of these goals will contribute to the benefit of society. The college will narrow the field of applicants to three students. A selection committee of the CFA Board will determine the award recipient.

Robert Ewing Golden Scholarship
Awarded to an upper-division student (Jr/Sr) with a minimum GPA of 3.3. The student must have entered Cogswell as a freshman (32 or less credits). Robert Ewing was a member of the Board of Trustees for fifteen years (1894-1909). The Robert Ewing Gold Medal Award was established in 1912 at his bequest. In 1977, the Superior Court of the State of California decreed that the college could make monetary grants, so the Robert Ewing Golden Scholarship Award for Juniors was established.

Gabriel Gomez Memorial Scholarship
Awarded to a U.S. Citizen, permanent resident, or refugee who is in financial need, has a 3.0 GPA, and is involved in campus activities. Gabriel Gomez was a student at Cogswell Polytechnical College. His family established this memorial scholarship in 1982.

Lydia Jorgensen Robinson Scholarship
Awarded to a U.S. Citizen with severe financial need. Lydia Jorgensen Robinson was a 1916 graduate of Cogswell Polytechnical College. The scholarship was established in 1991.

George H. Sandy Scholarship
Awarded to a student in financial need who has a GPA of 3.0 or above. George H. Sandy was a merchant and property owner in the San Francisco Mission District. Former Trustee of the College, Chester R. MacPhee administered the Sandy estate and foundation.

Eugene Wood Smith Scholarship
Awarded to a student in financial need who has a GPA of 3.0 or above. Eugene Wood Smith was a former President of Cogswell Polytechnical College.

Taylor Scholarship
Awarded to a full-time Cogswell student with financial need. Martin Taylor, father of CVI alumna graduate Angela Taylor, established this scholarship in 1994.

Richard Telford Memorial Scholarship
Awarded to a student with demonstrated financial need who maintained a GPA of 3.0 or above in the trimester prior to the award. Richard U. Telford was an instructor at Cogswell College. His family established a memorial scholarship in 1985.

Theodore A. Vierra Scholarship
Awarded to one who has been a resident of Hawaii for fifteen continuous years, is a graduate of an Hawaiian high school, and has maintained a GPA of 3.0 or above. Theodore A. Vierra, Sr., was a 1922 graduate of Cogswell Polytechnical College. The scholarship was established in 1978.

Private Grant and Scholarship Programs

Many community organizations, foundations and businesses offer scholarships. Research can be done on the web or at your local library. The Financial Aid Office makes available a list of scholarship resources to assist student in finding a scholarship.

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 student is making satisfactory academic progress (SAP), what the consequences 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 disbursement 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.

Registration and Records

The College has two official registrations for each term, one for continuing students and one for new students. See Academic Calendar for specific dates.

Continuing students who register during the new students' registration are subject to a late registration fee.

Prior to each registration all students receive information on the current class schedule. Students must meet with their advisors before registration.

ADD/DROP PROCEDURES

Adding Classes

Students wishing to add a class after the normal registration period 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.

Classes cannot be added after the fifth day of classes.

Dropping Classes

Students are responsible for officially withdrawing from any class or classes in which they no longer wish to be enrolled. Non-attendance does not release the student from financial responsibility and will result in an "F" grade.

Students wishing to drop a class during the trimester must obtain a 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 tenth week of instruction.

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 Financial Aid Officer before dropping a class.

Instructor Initiated Drop

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 or 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 instructor approval.

Fees

A fee is charged for any DROP after the fifth day of classes. Additionally, the student's payment status may change as the result of an ADD or DROP.

ADDS AND DROPS ARE NOT OFFICIAL UNLESS ALL FEES ARE PAID AND 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.

Dropping All Classes/Withdrawing From the Trimester

Any student wishing to drop all classes before completion of the trimester in which he or she is registered must obtain the Exit Form and the 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.

Credit By Challenge Examination

Under certain circumstances, as determined by the appropriate instructor and approved by the Academic Dean, students may earn course credit by successfully completing appropriate examinations or assignments rather than by 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 examinations. See page 9 for information on CLEP and DANTES 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.

Students wishing to take a challenge examination must obtain the Credit By Examination Form and instructions from the Registrar's Office, follow instructions accordingly, and pay appropriate fees. The exams will not be official until the Credit By Examination Form and exam results are received by the Registrar's Office. Only successful challenges will be recorded on the student transcript.

Challenge Examination Process

1. Students must complete a minimum of one trimester at Cogswell College before filing for a challenge exam.
2. Only students in good academic standing (2.00 GPA or above) at Cogswell College may apply for these exams.
3. Any course required for graduation may be challenged by examination if appropriate department resources are available as determined by the Dean.
4. Challenge exams will not be given for remedial courses (courses below 100 level), or for project courses (HU/SS300, senior project, etc).
5. A course previously failed, or one in which a student has received an Incomplete ("I") grade, may not be challenged.
6. A course previously taken on an audit basis may not be challenged.

Guest Authorization

Any student wishing to take courses at another institution during a trimester in which the student is officially enrolled at Cogswell College must obtain a Guest Authorization Form from the Registrar's Office. The student must meet with her/his advisor. The required signatures must be obtained before returning the Guest Authorization Form to the Registrar's Office. Transfer credit for courses taken at another school while attending Cogswell College will only be given if a Guest Authorization Form has been submitted, and an official transcript from the guest school is received by the Registrar's office. When petitioning for a guest authorization, the total units transferred cannot exceed the limit of transfer units. The Guest Authorization is valid for one year only. (See Graduation and Degree Requirements, page 32).

Transcripts and other Official Documents

Three official transcripts of records of coursework at Cogswell College are furnished free upon request to each student or graduate. A charge is made for each additional transcript. A charge is made for any other official document prepared by the Registrar's office. (See Fee Schedule on page 16.) This fee applies after the first three documents, which are free, and must be paid when the document is requested. Transcripts will be issued only upon written request of the student concerned.

Note: *The Registrar's Office will not provide students with copies of transcripts of coursework completed at other institutions.*

Encumbrance

An encumbrance is applied against a student's file for owing unpaid fees and/or tuition to the College, and/or library books, equipment or keys overdue. No official documents, including official 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 file a complaint with the U.S. Department of Education concerning alleged failures by the College to comply with the require ments of FERPA. The name and address of the Office of Education that administers FERPA is:

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

The Buckley Amendment grants the College the authority to release directory information to any person on request, unless a student requests in writing that directory information be kept as private. The College regards the following as directory information, but is not limited to:

1. Student's name
2. Local address
3. Permanent or legal address
4. Major field of study

A copy of the Family Education Rights may be requested from the College or viewed at the following website:

www.ed.gov/offices/OII/fpco

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

Maximum Academic Load

The recommended maximum load for degree students is 18 trimester credits, including audited courses. A student who under special circumstances needs to take more than 18 credits must obtain written permission of the Dean.
Full-time tuition allows students to register for 12 to 16 credits per term.
A student registering for more than 16 credits must pay additional tuition.

Prerequisites

A student cannot enroll in a course for which all prerequisite(s) have not been satisfied. A student may not register for a class and its prerequisite in the same trimester. For information on prerequisites or corequisites, a student should refer to the course description section of this catalog. It is the student's responsibility to enroll only in the courses for which prerequisites have been satisfied. An "Incomplete" in any course is not a passing grade, so any course for which a course with a pending "incomplete" is a prerequisite may not be taken.

Course Requirement Substitution

Any student wishing to substitute a required course 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. 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 substituted prerequisite must be taken and passed. A course in which an "F" was granted cannot be substituted. A course taken as "audit" cannot be substituted.

Academic Policies

Student Classifications

Degree student. A degree candidate who has applied, been properly admitted, registered, and is actively pursuing a degree.

Visitor. A visitor is a non-degree seeking student. Appropriate credits earned as a visitor apply toward a degree program upon admission to the College. Visitor status may not apply to international student.

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. The auditor is allowed to participate in class discussions and take exams. The course will be noted on the student's transcripts by 'audit' rather than by a letter grade. Degree students as well as visitors may audit courses. An auditing student will be charged the audit-rate tuition. An audit grade may not be changed to a letter grade.

Returning Student. A returning student is one who has not attended Cogswell for three or more consecutive trimesters. When re-entering Cogswell, the returning student's previous coursework is evaluated according to the degree requirements as listed in the current catalog.

Class Standing

The class standing of an individual is determined as follows:

0	-	32	credits	successfully completed	-	Freshman
33	-	65	credits	successfully completed	-	Sophomore
66	-	97	credits	successfully completed	-	Junior
Above		97	credits	successfully completed	-	Senior

Attendance

Cogswell students are expected to attend every class session scheduled for each course in which they enroll. Individual instructors may present to students specific attendance requirements at the first meeting of the class. Students who miss a class must make arrangements with instructors to take any examination or complete any make-up work at a time other than that scheduled.

Midterm Deficiency

Midterm exams are usually given before the eighth week of the trimester. 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. Students receiving a deficiency report must consult with their advisor as well as the course instructor to determine what they must do to succeed in the course. A midterm deficiency is not noted on the student's transcript. It is used only to advise students of their progress.

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-	0.7
F	0.0

Grades not Used in GPA Calculation:

R	Retaken
N	Grade not received from instructor
I	Incomplete
P	Satisfactory, "C" or better, credit received
NP	Unsatisfactory, no credit received
W	Withdrawal, no credit received
AU	Audit, no credit received
T	Transfer credit awarded

Incomplete

An Incomplete (I) grade may be used if the student has essentially completed the course except for a missing examination, project, or paper. An Incomplete is not considered a grade, and as such will not serve to satisfy the prerequisite requirement of any subsequent course. The grade of "I" converts to the default grade if the work is not completed by the assigned timeline, unless an extension is obtained from the instructor (with the approval of the Academic Dean).

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. This option must be declared before the last day to drop classes. Students wishing to change their enrollment status in a course to Pass/Fail must present their request in writing to the Registrar's Office within the required time period. 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 towards graduation, is earned for courses completed with a "P" grade, but the grade is not used in grade point average calculations.

Audit

A course may be taken on an audit basis. This option must be declared when the student registers for the course. For a course taken on an audit basis, no unit credit or grade is earned. The grade report and official transcript indicate "AU" for the course. A course taken on an audit basis does not satisfy a prerequisite requirement, cannot be subsequently challenged, nor used as the basis to waive a graduation requirement.

Students can register to audit a course after the official registration or during the first week of classes only if there are seats available.

Withdrawal

A "W" indicates withdrawal from class. A drop form must be submitted to the Registrar prior to the last day to drop.

No Credit Received

An "N" is used when a grade is not received from the instructor. No credit is recorded for coursework until a grade is received.

Grade Point Average Calculations

The GPA is calculated according to the following formula:

$$GPA = \frac{\text{Sum of (Grade Point Value X Course Credits)}}{\text{Total Credits}}$$

When a course is taken a second time, credits are awarded only once and the highest grade is used in computing the GPA. Both grades appear on the transcript. An "R" appears after the grade of the course that has been retaken and is not counted in the GPA. Some courses may be taken more than once for credit (see course descriptions).

Report of Grades

Grade reports are mailed to students the week following the last day of classes. If prior written arrangements are made with the Registrar's Office by the student, grades may be picked up at Registrar's office.

Change of Grades

Only the instructor of a class, with the approval of the Academic Dean, 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. No grades are changed after a year from the date the grade was received or after the student has graduated.

Grade Appeal

Grade appeals are 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 department chair or the Academic Dean if the department chair is the instructor.

The Academic 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 Academic Dean. The committee will render the final decision.

Adjudication

In academic matters, the decision of the Academic Dean, and in financial matters, the decision of the Vice President for Finance, 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.

Academic Standing

A student's academic standing is designated on the student's official transcript.

Good Academic Standing

A student is in good academic standing if the student's cumulative grade point average is 2.00 or higher. A student in good academic standing is eligible to enroll in the subsequent trimester.

Academic Probation

A student is on academic probation if the student's cumulative grade point average is less than 2.00. A student on academic probation may register for classes only after agreeing with the academic advisor on a strategy to improve the GPA. The Academic Dean's approval is required for registration.

Academic Disqualification

A student is disqualified if the student begins a trimester on academic probation and receives a grade point average less than 2.00 for that trimester.

A student on academic probation is not disqualified if the grade point average for the trimester in which the student is currently enrolled is 2.00 or higher and the student is demonstrating progress toward improving the GPA. The student continues to be on academic probation if the cumulative grade point average is less than 2.00 but will not be disqualified.

A student who is disqualified is dismissed from Cogswell College for a minimum of one trimester, after which the student can appeal for reinstatement.

Appeal for Reinstatement after Academic Disqualification

To be reinstated, a student must apply to the Academic Dean, 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 Academic Dean.

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 of letter-graded coursework during the trimester, with a 3.80 grade point average or better.

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

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

Graduation and Degree Requirements
Each major program of study requires that the student satisfactorily complete a prescribed coursework or an approved equivalent. The coursework includes a prescribed number of credits in each curricular area. Students may choose to enroll in eight consecutive trimesters or enroll in less than three trimesters per year. To remain active students must attend at least one of three consecutive trimesters. The required coursework for each degree is listed in this catalog under Degree Programs.

A student is eligible to participate in Commencement when the degree program has been completed in the Fall or Spring term of the current academic year or is reasonably expected to be completed at the end of the Summer term.

Summary of Graduation Semester Credit Requirements

	B.A. in Digital Arts and Animation	B.S. in Digital Audio Technology	B.A. in Digital Motion Picture	B.S. in Electrical Engineering	B.S. in Software Engineering	B.S.in Digital Arts Engineering	Degree at Distance Program
Minimum Degree Requirement Credits	**127**	**129**	**128**	**128**	**130**	**130**	**120**
Minimum Residency Credits Needed	**33**	**35**	**34**	**34**	**36**	**36**	**26**
Minimum Major Residency Credits	**18**	**18**	**18**	**18**	**18**	**18**	**18**
Maximum Transfer Credits (2-year institution)	**70**	**70**	**70**	**70**	**70**	**70**	**70**
Maximum Transfer Credits (4-year institution)	**94**	**94**	**94**	**94**	**94**	**94**	**94**

A student must be registered or have an approved guest authorization form for study at another institution and have a declared major at Cogswell College during the trimester in which he or she completes the requirements for any degree.

A student receiving an Incomplete has the following trimester to remove the deficiency without a change of graduation date. If the Incomplete is removed after that time, the graduation date will be the trimester in which the grade change is recorded.

To receive a degree a student must have a cumulative GPA of 2.00 or better.

Graduation with Honors

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

Graduation Check 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 file is complete before a diploma is awarded. Students should keep close track of all coursework completed and contact their advisor each trimester. A graduation check is initiated by a full-time student when he/she is within 15-18 credits of graduation; and by a part-time student when he/she is within 9 credits of graduation.

To initiate a graduation check a student must:

1. Request a Graduation Check form from the Registrar's Office.
2. Submit appropriate fees to the Business Office and completed Graduation Check form to Registrar's Office.

Fees:

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

Students eligible to apply for double degrees simultaneously need only pay one fee. The fee for subsequent degrees at the same level (i.e. additional bachelors) will be $20.00.

Schedule:

All graduation checks must be submitted to the Registrar within the first two weeks of the trimester in order to be processed. Graduation checks are processed during the third and fourth weeks of the trimester and sent to the student's advisor and to the Academic Dean for review and approval. A written verification is mailed to students in the sixth week of the trimester.

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 Declaration of Major form with the required signatures to the Registrar's Office. A student must complete all graduation requirements for each degree received.

Change of Major

A student may change majors by completing the appropriate form available from the Registrar's Office and obtain the required signatures. All course 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 Declaration of Major Form is received by the Registrar's Office. If a student has been suspended or disqualified, an appeal for readmittance under the new major must also be filed.

Student 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 own progress toward completion of the 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 manual are available through the Admissions Office and Student Services Office.

Internship Program

Junior or senior level students may receive credit for preapproved internship experiences. Internship opportunities are available in local industry under the coordination of the Career Development Office. In order to receive academic credit, internship experiences must be preapproved by the appropriate academic department prior to the beginning of the internship placement.

For information about how to obtain an internship and the process to be followed to receive credit, contact your advisor or the Student Services Office.

Academic Dishonesty

Academic honesty is a fundamental principle of the educational process in which faculty and students are engaged. Any willful act that invalidates the evaluation of student work, by misrepresenting the relation between the quality of the work and the actual state of knowledge, understanding, and ability of the student, is an act of academic dishonesty. Penalties for academic dishonesty are reported in the official student's file and range from an "F" grade for the student's work to academic probation. For the complete Academic Dishonesty Policy consult the Student Handbook.

General Policies

CRIME AWARENESS AND CAMPUS SECURITY POLICY

General Statement of Compliance with the Student Right to Know Law and Campus Security Act.

Cogswell Polytechnical 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 and Access Control of Campus Facilities

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 are 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.

Promulgation of Information

The College will record and promulgate crime statistics in compliance with Title II of the Student Right To Know and Campus Security Act. The College will compile all known and available information regarding the occurrence of the crimes of murder, rape,

robbery, aggravated assault, burglary, and motor vehicle theft on its campus. The College will compile all known and available information regarding arrests for the crimes of possession, sale and use of illegal drugs. The College will compile all known and available information regarding arrest on its campus for underage possession, sale, and use of alcoholic beverages. The College will compile all known and available information regarding arrest on its campus for weapons offenses. The College will annually disseminate these reports and information regarding drug and/or alcoholic abuse programs that it offers. This information will be disseminated to all current students and employees, and will be available to all prospective student applicants and prospective employees on demand.

Drug Free Environment Statement

Consistent with state and federal law, Cogswell Polytechnical College will maintain a workplace 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 property that is the Cogswell College campus. The full Employee Drug and Alcohol Policy is printed in the Faculty Handbook and the Staff Handbook. The Student Standard of Conduct is published in the Student Handbook. 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.
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.

Sanctions

Members of the College community with questions or concerns about alcohol or illegal drugs may get confidential information or referrals for treatment, therapy and rehabilitation services from their advisor or the College personnel officer. These services are not provided directly by the College. Drug or alcohol abuse, violation of laws or College policy will result in disciplinary actions up to and including expulsion or dismissal from the College. In the case of illegal drugs the College will comply with any applicable local, state and federal laws.

Additional Assistance

Additional information about alcohol and illegal drugs may be obtained from your physician, local clinics, crisis centers and the Health Department of Santa Clara County. Contact information may be located in the Student Handbook.

Student Activities/Services

STUDENT ORGANIZATIONS

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 for the Associated Student Body Executive Board.

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. 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 in conjunction with the ASB advisor.

Audio Engineering Society (AES)

The Audio Engineering Society is the pre-eminent international organization devoted exclusively to audio technology. The Cogswell student chapter encourages and disseminates new developments in audio through technical meetings, seminars, and exhibitions. Student members receive the society journal and participate in AES conferences, forums, and conventions.

Institute for Electrical and Electronic Engineers (IEEE)

The Institute for Electrical and Electronic Engineers is a professional society that serves the needs of the electrical, electronic, and computer fields by keeping members informed about developments in their field. Cogswell's student chapter of the IEEE is an active group of interested students whose activities include field trips, movies, meetings with guest speakers from industry, social activities, and assistance to the student body of the College.

ACTIVITIES

Membership on Committees

To enable students to have knowledge of and participate in decisions affecting themselves and the future of the College, students serve on various committees of the College.

Cogswell Alumni Association

The Cogswell Alumni Association is a membership organization free to all Cogswell graduates. This association provides graduates with the opportunity to stay involved with their alma mater.

SERVICES

Academic Advising

It is the responsibility of each student to monitor his/her own progress toward a degree and to know the policies of this catalog. An advisor is assigned to each student to assist in this progress. Advising is an ongoing process extended to all members of the student body. Each student is expected to consult with his/her advisor at least once a trimester.

The process of advising students includes assisting in appraising strengths and weaknesses, formulating and understanding personal educational concerns, and planning and carrying out a satisfactory academic program. The program is designed to provide accurate information regarding resources of the College and to assist students in developing realistic goals. Finally, advising aids the student in reviewing and evaluating plans and actions, and provides a follow-up on academic progress.

Student Counseling

Counseling is available free of charge to Cogswell students through CIGNA. CIGNA offers 24-hour phone and face-to-face counseling free to students 365 days a year. Brochures are available in the Student Services Office.

Also available to Cogswell students, JFK counseling center can provide on-going individual, group, couple, and family counseling as well as assessment and referral services at a reduced rate of $10 per visit. Cogswell students need to identify themselves as such to receive the negotiated rate.

Students wishing to speak with a professional counselor outside the College, may receive help from the county mental health agency in finding one at a reasonable cost. In Santa Clara County, the phone number is 408-299-6191. The Professional Referral Network, an organization of therapists in private practice, can also assist in finding professional counseling that meets student's needs. They can be reached at 415-668-4776.

The Student Services Office maintains current information.

Tutoring

Cogswell College facilitates tutoring services to students in need. Students interested in receiving or providing tutoring services should see the Student Services Office.

Health Services

Information on student insurance plans and referrals regarding health services can be obtained from the Student Services Office. Students covered under their parents' health plans should know that many plans will not cover medical costs unless they are

seen by their primary care physician. Students are advised to contact their health plan to find out if they are covered while away at school.

Student Union and Snack Bar

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

Career Services

Cogswell's Career Services provides services and resources to students and alumni to assist in all aspects of their career development. Career workshops are offered each trimester that focus on interviewing, resumes and cover letters, job search strategies, and portfolio and demo reel preparation.

Students and alumni can assess current job and internship opportunities on the job board located outside the College library and online on the Cogswell website. Students may register with Cogswell Career Services by filling out a career intake form and submitting a current resume. Once registered, students and alumni have access to all Career Services Resources in the Student Services Office.

Career Services has staff available to assist in all phases of student career development. Website resources, magazines, books, bulletins, job descriptions, and salary information are among the resources available to students and alumni.

Internship Program

Cogswell juniors and seniors are eligible to receive course credit for their internship experiences. For information about how to obtain an internship and the process to be followed to receive credit, contact the Student Services Office.

Housing

Cogswell's student housing program leases apartments in the community for students. All apartments are furnished and located in proximity to campus. Student Services Office provides information and resources for finding independant housing.

Alcohol and Drugs

Cogswell has a zero tolerance alcohol and drug policy. This policy can be found in the Student Handbook. The Student Services Office has more information related to this issue.

Academic Departments

Programs of Study and Course Descriptions

The programs of study described in the following pages, leading to Bachelor degrees, are designed to provide graduates with the knowledge necessary to face the rapid changes and the novel situations encountered in their professional careers, and to grow as individuals and citizens throughout their lifetime.

To address this goal the college faculty defined a set of Learning Outcomes for all programs and a specific set of Program Learning Outcomes for each program of study.

Learning Outcomes for all Academic Programs

Upon completion of the requirements for a Bachelor degree Cogswell graduates will:

- demonstrate the ability to think critically and to pursue analytical inquiry,
- function effectively and creatively as members and leaders of multidisciplinary teams,
- be prepared for life-long learning,
- appreciate the arts as human and cultural enrichment,
- evaluate ethical issues related to the development and use of technology,
- demonstrate the ability to use mathematics and science as needed for their studies,
- communicate effectively orally and in writing,
- be able to analyze and discuss characteristics of diverse cultures,
- be able to analyze and discuss the individual and community values needed for life-long participation in a democratic society.

The Program Learning Outcomes are listed in the introduction of each program of study.

Explanation of Program of Study and Course Listing

A program of study is the list of courses required for the degree and a course description is a summary of the material presented in each course and an indication of concepts and skills students are introduced to, practice, or apply in each course. Programs consist of core courses, general education courses, specific courses within a chosen area of concentration, and elective courses.
Programs of study and course descriptions can be found in the department responsible for the degree program. General Education course descriptions are found in the General Education department section.

The following course codes identify the discipline and the department:

CV	Digital Art and Animation	Digital Arts Department
DA	Digital Audio Technology	Digital Arts Department
EE	Electrical Engineering	Engineering Department
EN	English	General Education Department
FS	Fire Science	Degree at a Distance Department
HU	Humanities	General Education Department
IM	Innovation Management	Engineering Department
MA	Mathematics	General Education Department
MU	Music	Digital Arts Department
MP	Digital Motion Picture	Digital Arts Department
SC	Science	General Education Department
SE	Software Engineering	Engineering Department
SS	Social Sciences	General Education Department

The course description includes the course code, course number, course title, number of credits, and the number of lecture and laboratory hours per week. Cogswell trimester is 15 weeks long and trimester credits are equivalent to semester credits.
Prerequisite and Corequisite courses are listed following the course description. A student must have credits for all courses listed as prerequisite before enrolling in a specific course. A student must enroll concurrently in courses listed as corequisites.

Students who enroll in a course without the proper prerequisites and corequisites may be dropped from the class by the instructor during the first two weeks of the trimester.

Sample of a Course Description

SC 145 College Physics I 4(3, 2)
Fundamentals of mechanics, fluids, and heat, including vectors, translation and equilibrium, acceleration, projectile motion, Newton's Laws, work, energy, power, impulse, momentum, uniform circular motion, rotation of rigid bodies, simple machines, 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 the physics concepts for science and engineering.
Prerequisite: MA133

SC	Course Code for Science (General Education Department)
145	Course Number
College Physics I	Title of the course
4	Number of Credits
3	Number of Lecture Hours per Week
2	Number of Laboratory Hours per Week
MA133	Prerequisite (MA 133 must be completed before enrolling in SC 145)

NOTES

Digital Arts Department

Demand for computer artists in communications and entertainment industries continues to grow. Career opportunities in content creation are exploding in entertainment production, animation, modeling, interactive application design, user interface design, product design, game development, audio and video editing, web design, industrial visualization, and a myriad of other visual communications areas.

The Digital Arts Department coursework spans many multi-disciplinary activities. It includes traditional drawing, illustration, sculpture, graphic design, 3D modeling, animation, video, sound design, story development, storyboarding, storytelling, and media integration. The programs offer technical and applied courses utilized by companies embracing integrated media and are structured to allow students to refine their work and skills in a focused area of interest. The DA programs offer area of concentration in Animation, Game Design and Interactivity, Modeling, and Entertainment Design.

Basic web design skills are required of all participants in the DA programs that include web graphics, interface, and fundamental programming concepts. Students are introduced to the graphics strategies, concepts, and languages necessary to develop robust web designs based on solid interface understanding and integration.

Bachelor of Arts Degree in Digital Art and Animation

The Digital Art and Animation (DAA) program offers areas of concentration in Animation, Game Design and Interactivity, Modeling, and Entertainment Design.

Animation

The animation concentration includes character and non-character animation in both 2D and 3D. Character animation is a study of character design and motion. Students study character animation concepts and techniques as they are applied in short story and feature length animated films. Students have the choice of producing their animations in computer cel format, stop motion, CG environment, or other accepted animation formats. Non-character animation encourages further study in animation that is not character-related but more effects and background oriented.

Game Design and Interactivity

The Game Design and Interactivity concentration studies the theory and practice used in developing media rich, interactive, digital content. Students study the history and evolution of electronic game play, the philosophy of game design, and the game design process. The course work finds application on diverse platforms such as cell phones, PDAs, embedded systems, and distributed networks. Students develop an interactive prototype as part of the course sequence. This concentration serves to train digital artists and designers seeking a career in game production and related industries.

Modeling

Modeling and animation 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.

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 digital matte and texture painting as well as concept design. Issues of presentation and delivery are addressed. The ability to transform verbal and written directions into visual representations of characters and scenes is emphasized.

Digital Art and Animation Program of Study

Learning Outcomes

By completing the requirements for the Digital Art and Animation degree students will:

- **Apply the principles of the arts to convey a message or tell a story,**
- **Create artwork using the tools of modern technology,**
- **Demonstrate understanding of the social and physical world in their artistic expression.**

	Credits
Core courses	**50**
General Education courses	**48**
Concentration courses	**30**
TOTAL credits for Bachelor of Arts Degree	**128**

CORE COURSES
(50 credits)

	credits
CV 101 2D Design and Color I	3
CV 105 Intro to Comp Graphics	3
CV 125 Intro to Drawing	3
CV 131 Figure Drawing I	3
CV 142 Interactivity Fundamentals	3
CV 201 2D Design and Color II	3
CV 205 Intro to Sculpture	3
CV 215 Portfolio Preparation	2
CV 220 Storyboarding	3
CV 242 Interactivity and Sync	3
CV 260 Intro to Photography	3
CV 285 Traditional Animation	3
CV 320 Intro to Modeling	3
CV 370 Intro to Animation	3
DA 100 Desktop Audio Prod.	3
MP 230 Video Editing I	3
Lower Division Elective	3

GENERAL EDUCATION COURSES
(48 credits)

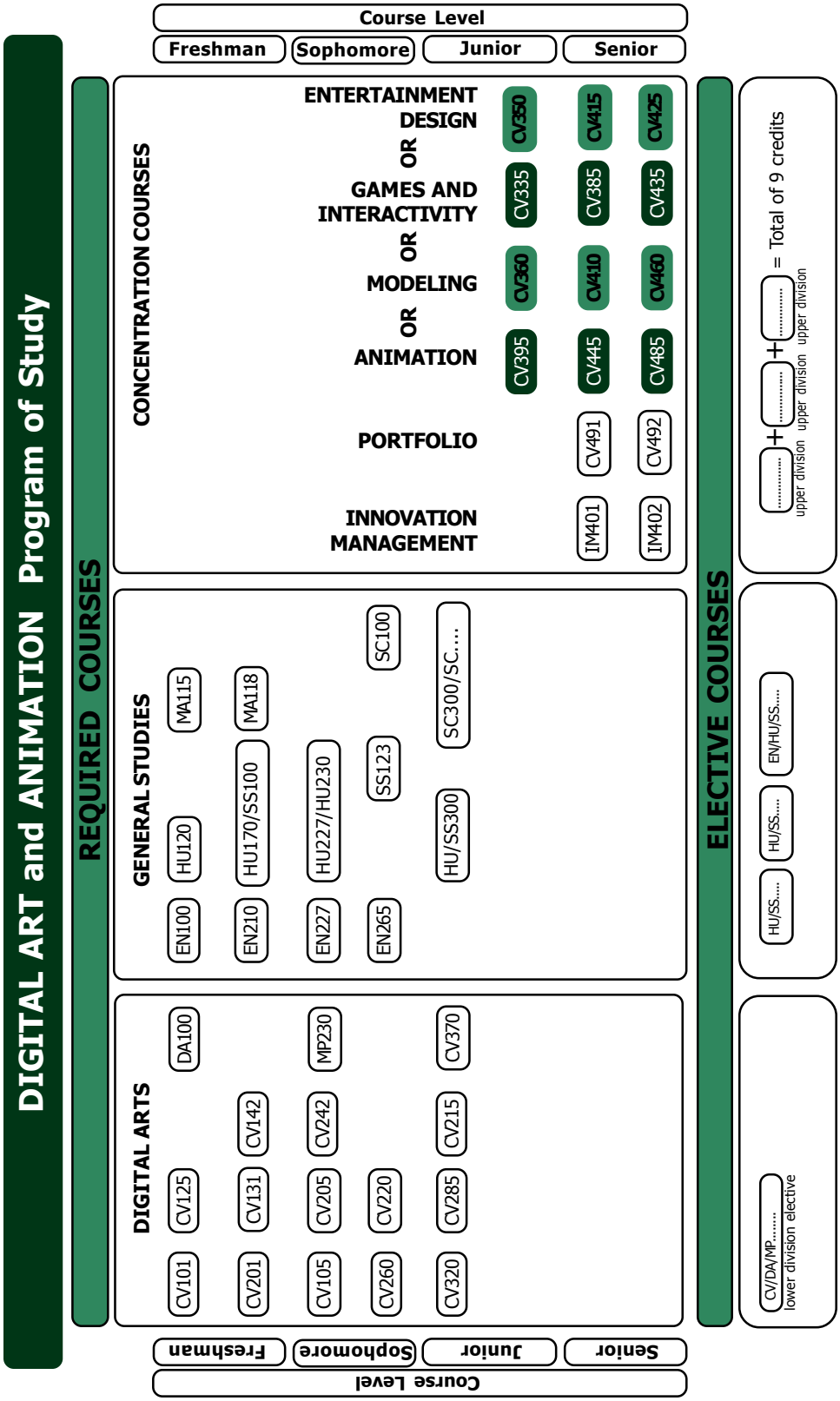
	credits
EN 100 English Composition	3
EN 210 Cultural Div in Lit	3
EN 227 Scriptwriting	3
EN 265 Storytelling	3
HU 120 History of Western Art	3
HU 227 Film History -Or-	
HU 230 History of Animation	3
HU 170 US History -Or-	
SS 100 US Government	3
HU 300 General Studies Project	3
SS 123 World Cultures	3
HU/SS Electives	6
EN/HU/SS Electives	3
MA 115 Basic Topics in Math	3
MA 118 Geometry for CG	3
SC 100 Basic Concepts of Physics	3
SC 300 Kinematics -Or-	3
SC Elective	

CONCENTRATION COURSES
(30 credits)

	credits
3 CV Specialization Courses	9
2 CV Portfolio Courses (CV491, CV492)	6
3 Upper Division Electives	9
IM 401 Innovation Management I	3
IM 402 Innovation Management II	3

SPECIALIZATIONS

Animation
(CV395, CV445, CV485)
Modeling
(CV360, CV410, CV460)
Games and Interactivity
(CV335, CV385, CV435)
Entertainment Design
(CV350, CV415, CV425)


DIGITAL ART and ANIMATION Program of Study
Course Level
Freshman
Sophomore
Junior
Senior
REQUIRED COURSES
DIGITAL ARTS
CV101
CV125
DA100
CV201
CV131
CV142
CV105
CV205
CV242
MP230
CV260
CV220
CV320
CV285
CV215
CV370
GENERAL STUDIES
EN100
HU120
MA115
EN210
HU170/SS100
MA118
EN227
HU227/HU230
EN265
SS123
SC100
HU/SS300
SC300/SC....
CONCENTRATION COURSES
ENTERTAINMENT DESIGN
OR
GAMES AND INTERACTIVITY
OR
MODELING
OR
ANIMATION
CV350
CV335
CV360
CV395
CV415
CV385
CV410
CV445
CV425
CV435
CV460
CV485
PORTFOLIO
CV491
CV492
INNOVATION MANAGEMENT
IM401
IM402
ELECTIVE COURSES
HU/SS....
HU/SS....
EN/HU/SS....
CV/DA/MP.....
lower division elective
..... + ... + ... = Total of 9 credits
upper division upper division upper division upper division

Bachelor of Science Degree in Digital Audio Technology

Today's entertainment, manufacturing and information delivery industries are driven by sophisticated audio technologies and need audio experts with both musical skills and production experience.

The Digital Audio Technology program offers a unique blend of music, audio, science, and technology that offers students the opportunity to study and utilize the concept-to-delivery audio production pipeline. Unprecedented advances in audio technology allow musicians and audio specialists to acquire their own studio quality professional audio gear.

In the DAT program, students receive instruction in recording, audio editing, musicianship, and the business of audio and project management. The final three trimesters of study concentrate on audio production tailored to students' specific needs.

A student who completes the DAT program is prepared for future employment as a studio recording engineer, CD producer, audio contractor, songwriter, musician, DJ, video game composer, motion picture composer, corporate audio media specialist or sound designer.

Digital Audio Technology Program of Study

Learning Outcomes

By completing the requirements for the Digital Audio technology degree students will:

- **Apply and integrate knowledge of music, science, and technology to convey, store, and disseminate audio information,**
- **Create formally consistent and emotionally engaging musical structures,**
- **Be able to analyze landmark issues pertaining to music and its industry.**

	Credits
Core courses	**52**
General Education courses	**47**
Concentration courses	**30**
TOTAL credits for Bachelor of Science Degree	**129**

CORE COURSES (52 credits)

		credits
CV 101	2D Design & Color I	3
CV 142	Interactivity Fundamentals	3
CV 242	Interactivity and Sync	3
DA 100	Desktop Audio Production	3
DA 110	Sound Synthesis I	3
DA 200	Audio Recording I	3
DA 215	Portfolio Preparation	3
DA 240	Technology of MIDI	3
DA 300	Audio Recording II	3
DA 320	Principles of Digital Audio	3
MU 102	Comprehensive Musicianship I	3
MU 112	Comprehensive Musicianship II	3
MU 140	Music Perception	3
MU 202	Comprehensive Musicianship III	3
MU 212	Comprehensive Musicianship IV	3
MU 230	Synthestration	3
SE	Programming Elective	4

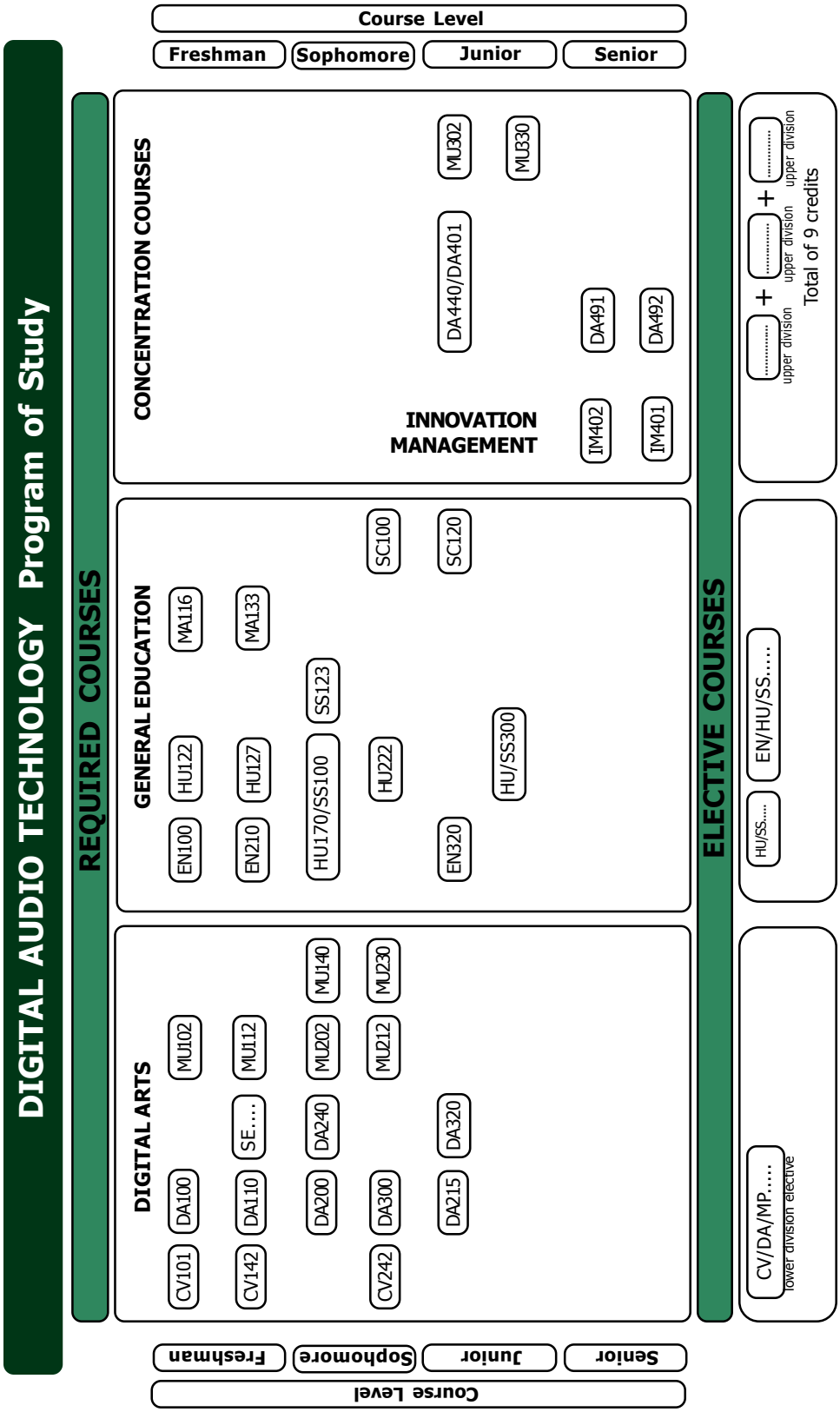
GENERAL EDUCATION COURSES (47 credits)

		credits
EN 100	English Composition	3
EN 210	Cultural Div. In Lit.	3
EN 320	Technical Comm.	3
HU 170	US History - Or -	
SS 100	US Government	3
HU 122	World Music	3
HU 127	History of Music Tech	3
HU 222	History of 20th Century Music	3
HU 300	GS Project	3
SS 123	World Cultures	3
HU/SS	Electives	3
EN/HU/SS	Electives	3
MA 116	Pre-Calculus	4
MA 133	Calculus I	4
SC 100	Basic Concepts of Physics	3
SC 120	Found. of Mus. Acoustics	3

CONCENTRATION COURSES (30 credits)

		credits
MU 330	Comp. for Soundtracks	3
MU 302	Style & Idea in Music	3
DA 440	Digital Sound Design - Or-	
DA 401	Advanced Audio Rec.	3

		credits
2	Portfolio Courses (DA 491, 492)	6
IM 401	Innovation Management I	3
IM 402	Innovation Management II	3
3	Upper Division Electives	9


DIGITAL AUDIO TECHNOLOGY Program of Study
Course Level
Freshman
Sophomore
Junior
Senior
REQUIRED COURSES
DIGITAL ARTS
CV101
DA100
MU102
CV142
DA110
SE....
MU112
DA200
DA240
MU202
MU140
CV242
DA300
MU212
MU230
DA215
DA320
GENERAL EDUCATION
EN100
HU122
MA116
EN210
HU127
MA133
HU170/SS100
SS123
HU222
SC100
EN320
HU/SS300
SC120
CONCENTRATION COURSES
INNOVATION MANAGEMENT
IM402
IM401
DA491
DA492
DA440/DA401
MU302
MU330
ELECTIVE COURSES
CV/DA/MP.....
lower division elective
HU/SS....
EN/HU/SS.....
upper division
upper division
upper division
upper division
Total of 9 credits

Bachelor of Arts Degree in Digital Motion Picture

The Motion Picture Industry is moving towards shooting feature length movies using digital technology. An independent market now exists for those who want to write, direct, edit, and stream their own shows and movies.

The digital video revolution is changing cinema. Unprecedented advances in video technology allow filmmakers to acquire their own studio quality professional gear.

In the DMP program, students receive instruction in acting, directing, video editing, special effects, project management, and project financing. The final three-trimesters concentrate on the preproduction, production and postproduction of a motion picture project.

The DMP curriculum provides a balance between a practical and theoretical approach that allows students to learn while exploring the historical and sociological aspects of the medium.

Digital Motion Picture Program of Study

Learning Outcomes

By completing the requirements for the Digital Motion Picture degree students will:

- **Use video and audio tools to produce videos in a traditional and internet environment,**
- **Demonstrate knowledge of the language, theory, and history of the motion picture,**
- **Demonstrate the ability to integrate personal, political, commercial, and social issues into artistic expression.**

	Credits
Core courses	**48**
General Education courses	**48**
Concentration courses	**32**
TOTAL credits for Bachelor of Arts Degree	**128**

CORE COURSES
(48 credits)

	credits
MP 200 Acting	3
MP 220 Film Theory	3
MP 230 Video Editing	3
MP 260 Great Directors - Or -	
MP 275 World Cinema	3
MP 330 Video Production	3
MP 325 Directing	3
MP 350 Cinematog. and Lighting	3
CV 101 2D Design and Color	3
CV 125 Intro to Drawing	3
CV 142 Interactivity Fundamentals	3
CV 220 Storyboarding	3
CV 242 Interactivity and Sync	3
CV 260 Intro to Photo	3
DA 100 Desktop Audio Production	3
DA 200 Audio Recording I	3
Lower Division Elective	3

GENERAL EDUCATION COURSES
(48 credits)

	credits
EN 100 English Composition	3
EN 210 Cultural Div. In Lit.	3
EN 227 Scriptwriting	3
EN 265 Storytelling	3
HU 120 History of Western Art	3
HU 170 US History - Or -	
SS 100 US Government	3
HU 227 Film History	3
HU 300 GS Project	3
SS 123 World Cultures	3
SS 150 Mass Comm. in Society	3
EN/HU/SS Elective	6
MA 115 Basic Topics in Math	3
MA Elective	3
SC 100 Basic Concepts of Physics	3
SC 300 Kinematics - Or -	
SC Elective	3

CONCENTRATION COURSES
(32 Credits)

	credits
MP 340 Documentary Production	3
MP 427 Advanced Scriptwriting	3
MP 440 Comp & Special Effects	3
MP 375 Pre-Production	3
MP 425 Production	4
MP 475 Post-Production	4

	credits
IM 401 Innovation Management I	3
IM 402 Innovation Management II	3
Upper Division Electives	6

DIGITAL MOTION PICTURE Program of Study
REQUIRED COURSES
ELECTIVE COURSES
Course Level
Freshman
Sophomore
Junior
Senior
DIGITAL ARTS
CV101
CV125
DA100
CV142
MP230
CV220
DA200
MP200
MP220
CV242
CV260
MP260/MP275
MP330
MP325
MP350
GENERAL EDUCATION
EN100
HU120
HU170/SS100
EN210
HU227
SS123
MA115
EN227
SS150
EN265
SC100
HU/SS300
SC300/SC....
CONCENTRATION COURSES
INNOVATION MANAGEMENT
IM401
IM402
MP427
MP375
MP340
MP440
MP425
MP475
EN/HU/SS.....
EN/HU/SS.....
MA....
CV/DA/MP.....
lower division elective
upper division
upper division
Total of 6 credits
Course Level
Freshman
Sophomore
Junior
Senior

Digital Arts Course Descriptions

Digital Art and Animation

CV101 2D Design and Color I 3(2,3)
Introduces the principles of two-dimensional image making with an emphasis on visual communication. Traditional and digital production techniques are covered. Students learn about the form and function of graphic design, study principles of perception and Gestalt theory and how they relate to graphic design. Students analyze subtractive color principles through exercises using traditional pigments. Image editing software is used.
Prerequisite: None

CV105 Intro to Computer Graphics 3(2,3)
Introduces computer animation. Focuses on the study of the terminology, strategies, applications, and visual representation of color and geometry in both 2D and 3D spaces. Students learn the fundamental techniques of 3D CG modeling including polygonal, spline, and subdivision modeling. Students learn to light, texture, and render 3D scenes.
Prerequisite: CV125
Corequisite: MA118

CV122 Color Concepts 3(2,3)
Introduction to color theory. Subtractive color principles are addressed through exercises using traditional pigments. Additive color principles are addressed through exercises using computers and image editing software.
Prerequisite: CV101

CV125 Intro to Drawing 3(2,3)
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

CV131 Figure Drawing I 3(2,3)
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: CV125

CV142 Interactivity Fundamentals 3(2,3)
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: CV101

CV201 2D Design and Color II 3(2,3)
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: CV101

CV205 Intro to Sculpture 3(2,3)
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: CV131

CV215 Portfolio Preparation 2(1,3)
Consists of a series of experiential problem-solving exercises to provide a logical explorative process that prepares students for their senior portfolio sequence. The problems begin with elements of artistic expression, especially 2D imagery, and continue to address issues related to public viewing and exposure. Includes written and oral discussions of field experiences.
Prerequisites: HU120, CV101

CV220 Storyboarding 3(2,3)
The translation of script to picture. Students explore the wide range of project management and presentation skills within this pre-production activity. Concepts covered in this course include scene set-up, camera maps, camera angles, staging, camera motion, and presentation techniques for effective boards. Production techniques include the use of a variety of materials used to formulate rough thumbnail sketches from shot description boards to final animatics. Students discuss storyboard formats, the visual industry standard method of communication.
Prerequisites: CV131, MP230

CV231 Figure Drawing II 3(2,3)
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. May be repeated once for credit with recommendation from the instructor.
Prerequisite: CV131

CV235 Character Portrait Sculpture 3(2,3)
This course is designed to develop students' understanding of the anatomical structure of the head and apply the knowledge to unique character creation in traditional sculpting mediums. Class will consist of lectures and demonstrations as well as significant studio practice with and without live models. May be repeated once with recommendation from instructor.
Prerequisite: CV131

CV242 Interactivity and Synchronization 3(2,3)
Design and implementation of dynamic user interfaces using DHTML. Introduction to scripting using JavaScript and VBScript. Cascading Style Sheets (CSS) I & II. Web Standards. Video and audio, encoding and streaming. Synchronized Multimedia Integration Language (SMIL). Introduction to media rich software, such as Flash and Web3D. Students apply these techniques to on-line media rich content delivery.
Prerequisites: DA100, CV142

CV255 Painting 3(2,3)
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: CV101, CV125

CV260 Intro to Photography 3(2,3)
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: CV101

CV285 Traditional Animation 3(2,3)
Introduces 2D art and explores the application of line of action, elements of layout, character design, model sheets, prop sheets, sequential drawing, follow through, elasticity and distortion, transformation, materials and methods, line style, representation of abstraction, single frame video making, the computer composite and experimental techniques. Fundamental tenets of motion styling such as in-betweening, timing, slow in/out, squash and stretch, transformations, rotoscoping and cycles. Unique solutions, avoidance of visual stereotyping, and visual shorthand methods. Students produce a final animated work that demonstrates mastery of traditional concepts and techniques.
Prerequisites: CV131, CV220

CV308 Illustration 3(2,3)
Development of observational skills and rendering techniques required to accurately illustrate using a variety of techniques. Students produce original illustrations in black & white and color with a variety of media including graphite, carbon dust, ink, color pencil, water-color, acrylic, gouache, and mixed media. May be repeated once for credit with recommendation from the instructor.
Prerequisite: CV131

CV312 Figure Sculpture 3(2,3)
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: CV131

CV320 Intro to 3D Modeling 3(2,3)
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.
Prerequisites: CV105, CV201, CV205, MP230

CV335 Game and Interactivity I 3(2,3)
Introduction to theory of interactivity and basic medium independent game constructs. Psychology of non-linear interplay. Study of mathematical models and probability theory. Deconstruction and analysis of successful interactivity models. Students construct an original non-electronic interactivity project.
Prerequisites: CV242, Specialization Status*

CV350 Entertainment Design I 3(2,3)
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: CV285, Specialization Status*

* *Approved portfolio and completion of core courses prerequisites for each specialization.*

CV360 Modeling I - Development of Form 3(2,3)
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: CV320, Specialization Status*

CV370 Intro to 3D Animation 3(2,3)
Introduces the creation of 3D animation using one or more software animation packages. Topics include key-frame and procedural animation of cameras, lights, shaders, and objects within a scene. Hierarchical animation, character setup and kinematics are covered for students wishing to study character animation. Students apply these techniques to develop animated 3D characters.
Prerequisites: CV320, SC300

CV385 Game and Interactivity II 3(2,3)
Students develop vocabulary for digital interactive content creation, explore game and interactivity models used in electronic media, deconstruct specific game architectures. Students, as a group, develop a game design document including concept, game overview, mechanics, interface design, production schedule, rough technical spec and accompanying visuals.
Prerequisite: CV335
Corequisite: CV491G

CV395 3D Animation I 3(2,3)
Explores human characters animated through walk cycles, body gesture and pose. Pre-rigged characters are used to learn timing and spacing. Students practice drawn-to-digital techniques.
Prerequisites: CV370, Specialization Status*

CV405 Concept Design 3(2,3)
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: CV131, CV320

CV410 Modeling II - Hard Surface Modeling 3(2,3)
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: CV360
Corequisite: CV491M

CV415 Entertainment Design II 3(2,3)
Explores painting the figure as a primary subject. Form and anatomy of the clothed and unclothed figure. Students learn how to apply painting materials, methods, and tools to increase their ability to create characters and situations to develop a story line.
Prerequisite: CV350
Corequisite: CV491E

CV420 Advanced 2D Animation 3(2,3)
Students explore the deeper meaning of imaging, animation, and digital design concepts. Topics include imaging theory and design, mixed media imagery and artistic expression for projection, installation, or other type of display.
Prerequisite: CV285

* *Approved portfolio and completion of core courses prerequisites for each specialization.*

CV425 Entertainment Design III 3(2,3)
Analyzes composing the human figure and environments for entertainment media. Develops visual response to directions for character attributes and story line. Students illustrate a variety of two-dimensional compositions to support a given theme.
Prerequisite: CV415
Corequisite: CV492E

CV435 Game and Interactivity III 3(2,3)
Emphasizes visual literacy, design process, work-flow pipe-line, project organization and management, and working to technical specs. Students develop the aesthetic discernment to deliver a quality interactive experience. Students, as a group, produce a digital interactive game, story engine or equivalent.
Prerequisite: CV385
Corequisite: CV492G

CV442 Graphic Design for the Web 3(2,3)
The study of design and aesthetic issues surrounding interactive media interfaces. Students will discuss, evaluate, and create interface designs for a variety of applications, including WWW, CD-ROM navigation, interactive storybook, game environment, and informational kiosk.
Prerequisite: CV242

CV445 3D Animation II 3(2,3)
Students explore lip syncing and facial expression to develop convincing human characters able to portray emotions using 2D or 3D techniques. Non-human characters such as quadrupeds and sea creatures are also addressed.
Prerequisite: CV395
Corequisite: CV491A

CV460 Modeling III - Organic Modeling 3(2,3)
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: CV410
Corequisite: CV492M

CV485 3D Animation III 3(2,3)
Explores emotive performance, advanced storytelling, and short film development through animation of characters. Students develop character animation sequences.
Prerequisite: CV445
Corequisite: CV492A

CV491A Animation Portfolio I 3(1,5)
Students produce a demo reel to demonstrate an understanding of the concepts of animation and proficiency in its techniques.
Prerequisite: CV215
Corequisite: CV445

CV491E Entertainment Design Portfolio I 3(1,5)
Students produce two and three-dimensional digital work. Topics include digital painting and texturing and lighting of 3D models. Students demonstrate an understanding of visual design for the entertainment industry.
Prerequisite: CV215
Corequisite: CV415

CV491G Games and Interactivity Portfolio I 3(1,5)
Students produce a demo reel to demonstrate an understanding of the concepts of interactive content development, game development, and proficiency in its techniques.
Prerequisite: CV215
Corequisite: CV385

CV491M Modeling Portfolio I 3(1,5)
Students produce a demo reel to demonstrate an understanding of the concepts of modeling and proficiency in its techniques.
Prerequisite: CV215
Corequisite: CV410

CV492A Animation Portfolio II 3(1,5)
Continuation of Portfolio I to complete the animation capstone project. Students learn to demonstrate their competency through the development of a demo reel.
Prerequisite: CV491A
Corequisite: CV485

CV492E Entertainment Design Portfolio II 3(1,5)
Continuation of Portfolio 1 to complete the Entertainment Design culmination project. Concept design as theme. Students learn to demonstrate their competency through the development of a demo reel portfolio.
Prerequisite: CV491E
Corequisite: CV425

CV492G Games and Interactivity Portfolio II 3(1,5)
Continuation of Portfolio I to complete the Games and Interactivity capstone project. Students learn to demonstrate their competency through the development of a demo reel portfolio which includes a game.
Prerequisite: CV491G
Corequisite: CV435

CV492M Modeling Portfolio II 3(1,5)
Continuation of Portfolio I to complete the Modeling capstone project. Students learn to demonstrate their competency through the development of a demo reel.
Prerequisite: CV491M
Corequisite: CV460

CV498 Special Project 1-6 credits
Individual or group research and development on a special area of interest in digital art and animation. Topics are developed in consultation with a faculty advisor.
Prerequisite: Permission of Department Chair

CV499 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

CV499 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

Digital Audio Technology

DA100 Desktop Audio Production 3(2, 3)
Introduces the principles, methods, and essential tools of audio production in a desktop workstation environment. Topics include elements of music, basic psychoacoustics, basic digital audio concepts, MIDI sequencing and editing, digital audio recording and editing, audio file formats, and working with external controllers and devices. Students are introduced to techniques for expressing basic musical ideas in a digital environment.
Prerequisite: None

DA110 Sound Synthesis I 3(2, 3)
Introduces the methods and techniques of waveform synthesis and sampling. Topics include basic sampling and waveform theory, additive synthesis, subtractive synthesis, amplitude modulation, frequency modulation, sample capture and editing, and waveform processing. Students are introduced to techniques for exploring sound color.
Prerequisites: DA100, MA116

DA200 Audio Recording I 3(2, 3)
Introduces the principles and practices of studio recording. Topics include basic recording techniques, studio protocol, mixing consoles and patch bays, microphone selection and placement, multi-track recording, audio processing techniques, studio monitors, equalization, and mix down. Students are introduced to techniques for rendering musical ideas into audio tracks.
Prerequisite: none

DA215 Portfolio Preparation 3(2, 3)
Supervised project that introduces the concept-to-delivery pipeline. Students create a collection of music titles, post them to their own artist websites in streaming and downloadable formats along with artist info, and initiate their marketing plan in preparation for Portfolio I.
Prerequisites: DA100, CV242

DA240 Technology of MIDI 3(2, 3)
Comprehensive coverage of MIDI standards. Topics include MIDI 1.0 Standard, Standard MIDI Files, General MIDI, Downloadable Samples (DLS) I and II, MIDI Show Control, Extensible MIDI Files (XMF), MIDI Tuning Standard, Scalable Polyphony MIDI (SP-MIDI), MIDI diagnostics and troubleshooting, external MIDI devices and controllers, and MIDI programming. Students practice utilization of MIDI technologies.
Prerequisites: DA100, Programming language

DA270 Interactive Visual Audio Programming 3(2, 3)
Introduces visual programming in the audio workstation environment. Topics include patch layout and design, audio and MIDI capture, audio and MIDI processing functions, connection to external devices, flow of control, event timing, and program efficiency. Students practice custom audio programming in a visual programming environment.
Prerequisite: DA240

DA300 Audio Recording II 3(2, 3)
Application of studio recording to motion picture post-production. Topics include techniques of cueing and soundtrack synchronization, SMPTE, MTC, Foley, and automated dialog replacement (ADR). Students practice rendering musical ideas and sound cues into a coherent soundtrack.
Prerequisite: DA200

DA310 Sound Synthesis II 3(2,3)
Intermediate sound synthesis and sampling techniques. Advanced FM techniques, waveshaping, granular synthesis, introduction to physical modeling synthesis and modal synthesis. Sound FX production techniques. Advanced audio filtering and processing techniques. Soundbank design fundamentals: voicing, layering, and controller modulation.
Prerequisite: DA110

DA315 Physical Modeling Synthesis 3(2,3)
Comprehensive treatment of physical modeling and modal synthesis techniques. Karplus-Strong algorithm, digital delay lines, and digital waveguides. Software and hardware implementations. Applications in industry. Projects using physical modeling synthesis hardware and software.
Prerequisites: DA310, SC120, MA133

DA320 Principles of Digital Audio 3(3, 0)
Survey of digital audio technologies. Topics include disk and tape media and formats, network protocols, basic DSP, error detection and correction, subcodes, and data compression. Students apply knowledge of mathematics and physics to the understanding of digital audio systems.
Prerequisites: MA116, MU140, SC120

DA335 Foley/SFX/ADR 3(2,3)
Techniques of recording motion picture sound effects on a Foley stage, capturing and processing special audio effects, and automatic dialog replacement. Sound stage layout and outfitting, microphone selection and placement, safety considerations, and use of audio processing software.
Prerequisite: DA200

DA345 Game Audio 3(2,3)
Design and development of audio resources for real-time interactive systems. Consideration of audio formats, instrumentation, and mood and thematic content. Analysis of successful soundtrack designs from the game literature. Integration into a game build using an industry caliber audio SDK such as the Miles Sound System. Collaborative project required which successfully applies course concepts.
Prerequisites: MU230, Programming Language

DA401 Advanced Audio Recording 3(2, 3)
Studio recording for albums. Topics include session planning and project management, advanced mixing and 2-channel mastering, introduction to multi-channel mastering, and CD/DVD authoring. Students apply advanced audio production techniques to the audio mastering stage of the concept-to-delivery pipeline.
Prerequisites: DA300, Approved Portfolio

DA440 Digital Sound Design 3(2, 3)
Audio production for motion picture and video games. Topics include audio cueing and tracking, audio resource integration into linear and non-linear media, analysis of landmark sound design examples from motion pictures and video games, study and application of acoustic, and psychological and dramatic factors. Students cooperate on a large-scale project that demonstrates mastery of sound design, audio recording techniques and cueing.
Prerequisites: DA300, MU230, Approved Portfolio

DA470 Music Software Development 3(2,3)
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 plugin design. Course project will include implementation of a real-time MIDI and digital audio application.
Prerequisite: SE310

DA491 Portfolio I 3(1,5)
Students work on a project that utilizes the concept-to-delivery pipeline. In addition to providing new music titles in streaming and downloadable formats, they apply for a barcode and develop their artist one-sheet.
Prerequisites: DA215, DA401 or DA440

DA492 Portfolio II 3(1, 5)
Students continue the work of DA491 by creating additional music titles, completing their marketing plan, registering their intellectual property, packaging their work in physical media (CD/DVD), and setting up transaction support with a merchant account and shopping cart.
Prerequisite: DA491

DA498 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 Department Chair

DA499 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 instructor and advisor

DA499 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 15-week trimester. Cogswell has 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

MU102 Comprehensive Musicianship I 3(2, 3)
Rudiments of music. Topics include the harmonic series, conventional music notation, rhythm and meter, major and minor scales, key signatures, simple and compound intervals, melodic modes, triads, seventh chords, and seven basic elements of music (pitch, rhythm, texture, form, dynamics, timbre, and spatialization). Introduction to harmony, solfege, and ear training. Rhythm and keyboard labs. Students are introduced to fundamental music concepts and musicianship skills.
Prerequisite: None

MU112 Comprehensive Musicianship II 3(2, 3)
Basics of harmony and musicianship. Topics include the circle of fifths, melody construction, basic chord progressions, bass-line construction, inner voices, non-harmonic tones, chord voicing and inversions, Roman numeral notation and basic analytical techniques. Practice of harmony, solfege, and ear training. Continuation of rhythm and keyboard labs. Students are introduced to the construction and analysis of multi-part music.
Prerequisite: MU102

MU140 Music Perception and Cognition 3(3,0)
Survey of research on perceptual and cognitive theories of sound and music. Topics include characteristics of sound, anatomy of ears, hearing function, cognitive skills related to music perception, memory in music, and the perception of musical time.
Prerequisite: EN100.

MU141 Ensemble 1(0, 2)
Music performance ensemble. Preparation and performance of musical selections in an ensemble setting. Open to any Cogswell student or employee by audition. May be repeated for credit.
Prerequisite: none

MU202 Comprehensive Musicianship III 3(2, 3)
Intermediate harmony and musicianship. Topics include secondary dominants and tonicization, chromatic non-harmonic tones, extended chords, basic chromatic harmony, and basic jazz voicing. Practice of harmony, solfege, and ear training. Rhythm and keyboard labs. Students practice multi-part music construction and analysis in an expanded harmonic context.
Prerequisite: MU112

MU212 Comprehensive Musicianship IV 3(2, 3)
Advanced harmony and musicianship. Topics include chromatic harmony, modal systems, bitonality, atonality, basic serialization, and indeterminacy. Practice of harmony, solfege, and ear training. Rhythm and keyboard labs. Students practice advanced multi-part music construction and analysis in a 20th century harmonic context.
Prerequisite: MU202

MU230 Synthestration 3(2, 3)
Orchestration and arranging using synthesizers. Topics include use of pitch, rhythm, texture, dynamics, articulation, and timbre to create musical phrases and sections; structure of standard musical forms; application of procedural techniques to musical composition and arranging. Students apply their skill and understanding of harmony and multi-part music construction to orchestration and arranging in a digital environment.
Prerequisites: DA100, MU202

MU302 Style and Idea in Music 3(2, 3)
Concept development from initial idea to its realization in a musical style. Topics include developing marketable ideas, characteristics of diverse musical styles, steps in adapting ideas to styles, and hints on arranging. Students practice idea development and arranging.
Prerequisites: MU230

MU330 Composition for Soundtracks 3(2, 3)
Soundtrack creation for motion pictures and video games. Topics include survey and analysis of representative motion picture and video game soundtracks, 20th century compositional and orchestrational techniques, and dramatic and psychological factors. Students apply their skills in desktop audio production and multi-part music construction to the creation of emotionally engaging soundtracks.
Prerequisites: MU212, MU302

MU498 Special Project 1-6 credits
Individual or group research and development on a special area of interest in music. Topics are developed in consultation with a faculty advisor.
Prerequisite: Permission of Department Chair

MU499 Special Topic 1-4 credits
Advanced course on a special topic in music. May be used as a technical elective and repeated as topic changes.
Prerequisite: Permission of instructor and advisor

Digital Motion Picture

MP200 Acting 3(2,3)
Basic concepts of acting for stage and screen. Students explore the actor's relationship to other players as well as the camera.
Prerequisite: HU227

MP220 Motion Picture/Film Theory 3(3,0)
An analytical and theoretical approach to the study of film. Students are exposed to the language of film, and the techniques of editing, directing, and cinematography. Students learn how production techniques affect content.
Prerequisite: HU227

MP230 Video Editing I 3(2,3)
Basic concepts of digital video editing, theory and techniques of motion picture editing, post-production management, media management, sound editing, titling, and effects. Students are introduced to graphic matching, rhythmic editing, coverage, continuity, and montage editing. Uses video editing software.
Prerequisite: CV101, DA100

MP260 Great Directors 3(3,0)
An analysis of the works of great film directors. Students explore the role of director as auteur, storyteller, and "mise-en-scene" visionary.
Prerequisite: HU227

MP275 World Cinema 3(3,0)
An introduction to the art and industry of non-western cinema. Selected national cinemas from Asia, Africa, and Latin America. Students explore the history and aesthetics of international film production in both the commercial and art film markets.
Prerequisite: HU227

MP325 Directing 3(2,3)
Unifies theoretical motion picture and storytelling concepts with their practical applications in a live-action setting. Students direct a crew to create scenes by applying filmmaking techniques of camera movement, lighting, sound recording, and set design.
Prerequisites: CV220, DA200, EN227, MP230

MP330 Video Production 3(2,3)
Introduction to video production and basic concepts in video engineering. Students use professional video cameras, sound recorders, microphones, and decks to practice on location and studio shooting.
Prerequisites: MP230, CV260

MP340 Documentary Production 3(2,3)
Explores writing, directing, and producing a documentary. Students review the historical roots of non-fiction filmmaking. Students organize and take responsibility for planning and executing a short documentary project.
Prerequisites: MP220, MP330

MP350 Cinematography and Lighting 3(2,3)
Focuses on the technical and aesthetic aspects of motion picture photography, including image composition, aperture, shutter speed, continuity, camera mounting, advanced studio, and field lighting. Students practice camera and lighting techniques.
Prerequisites: MP330, CV260

MP375 Pre-Production 3(2,3)
Presents an overview of the art and business of producing a short motion picture project. Story development, principles of pre-production, production management, script breakdowns, contracts, budgets, insurance, permits, schedules. Students complete a pre-production plan for a single original short motion picture. Students must provide a short script at first meeting.
Prerequisite: Portfolio Approval, MP325 or MP340

MP385 Mavericks of Independent Cinema 3(3,0)
The independent producer and director has changed the course and content of modern cinema. Mavericks looks at the filmmakers who went outside the studio system in favor of having more control of their own artistic vision. In addition to studying the

filmmakers and their craft this course will look at the innovative methods used in the battle to fund and shoot their films.
Prerequisites: MP330, MP220

MP425 Production 4(1,9)
Students direct and produce an original digital motion picture which can be live action or live action with animation. Students are responsible for assembling cast and crew, and communicating the photographic and aural vision.
Prerequisite: MP375

MP427 Advanced Scriptwriting 3(3,0)
Explores advanced classic screenwriting principles including those unique to post-modern and interactive storytelling. Advanced manipulation of time and space, in-depth application of conflict and resolution, and the application of alternative writing formats. Students write a feature length narrative screenplay.
Prerequisite: EN227

MP440 Compositing and Special Effects 3(2,3)
Explores the video production environment beyond the level of video production studio. Includes storyboarding, scripting, and computer video generated images. Students work in teams to create video projects using special effects, match/moving lighting, blue/green screen compositing, color correction, and motion graphics.
Prerequisite: MP230

MP475 Post-Production 4(1,9)
Students complete their digital motion picture. This includes a master/final edit (scoring, mixing, sound dubbing, titles). Students are responsible for drafting a pitch and proposal, for approaching festivals and distributors, and for using the web for self-distribution.
Prerequisite: MP425

MP498 Special Project 1-6 credits
Individual or group creative project. Project is developed in consultation with faculty advisor.
Prerequisite: Permission of Department Chair

MP499 Special Topic 1-4 credits
Advanced course on a special topic. May be used as a DMP elective and repeated as topic changes.
Prerequisite: Permission of instructor and advisor

MP499 Internship 3-5 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

For courses with prefix other than CV, DA, MU and MP see course descriptions in appropriate department.

NOTES

Engineering Department

The current growth in technologies spans traditional boundaries of engineering disciplines. It is with this perspective that the Department of Engineering designed three degree programs based on the commonalities among engineering disciplines. The Electrical Engineering and the Software Engineering programs prepare the students with a solid understanding of the fundamental principles of engineering common to all its fields. The Digital Arts Engineering program adds to engineering foundations a comprehensive education in digital arts.

Each degree program includes a core of technical courses within the major discipline, followed by courses in specialized disciplines.

Innovation management courses introduce students to a technical business environment.

The flexible structure of these engineering degree programs allows students to transfer from community colleges and complete the requirements for the degree in a convenient time frame. Evening classes allow non-traditional students to pursue a college degree in engineering while working full-time.

Bachelor of Science Degree in Electrical Engineering

The Electrical Engineering program includes a technical core of fundamental disciplines, complemented by courses in a wide spectrum of electrical engineering applications. The electrical engineering core includes courses in signals and systems, analog devices and circuits, and digital circuits and systems.

Elective courses allow students to pursue their interests in specialized fields. Elective courses also maintain the program current by presenting special topics, state-of-the-art technologies, and applications as they are developed.

The capstone for all technical courses is the Senior Project, a design/ research course which validates the preparation of engineering students to propose, implement, and present a complete project under the guidance of an advisor.

Electrical Engineering Program of Study

Learning Outcomes

By completing the requirements for the Electrical Engineering degree students will:

- **Apply mathematics, science, and engineering principles to define and solve engineering problems,**
- **Use engineering tools and techniques to design systems, components, software, and processes to satisfy desired specifications,**
- **Be able to collect and analyze data to evaluate and optimize components and systems.**

Bachelor of Science in Electrical Engineering (128 credits)

	Credits
General Education courses	**66**
Engineering courses	**56**
Innovation Management courses	**6**
TOTAL credits for Bachelor of Science Degree	**128**

GENERAL EDUCATION COURSES (66 credits)

English (9 credits)
EN100, EN210, EN320

Humanities/Social Sciences (24 credits)

	credits
U.S. History or Government course:	
HU170 or SS100	3
SS123 World Cultures	3
HU/SS 300 (Upper division project course)	3
HU electives	6
SS elective	3
EN/HU/SS electives	6

Mathematics (18 credits)
Calculus sequence including vector calculus
EE313 Advanced Engineering Mathematics
One upper division mathematics elective course.

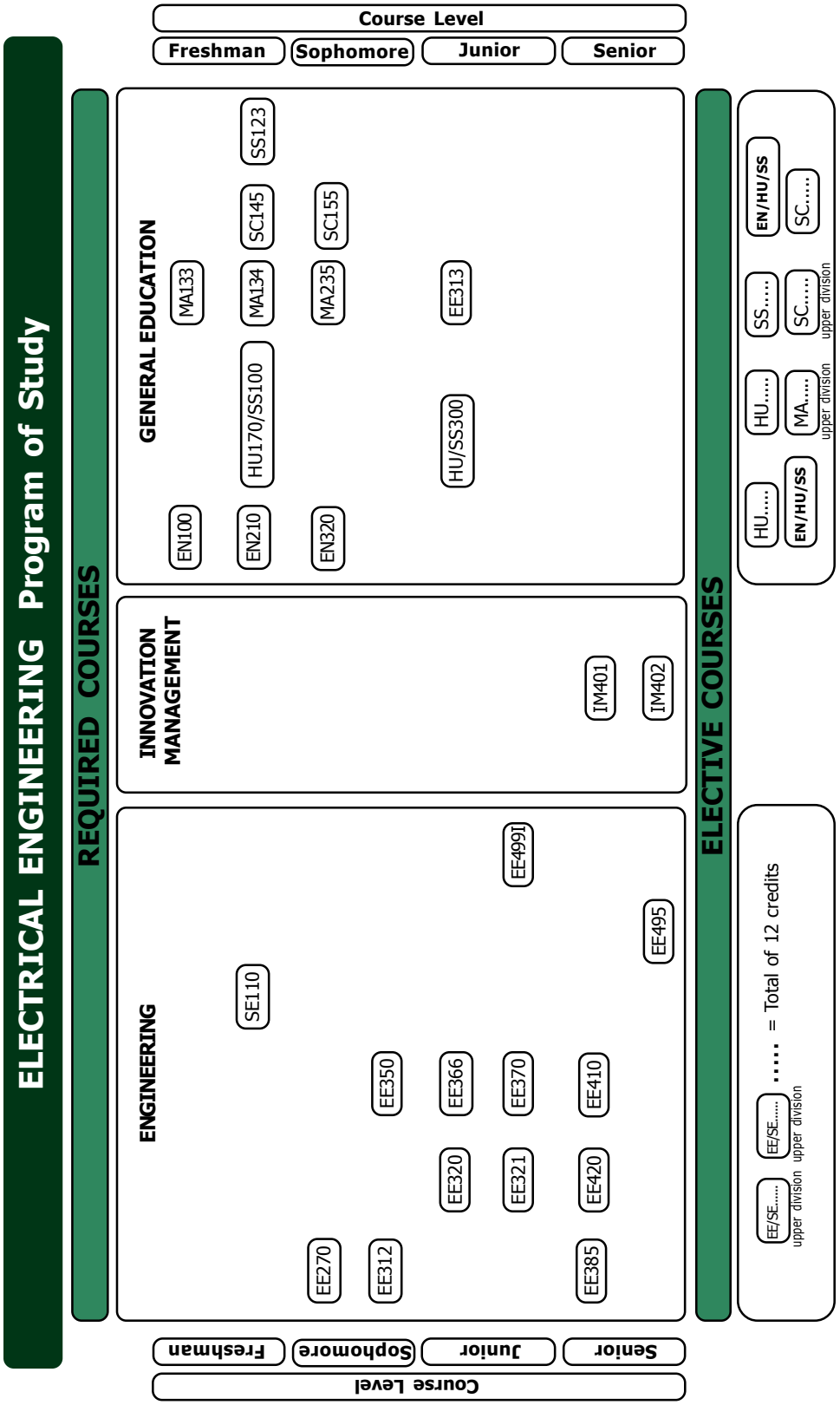
Basic Science (15 credits)
Engineering Physics sequence
Two courses of science elective (one in the upper division recommended)

ENGINEERING COURSES (56 credits)

	credits
SE 110 C Programming	4
EE 270 Intro to Circuits	4
EE 312 Signals and Systems	3
EE 320 Electronic Devices I	4
EE 321 Electronics Devices II	4
EE 350 Digital Circuits and Systems	4
EE 366 Sequential Logic Design	4
EE 370 Computer Architecture	4
EE 385 Field and Waves	3
EE 410 Control Systems	4
EE 420 Communication Systems	3
EE 495 Senior Project	3
Upper Division Technical Electives	12

INNOVATION MANAGEMENT (6 credits)

	credits
IM 401 Innovation Management I	3
IM 402 Innovation Management II	3


ELECTRICAL ENGINEERING Program of Study
Course Level
Freshman
Sophomore
Junior
Senior
REQUIRED COURSES
GENERAL EDUCATION
EN100
EN210
HU170/SS100
EN320
HU/SS300
MA133
MA134
MA235
EE313
SC145
SC155
SS123
INNOVATION MANAGEMENT
IM401
IM402
ENGINEERING
SE110
EE270
EE312
EE350
EE320
EE366
EE321
EE370
EE4991
EE385
EE420
EE410
EE495
ELECTIVE COURSES
HU.....
EN/HU/SS
HU.....
MA....
upper division
SS.....
SC....
upper division
EN/HU/SS
SC.....
EE/SE.....
upper division
EE/SE.....
upper division
..... = Total of 12 credits

Bachelor of Science Degree in Software Engineering

The Software Engineering program includes a core of disciplines fundamental to software development, complemented by selected courses in application fields where software is becoming a major tool.

The software core includes courses in data structures, operating systems, computer architecture, object oriented programming, object oriented analysis and design, UNIX programming and Internals. Specialized courses in database management, networking and security are also offered.

The capstone course for all specializations is the Senior Project, a design/research course which validates the preparation of the software engineering students to propose, implement, and document a software project under the guidance of an advisor.

Software Engineering Program of Study

Learning Outcomes

By completing the requirements for the Software Engineering degree students will:

- **Apply mathematics, science, and engineering principles to define and solve engineering problems,**
- **Use engineering tools and techniques to design systems, components, software, and processes to satisfy desired specifications,**
- **Be able to collect and analyze data to evaluate and optimize components and systems**

Bachelor of Science in Software Engineering (130 credits)

	Credits
General Education courses	**59**
Engineering courses	**65**
Innovation Management courses	**6**
TOTAL credits for Bachelor of Science Degree	**130**

GENERAL EDUCATION COURSES (59 credits)

English (9 credits)
EN100, EN210, EN320

Humanities/Social Sciences (24 credits)

	credits
U.S. History or Government course:	
HU170 or SS100	3
SS123 World Cultures	3
HU/SS 300 (Upper division project course)	3
HU electives	6
SS elective	3
EN/HU/SS electives	6

Mathematics (18 credits)
Calculus sequence including vector calculus
MA377 Software Engineering Mathematics
One upper division mathematics elective course

Basic Science (8 credits)
Engineering Physics sequence

ENGINEERING COURSES (65 credits)

	credits
SE 110 C programming	4
SE 220 UNIX Programming Environment	4
SE 212 Java Programming	4
SE 310 Data Structures and Algorithms	4
SE 315 Object Oriented Programming	4
SE 320 Operating System Concepts	3
SE 330 Compiler Design	4
SE 340 Software Engineering Methods and Project	3
SE 341 Object Oriented Analysis and Design	4
SE 349 Computer Organization and Assembly Language	4
SE 351 Computer Architecture	3
SE 420 UNIX Internals	4
SE 442 Advanced OO Design	4
SE 495A Senior Project I	1
SE 495B Senior Project II	3
EE 350 Digital Circuits and Systems	4
Upper division Technical Electives	8

INNOVATION MANAGEMENT (6 credits)

	credits
IM 401 Innovation Management I	3
IM 402 Innovation Management II	3

SOFTWARE ENGINEERING Program of Study
Course Level
Freshman
Sophomore
Junior
Senior
REQUIRED COURSES
ENGINEERING
SE110
SE220
SE212
SE310
SE315
SE330
SE320
SE340
SE349
EE350
SE341
SE351
SE420
SE495A
SE442
SE495B
INNOVATION MANAGEMENT
IM401
IM402
GENERAL EDUCATION
EN100
EN210
EN320
MA133
HU170/SS100
MA377
HU/SS300
MA134
MA235
SC145
SC155
SS123
ELECTIVE COURSES
EE/SE..... + EE/SE..... = Total of 8 credits
upper division upper division
HU.....
EN/HU/SS
HU.....
MA.....
upper division
SS.....
SC.....
EN/HU/SS
SC.....
upper division
Engineering

Bachelor of Science Degree in Digital Arts Engineering

The creation of software for entertainment is a rapidly growing industry. As the market for computer games, animation movies, and interactive entertainment demands realism and sophistication in its content and imaging, the need for highly skilled people with specialized expertise in the entertainment industry increases.

This degree is based on strong foundations of art, writing, sound and music, physics, mathematics, software engineering, and provides students with a comprehensive education in all aspects of digital arts.

The program aims to develop professional skills in a wide range of methods, techniques and practices appropriate for professional digital art engineers.

The degree has concentrations in modeling, animation, and game engineering.

Digital Arts Engineering Program of Study

Learning Outcomes

By completing the requirements for the Digital Arts Engineering degree students will:

- **Function on multidisciplinary teams of technical and artistic professionals,**
- **Create tools to expand the capabilities of the digital artistic content, create and maintain interactive delivery systems.**

	Credits
General Education courses	**59**
Digital Arts Engineering courses	**65**
Innovation Management courses	**6**
TOTAL credits for Bachelor of Science Degree	**130**

GENERAL EDUCATION COURSES (59 credits)

credits

English (9 credits)

EN 100 Composition	3
EN 210 Cultural Diversity in Literature	3
EN 320 Technical Communication	3

Humanities/Social Sciences (24 credits)

HU 120 Intro to Art	3
HU 170/SS100 U.S. History or US Government	3
HU/SS 300 General Studies Project	3
HU 227 Film History or HU 230 History of Animation	3
SS 123 World Cultures	3
SS Elective courses	3
HU/SS Elective courses	6

Mathematics (18 credits)

Calculus sequence including vector calculus	12
MA 377 Software Engineering Mathematics	3
MA 478 Advanced Software Engineering Mathematics	3

Basic Science (8 credits)

SC 145 College Physics I	4
SC 155 College Physics II	4

INNOVATION MANAGEMENT (6 credits)

credits

IM 401 Innovation Management	3
IM 402 Innovation Management	3

DIGITAL ARTS ENGINEERING (65 credits)

credits

Basics courses in Software Engineering (16 credits)

SE 110 C Programming	4
SE 212 Java Programming	4
SE 310 Data Structures and Algorithms	4
SE 315 Object Oriented Programming	4

Basics courses in Art (15 credits)

DA 200 Audio Recording I	3
CV 101 2D Design and Color I	3
CV 125 Sketching	3
CV 242 Interactivity and Synchronization	3
CV 260 Intro to Photography	3

Concentrations (34 credits)

Modeling and Animation Engineering

Concentration Courses in Art (12 credits)

CV 285 2D Animation	3
CV 335 Game Design I	3
CV 360 Modeling I	3
CV 395 Animation I	3

Advanced Courses in Software Engineering (15 credits)

SE 447 Computer Graphics Algorithms	4
SE 450 Animation	4
SE 451 Advanced Animation	4
DAE 495 Senior Project	3

Upper Division Electives (7 credits)

Game Engineering

Advanced Courses in Art (12 credits)

CV 320 Intro to Modeling	3
CV 335 Game and Interactivity I	3
CV 385 Game and Interactivity II	3
CV 435 Game and Interactivity III	3

Advanced Courses in Software Engineering (15 credits)

SE 450 Animation	4
SE 472 Game Algorithms	4
SE 473 Game Engine	4
DAE 495 Senior Project	3

Upper Division Electives (7 credits)

DIGITAL ART ENGINEERING Program of Study
REQUIRED COURSES
ELECTIVE COURSES
Course Level
Freshman
Sophomore
Junior
Senior
DIGITAL ARTS
CV101
CV125
DA200
CV242
CV260
CV285
CV320
CV335
CV335
CV360
CV385
CV395
CV435
ENGINEERING
SE110
SE212
SE310
SE315
SE447
SE450
SE450
SE472
SE451
DAE495
SE473
DAE495
INNOVATION MANAGEMENT
IM401
IM402
GENERAL EDUCATION
EN100
HU120
EN210
HU170/SS100
MA133
SC145
EN320
HU227
MA134
SC155
SS123
MA235
MA377
HU/SS300
MA478
HU/SS....
HU/SS....
SS.....
..... + ... = Total of 7 credits
upper division upper division
CV,SE Modeling and Animation Engineering Concentration
CV,SE Game Engineering Concentration

Department of Engineering Course Descriptions

Electrical Engineering

EE270 Introduction to Circuit Analysis 4(3,3)
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: MA134, SC155

EE312 Signals and Systems 3(3,0)
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-transforms. Unit sample response and convolution. Fundamental properties of Fourier series and transforms and applications to sampling and filtering. Students are introduced to fundamental tools of signals and systems used to analyze and design electric systems.
Prerequisites: EE270, MA235

EE313 Advanced EE Mathematics 3(3,0)
Three main topics are studied in this course: vector calculus, Fourier and Z transforms, probability and random processes. Vector calculus: vector functions, Gauss' Law, surface integrals, flux, divergence, divergence theorem and applications, line integrals, the curl, Stoke's Theorem and applications, the gradient and Laplace's equation. Z and Fourier Transforms: Properties and evaluation of Z transforms, Convolution, time domain and Z-domain, Discrete Fourier Transform (DFT), DFT properties and evaluation, spectrum analysis, Fast Fourier Transform (FFT), basic algorithm and evaluation, fast convolution. Probability and random processes: events, sample space and probability, random variables, statistical averages, probability models, binomial, Poisson, Gaussian distributions, random processes, spectral characteristics, correlation functions. Students apply advanced mathematical tools to evaluate and design electric systems.
Prerequisite: EE312

EE320 Electronic Devices and Circuits I 4(3,3)
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: EE 270

EE321 Electronic Devices and Circuits II 4(3,3)
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: EE320

EE350 Digital Circuits and Systems 4(3,3)
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; combinational logic analysis and synthesis; adders and subtracters; 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 combinational and sequential logic circuits.
Prerequisite: SC155

EE366 Sequential Logic Design 4(3,3)
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 combinational machines to equivalent sequential machines. Laboratory experiments use Verilog HDL. Students practice combinational logic principles to design sequential circuits.
Prerequisite: EE 350

EE370 Computer Architecture 4(3,3)
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, 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.
Prerequisite: EE366

EE385 Field and Waves 3(3,0)
Static and time-varying electric and magnetic fields. Theory and application of Maxwell's equations. Waves on continuous transmission lines, dielectric and metallic waveguides, propagation, energy flow, and impedance matching. Scattering parameters. Students are introduced to electromagnetic field. Students practice advanced engineering mathematics in fields and waves problems.
Prerequisite: EE313

EE410 Control Systems 4(3,3)
Principles and applications of feedback control of dynamic systems. Analysis and design methods including: root-locus, frequency response, and state-space. Memoryless nonlinear systems. Introduction to digital control. Laboratory experiments use CASAD

software and experiments on actual or simulated plants. MATLAB with Control Systems Toolbox is also used. Students practice analog and digital design principles to analyze and design control systems.
Prerequisites: EE321, EE350

EE420 Communication Systems 3(3,0)
Communication systems using various transform techniques. Basic concepts of probability, random variables, and stochastic processes applied to communications, control, information, logic systems. Modulation techniques including AM, FM, PM, and pulse modulation. Information theory concepts for coding, combining, transmission, reception, and distribution of signals.
Prerequistes: EE313, EE321

EE487 Advanced Computer Architecture 3(3,0)
Pipelined architecture. Stack architecture. Reduced-instruction-set architecture. Vector processor architecture. Parallel architecture. Memory hierarchy: cache, main, secondary. Virtual memory. Virtual machines. Computer arithmetic. Computer performance evaluation.
Prerequisite: EE370

EE495 Senior Project 3(0,6)
Research, definition, design, cost analysis, construction, testing, and oral and written documentation of a faculty-approved project to demonstrate the student's ability to perform as a practicing electrical engineer.
Prerequisite: Senior Standing

EE498 Special Project 1-6 credits
Individual or group investigation, research, or study to pursue a special area of interest.
Prerequisite: Permission of Department Chair

EE499 Special Topic 1-4 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

EE499 Internship 3-5 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

Innovation Management

IM401 Innovation Management I 3(3,0)
Introduction to project management, marketing, and promotion. Students practice these disciplines within the content domain including content creation, content generation tool development, and content delivery. The ISPER and First Doc methods are applied. Students develop a comprehensive plan for their capstone project.
Prerequisites: Specialization status for DA Students or Senior Status for Engineering Students
Corequisite: Portfolio I or MP425 for DA students

IM402 Innovation Management II 3(3,0)
Introduction to contract law with a focus on industry agreements. Topics include intellectual property definitions and protection mechanisms including patents, copyrights, trademarks and trade secrets. Students explore basic business modeling, planning, and financials. Students are introduced to web-based transactions receive special attention. Students are introduced to the rights and responsibilities of innovators.
Prerequisite: IM401

Software Engineering

SE050 Introduction to software engineering: visual modeling and problem solving 4(3,3)
Introduction to computer systems: hardware, operating systems, compilers, assemblers, linkers, loaders. Introduction to Logo as visual modeling language. Data abstraction. Problem solving through software life cycle. Students explore modeling concepts and problem solving techniques.
Prerequisite: High school algebra.

SE110 C Programming 4(3,3)
Introduction to hardware and software tools. Discuss 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: High school algebra

SE212 Java Programming 4(3,3)
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: SE110

SE220 UNIX Programming Environment 4(3,3)
Structure of UNIX file system. Shell programming. Discuss different shells. Filters. UNIX system calls. Documentation Preparation. Standard I/O Library. AWK programming language. SED editor. Students practice programming in the UNIX environment.
Prerequisite: SE110

SE310 Data Structures and Algorithms 4(3,3)
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.
Prerequisites: SE110, MA377 (MA 377 may be a corequisite)

SE315 Object Oriented Programming 4(3, 3)
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: SE310

SE320 Operating Systems Concepts 3(3,0)
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: SE220, SE310

SE330 Compiler Design 4(3,3)
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: SE220, SE310

SE340 Software Engineering Methods and Project 3(3,0)
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 walk through the software life cycle in a software project.
Prerequisite: SE310

SE341 Object Oriented Analysis and Design 4(3,3)
Object oriented analysis. Object oriented software design in C++/Java. Objects. Classes. Inheritance. Polymorphism. Managing complexity with Abstraction. Liskov principle. Object Modeling. Case studies of object oriented design. Memory management. Exception handling. Some design patterns. Students apply object oriented analysis, design, programming techniques to complete a software project.
Prerequisite: SE315

SE345 Windows Programming 4(3,3)
Principles of user interface design. Input elements: keyboard, mouse. Memory management. Icons. Menus. Dialog boxes. Graphics device interface. Data exchange and links.
Prerequisite: SE310

SE349 Computer Organization and Assembly Language 4(3,3)
Assembly language of 80x86 and Pentium CISC microprocessors. Number systems and number representations. 80x86 and Pentium architecture and addressing modes. 80x86 instruction set: data transfer, program control, logic, strings, fixed-point binary arithmetic, procedures, and macros. Segments. Registers. Subroutines. Instruction execution timing. Floating-point arithmetic. Linking C and assembly language.
Prerequisites: SE 110, MA133

SE351 Computer Architecture 3(3,0)
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.
Prerequisites: SE349, EE350

SE360 Database Management Systems 4(3,3)
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.
Prerequisites: SE310, SE220

SE420 UNIX Internals 4(3,3)
Introduction to UNIX kernel. Designs and Algorithms of Buffer Cache, File System, UNIX System Calls, Processes, Memory Management System. UNIX Scheduling algorithms. Students apply operating systems concepts in UNIX systems and study the efficiency of UNIX systems.
Prerequisites: SE220, SE320

SE422 UNIX Networking 4(3,3)
Network Communication: Internal Structure, Interfaces, Routing, Buffering and Congestion Control, Sockets. Network Protocols. TCP algorithms.
Prerequisites: SE220, SE310

SE424 Routing and Switching 4(3,3)
LAN and WAN protocols. LAN and WAN design issues. IP routing. IP Multicast. Frame relay. Router token ring. ATM routing and switching.
Prerequisite: SE422

SE426 Network Security 4(3,3)
Security protocols: Remote Authentication Dial In User Service, Terminal Access Controller Access Control System Plus (TACACS+), Data Encryption Standard (DES), Triple DES (DES3) ,IP Secure (IPSec) ,Internet Key Exchange (IKE), Certificate Enrollment Protocol (CEP) ,Point to Point Tunneling Protocol (PPTP), Layer 2, Tunneling Protocol (L2TP). Security technologies: Concepts - *security best practices,* Packet Filtering PIX and IOS authentication proxies, Port Address Translation (PAT), Network Address Translation (NAT), Firewalls, Content Filters, Public Key Infrastructure (PKI), Authentication Technologies, Authorization technologies, Virtual Private Networks (VPN), Network IDS anomaly, signature, passive, inline. Host Intrusion Prevention Cisco Threat Response. Routing and switching security features: IE mac address controls, port security, dhcp snoop**.**
Prerequisite: SE422

SE430 Advanced Java 4(3,3)
Java Threaded Programming. Collection. Networking. Database Connectivity. Remote Objects. Swing. Security. Internationalization. Naïve methods.
Prerequisites: SE212, SE341

SE432 Web Programming 4(3,3)
HTML, XHTML. Servlets. Java threads**.** Introduction to Java beans. Introduction to JSP. Non-Java related technologies for web development such as Perl, PHP and Javascript.
Prerequisite: SE212

SE440 Advanced Software Engineering 3(3,0)
Software Validation. Software Verification. Software Engineering Management. Software Quality Assurance. Students apply discrete mathematics and software methods in optimizing software projects.
Prerequisites: MA377, SE310, SE340

SE442 Advanced Object Oriented Design 4(3,3)
Advanced Object Modeling. Case Studies of Object Oriented Design. Design Patterns. Component architecture. Component frameworks. Students apply object oriented principles in a large project.
Prerequisite: SE341

SE447 Computer Graphics Algorithms 4(3,3)
Geometry for Computer Graphics: 2-dimension transformations, 3-dimension transformations. Bresenham's Lines and Circles Algorithms. Ellipses. Hidden line Algorithms. Clipping Algorithms. Intersections. Three-dimensional viewing techniques. Theory of curves and surfaces. Spline curves: natural cubic splines, B-splines curves. Bezier curves. Parametric surfaces. B-splines surfaces and Bezier surfaces. Hidden lines and surfaces algorithms: depth sorting methods, depth buffer and screen subdivision methods. Hidden line and surface removal methods. Students practice concrete mathematics concepts in computer graphics.
Prerequisites: SE315, MA377

SE450 Animation 4(3,3)
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. Deformation algorithms of Bezier patch, B-Spline patch representations. Students apply computer graphics algorithms in animation.
Prerequisite: SE447

SE451 Advanced Animation 4(3,3)
New topics and trends in animation and visualization. Students are exposed to frontiers of animation techniques.
Prerequisite: SE450

SE459 Data Compression Algorithms 3(3,0)
History of data compressions. Shannon-Fano algorithm. Huffman Algorithm. Adaptive Huffman coding. Arithmetic coding. Statistical Modeling. Dictionary based Compression. Sliding window compression: LZ77, LZSS. An improved compression: LZ78. Speech Compression. Lossy Graphics Compression.
Prerequisites: MA377, SE310

SE461 Computer Security 3(3,0)
Cryptography. Data encryption. RSA algorithm. Breaking Knapsacks. The Chor-Rivest Algorithm. Other Public-key cryptosystems. Security problems in UNIX, databases, networks. Hacking and social responsibilities.
Prerequisites: MA377, SE320

SE470 AI: an engineering approach 3(3,0)
Rule-based Inference Systems, Forward and Backward chaining. Expert Systems. Reasoning with uncertainty. Planning and searching in AI systems.
Prerequisites: MA377, SE341

SE472 Game Algorithms 4(3,3)
Study the design and implementation of computer games like chess, checkers and others. Combinatorial games. Students apply concrete mathematics and animation techniques to games.
Prerequisites: MA478, SE447
Corequisite: SE450

SE473 Game Engine 4(3,3)
Study the design and implementation of a game engine. Students apply computer graphics algorithms and animation techniques in game engines.
Prerequisite: SE450

SE495A Senior Project I 1(1,0)
Students write a research proposal.
Prerequisite: Senior standing

SE495B Senior Project II 3(0,6)
Students apply software life cycle in a senior project. Project results are presented orally and in a formal written report.
Prerequisite: Senior standing

SE498 Special Project 1-6 credits
Individual or group research of preselected problems. May be used to support senior project.
Prerequisite: Permission of Department Chair

SE499 Special Topic 1-4 credits
Group study of preselected topics to be specified by the instructor. May be repeated for credits.
Prerequisite: Permission of instructor and advisor

SE499 Internship 3-5 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

For courses with prefix other than EE, IM and SE see course descriptions in appropriate department.

General Education Department

General Education at Cogswell College consists of a core curriculum of required and elective courses in mathematics, the natural sciences, English, the social sciences, and the humanities. This curriculum is offered so that Cogswell graduates will have the ability to speak, write, and think critically and creatively. To gain these abilities, students will take traditional general education course work and also have opportunities for independent study and special research in the arts, philosophy, history, and the social sciences, and to relate this work to contemporary social, economic, and political issues.

Learning Outcomes expected from the students upon their graduation:

- **Students will demonstrate the ability to use mathematics and science as needed for their studies,**
- **Students will communicate effectively orally and in writing,**
- **Students will analyze and discuss characteristics of diverse cultures,**
- **Students will analyze and discuss the individual and community values needed for life-long participation in a democratic society.**

General Education Requirements for Baccalaureate Candidates 45 credits minimum

General Studies	**33 credits minimum**
English (EN)	9 credits
Humanities (HU)	6 credits
Social Sciences (SS)	6 credits
EN or HU or SS Elective	3 credits
U.S. History or U.S. Government	3 credits
World Cultures	3 credits
HU/SS General Studies Project	3 credits
Mathematics and Science	**12 credits minimum**
Mathematics	6 credits
Physical Science	3 credits
Science Elective	3 credits

Some degree programs may require specific general education courses.

General Studies Course Descriptions

EN050 Grammar and Composition Fundamentals 3(3,0)
Extensive written work stressing spelling, accurate sentence structure, and logical paragraph development. Credit earned does not count toward a degree.
Prerequisite: None

EN100 Composition and Critical Thinking 3(3,0)
Develops written communication and critical thinking skills. Explores techniques and practices of expository and argumentative writing by analyzing and responding to essays written by others. Students learn to generate ideas for writing based on readings; organize and support their ideas; and apply techniques of revision to produce polished, professional work. Content, format, and correct grammatical structures are emphasized.
Prerequisite: English Placement Test (EPT)

EN210 Cultural Diversity in Literature 3(3,0)
Develops analytical and critical thinking skills through literature, which deals directly with issues of multiculturalism. Students apply the concepts learned in EN100. Students must take this course by the end of their sophomore year.
Prerequisite: EN 100

EN227 Scriptwriting 3(3,0)
Fundamentals of writing a script for animation, television, commercials, films, and digital games. Students work on character and story development.
Prerequisite: EN 100

EN250 Speech and Oral Communication 3(3,0)
Development and improvement of effective communication skills in formal and informal settings. Emphasis on preparation of topics to be presented orally, development of student as effective communicator, and clear presentation of research or other project before a variety of audiences.
Prerequisite: EN100

EN260 Literature 3(3,0)
Survey of selected literature as a reflection of human motivation and behavior. Examination of the significance of critical perception. Includes short stories, a novel, and a play.
Prerequisite: EN210

EN265 Storytelling 3(3,0)
Art of storytelling and improvisational acting. Students are involved in individual story development and re-enactment, as well as group participation in storytelling. Students also explore the concepts of spontaneity and original expression through improvisation and playacting.
Prerequisite: EN210

EN320 Technical Communication 3(3,0)
Develops business communication skills with particular emphasis on technology and science. In addition to the basic fundamentals for writing in the business environment,

it also includes the expanded role of the technical writer, multinational/multicultural communications, ethical considerations, and collaborative writing in the workplace. Presentation techniques, both oral and graphic, relate oral presentations to written documents.
Prerequisite: EN210

EN498 Special Project 1-3 (arranged)
Individual or group investigation, research, and study of pre-selected topics.
Prerequisites: EN210, permission of instructor

EN499 Special Topic 1-3 (arranged)
Group study of topic selected by instructor. May be repeated for credit.
Prerequisites: EN210, permission of instructor

HU120 The Nature and History of Western Art 3(3,0)
Broad introduction to nature, vocabulary, media, and historical development of visual arts. Major categories are architecture, sculpture, painting, and printmaking. Exposure to major art works in Western tradition from Paleolithic times to present. Students develop criteria for answering the question: "What is art?"
Prerequisite: None

HU122 World Music 3(3,0)
Study of representative music and instruments from the world cultures, including Middle Eastern, Asian/Pacific, Indian, African, Latin American, North American and Western. Emphasis on impact and influence on contemporary American musical styles and performance.
Prerequisite: None

HU125 Music in Western Culture 3(3,0)
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. Study of the significance of music for people and social bases for the development of music.
Prerequisite: None

HU127 History of Music Technology 3(3,0)
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, and modern digital audio technology.
Prerequisite: EN100.

HU160 Philosophy: Issues and Options 3(3,0)
Survey of major topics in aesthetics, epistemology, ethics, logic, metaphysics, and philosophy of language.
Prerequisite: EN100

HU170 U.S. History 3(3,0)
Social, political, and intellectual history from the Age of Exploration to the present. Students focus on major trends and developments. Includes California history.
Prerequisite: EN100

HU220 Modern Art History 3(3,0)
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 changes in culture.
Prerequisites: EN100, HU120

HU222 History of 20th Century Music 3(3,0)
Overview of trends in music composition, performance, technology, and criticism from 1900 to the present. Integrates consideration of popular and world musics as well as new trends derived from the European classical tradition.
Prerequisites: EN100, HU122 or HU125

HU227 Film History 3(3,0)
Surveys the history of film from the end of the 19th century up to the present. Students learn about the evolution of film technology as well as the social and cultural relevance of the various periods.
Prerequisite: EN100

HU229 Science Fiction Cinema 3(3,0)
Defines what constitutes classic science fiction cinema, identifies the key players in international sci-fi and shows how their films influenced the filmmakers who followed. Places seminal works in political and social contexts by exploring the military, scientific, and outer-universal symbolism.
Prerequisite: EN100

HU230 History of Animation 3(3,0)
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: EN100

HU262 The Nature of Art 3(3,0)
Examination of fundamental questions of aesthetics: "What is Art? Why Art? What is Beauty? How does Art function in a given community or culture?" Historical, religious, sociological, psychological, and biological indications of the human need to "make things special" will be investigated.
Prerequisites: EN100, HU120

HU275 Novel Into Film 3(3,0)
More than half of the films made in Hollywood have been adaptations from novels and short stories. Students explore the relationship between the two art forms as well as analyze the different techniques used in creating great literature and films.
Prerequisite: EN100

HU300 Humanities General Studies Project 3(3,0)
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.
Prerequisites: EN210 and Junior Standing (recommended to have completed all HU/SS requirements minus two)

HU361 Contemporary Ethical Issues 3(3,0)
Examines philosophical foundations of ethical theory and applied ethics. Students

discuss historical approaches and contemporary case studies in relation to ethical theory and personal values.
Prerequisite: HU160

HU498 Special Projects 1-3 (arranged)
Individual or group investigation, research, and study of preselected problems.
Prerequisites: EN210, Permission of Department Chair

HU499 Special Topics 1-3 (arranged)
Group study of topic selected by instructor. May be repeated for credit.
Prerequisites: EN210, Permission of Department Chair

MA003 Intermediate Algebra 3(3,0)
Intermediate algebra including exponents and polynomials, equations and systems of equations in one and two variables, functions and graphs, and exponential and logarithmic functions. Credit earned does not count toward a degree.
Prerequisite: One year of high school mathematics including elementary algebra

MA115 Math for Computer Graphics 3(3,0)
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: MA003 or an appropriate score on the math placement test

MA116 Pre-Calculus 4(4,0)
Topics include principles and applications of factoring, rational expression, radicals, solutions and graphs of linear, quadratics equations and inequalities; polynomials, rational, exponential, trigonometric, and logarithmic functions; matrices, determinants, complex numbers.
Prerequisite: An appropriate score on the math placement test

MA118 Geometry For Computer Graphics 3(3,0)
An introduction to the algorithms of curve production and their transformations. Topics include plane geometry, trigonometry, matrices, parametric equations, vectors, transformations in a vector space, projective geometry and fractal geometry. Students are introduced to the basic geometry for computer graphics.
Prerequisite: MA115

MA133 Calculus I 4 (4,0)
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. Integration by substitution and by parts. Simple differential equations. Students are introduced to the calculus concepts for science and engineering.
Prerequisite: MA116

MA134 Calculus II 4 (4,0)
Integration by trigonometric substitution and partial fractions. Arc length. Indeterminate forms. Improper integrals. Simpson's and Trapezoidal Rules for numerical integration. Newton's method. Taylor's Theorem including a discussion of the

remainder. Sequences. Series. Power series. Separable differential equations. First order linear differential equations. Homogeneous second order linear differential equations with constant coefficients. Students are introduced to the calculus concepts for science and engineering.
Prerequisite: MA133

MA235 Calculus III 4(4,0)
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. Line integrals. Surface integrals. Green-Gauss theorems. Students are introduced to the calculus concepts for science and engineering.
Prerequisite: MA134

MA255 Statistics 3(3,0)
Topics in descriptive and inferential statistics. 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: MA116

MA375 Linear Algebra 3(3,0)
Set theory, systems of linear equations, vector spaces, linear transformations, matrix algebra, determinants, eigenvalues, eigenvectors, and applications.
Prerequisite: MA235

MA377 Software Engineering Mathematics 3(3,0)
Topics in mathematics necessary for software engineering applications. Introduction to set theory, functions and relations; introduction to logic; matrices and systems of equations; elementary combinatorics, probability and statistics; methods of proof; finite sums and products; complex numbers; recurrence relations. Introduction to Analysis of Algorithms. Students are introduced to the discrete mathematical concepts for software engineering.
Prerequisite: MA133

MA478 Advanced Software Engineering Mathematics 3(3,0)
Linear Programming: Simplex algorithm. Mathematical theory of duality in linear programming. Game theory: Zero-sum games. Prisoner's dilemma. Evolutionarily stable strategy. Normal-form representation of games. Nash equilibrium. Mixed strategy equilibrium. Bayesian Nash equilibrium. Stackelberg Model. Two-Person bargaining problems and the Nash bargaining solution. Coalitions in cooperative games. Students apply discrete mathematical concepts to game theory.
Prerequisites: MA235, MA377

MA498 Special Project 1-3 (arranged)
Individual or group investigation, research, or study of preselected problems.
Prerequisite: Permission of Department Chair

MA499 Special Topic 1-5 (arranged)
Group study of a preselected topic as specified by the instructor. May be repeated for credit.
Prerequisite: Permission of Department Chair

SC100 Basic Concepts of Physics/Laboratory 3(2,2)
Basic principles: motion, gravitation, electricity and magnetism, light, relativity and atomic physics. Students are exposed to the fundamentals of physics.
Prerequisite: MA115

SC120 Foundations of Musical Acoustics 3(2,2)
Simple vibrating systems, waves and wave propagation, complex vibrations and resonance, intensity and loudness, frequency and pitch, scales, tuning, temperament, acoustic features and characteristics of acoustic musical instruments by family, room acoustics. Anatomy and acoustics of human ear and voice. Students learn the science of tone production and delivery.
Prerequisites: MA115, SC100

SC145 College Physics I 4(3,2)
Fundamentals of mechanics, fluids, and heat, including vectors, translation and equilibrium, acceleration, projectile motion, Newton's Laws, work, energy, power, impulse, momentum, uniform circular motion, rotation of rigid bodies, simple machines, 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 the physics concepts for science and engineering.
Prerequisite: MA133

SC155 College Physics II 4(3,2)
Fundamentals of sound, light, electricity and magnetism, and modern physics, including illumination, reflection, refraction, interference, diffraction, polarization, DC and AC circuits, magnetism, electrochemistry, thermochemistry, special theory of relativity, quantum theory, atomic physics, nuclear physics, and electronics. Illustrative work to complement theory. Students are introduced to the physics concepts for science and engineering.
Prerequisite: SC145

SC300 Kinematics 3(3,0)
Kinematics in one and two dimensions. Description of uniform and accelerated motion, average and instantaneous velocity and acceleration; main equations of kinematics; free fall, graphic analysis of linear motion; vectors, scalars, and their operations; projective motion, relative motion, motion in space and time. Kinematics of uniform circular motion. Includes lectures, demonstrations, labs, and elementary problem solving.
Prerequisite: SC100

SC360 Modern Physics 3(3,0)
Introduction to the theory of relativity; quantum mechanics; solid state theory; subatomic particle physics.
Prerequisite: SC155

SC361 Semiconductor Physics 3(3,0)
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, Fermi levels, 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, meta-semiconductor junction, ohmic contact, Schottky diode, MOSFET structure, band

diagrams, minority carrier concentrations, current components, Ebers-Moll model, high injection effects, heterojunction BJT.
Prerequisites: MA134, SC155

SC498 Special Project 1-3 (arrange)
Individual or group investigation, research, study, or surveys of preselected problems.
Prerequisite: Permission of Department Chair

SC499 Special Topic 1-5 (arrange)
Group study of pre-selected topic, the title to be specified by the instructor. May be repeated for credit.
Prerequisite: Permission of Department Chair

SS100 U.S. Government 3(3,0)
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: EN100

SS105 Political Theory 3(3,0)
History and evolution of political theory, including the works of major political theorists. Nature and methods of political action, diversity of problems, attempted solutions. Trends, approaches, and criticisms of modern political systems, including theories of legitimacy and justice.
Prerequisite: EN100

SS110 Psychology: Understanding Human Behavior 3(3,0)
Understanding human behavior as it is influenced by biological and neurological processes and structures, genetics, gender, sensation and perception, learning and memory, psychopathology, socialization, and enculturation.
Prerequisite: EN100

SS121 Environment and Culture 3(3,0)
Introduction to the study of human culture in time and space using the holistic (multifaceted) approach to relate cultural elements to their wider social and physical environment. Examines the diversity, originality, and universality of human cultural beliefs and practices.
Prerequisite: EN100

SS123 World Cultures 3(3,0)
Explores the multi-faced impact of globalization on the major cultural regions of the world. Students analyze this impact using anthropological principles, crucial historical data, and ecological influences.
Prerequisite: EN100

SS130 Introduction to Economics 3(3,0)
Survey of micro- and macroeconomics. Theory of competition and the firm; analysis of complexity of economic activity; relations among extractive, manufacturing, and service sectors; international trade and finance; relations between government and economic life.
Prerequisite: EN100

SS150 Mass Communications In Society 3 (3,0)
Students examine the sociological effects of mass communication from the telegraph to digital age. Readings and discussions help demonstrate how various world cultures get their information and how Western societies communicate in the personal and political environment.
Prerequisite: EN100

SS232 Global Political Economics 3(3,0)
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 Crescent world, Latin America, and Africa in context of global economic, cultural, military, and political relations with the United states.
Prerequisite: SS123

SS300 Social Sciences General Studies Project 3(3,0)
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.
Prerequisites: EN210, Junior Standing (recommended to have completed all HU/SS requirements minus two)

SS498 Special Project 1-3 (arranged)
Individual or group investigation, research, and study of preselected problems.
Prerequisites: EN210, Permission of Department Chair

SS499 Special Topic 1-3 (arranged)
Group study of topic selected by instructor. May be repeated for credit.
Prerequisites: EN210, Permission of Department Chair

Library and Archives

The Library offers an extensive collection of print and non-print materials for the use of students, faculty, and staff. The collection includes about 12,000 titles, 100 periodical titles, and various digital and audio-visual learning resources for classroom and/or student use. Through inter-library loan services, Cogswell library users have access to other libraries' collections. Photocopy articles are also available from information brokerage firms. Literature searches of computer data-bases are available through the reference services.

The Library provides computers and a coin-operated copying machine. Library staff assists patrons in general library use, in information searching methods, and as a supplement to classroom learning.

The Lyle E. Patton Archives identifies, collects, preserves, and makes available catalogs, marketing materials, photographs, memorabilia of special events, and other items of enduring value that document and provide context for the history and functioning of the College from 1887 to the present. College faculty, staff, students, and alumni may conduct research in the archives by appointment.

Learning Outcomes:

1. **Students will know how to conduct research.**
2. **Students will evaluate knowledge resources.**

Degrees at a Distance Program

The Degrees at a Distance Program (DDP, formerly OLFS) is an upper division program sponsored by the National Fire Academy. It gives fire service professionals the opportunity to earn a bachelors degree in a fire-focused discipline through distance learning. Cogswell College is a member of a consortium of seven colleges and universities across the country that offer the DDP; Cogswell administers the program for Arizona, Nevada, and California.

Cogswell's distance learning classes are taught through the correspondence format. In addition, students may participate in five day resident programs presented at the college and at other convenient locations several times during the year. These sessions allow students to take a three unit course in concentrated form in a classroom setting. Not all courses are offered in the resident program format.

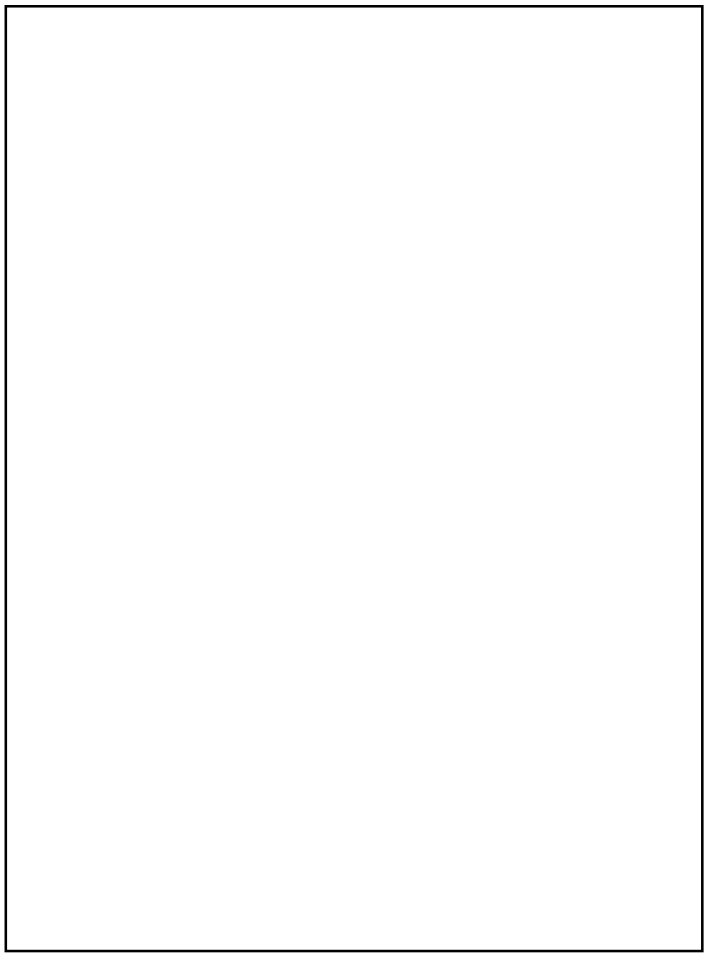
Who is Eligible for DDP as a Degree-Seeking Student?

1. **A student who has an associate degree in fire science or in another field. Lower division requirements, including 21 lower division units in fire science, will have to be completed as part of the bachelor's degree requirements.**
   See "Program of Study" on the next page.

2. **A student who does not have an associate degree but who has completed English composition and at least 12 units of lower division fire science. Other lower division requirements may be completed while working on the bachelor's degree.**
   See "Program of Study" on the next page.

Who is Eligible for DDP as a Certificate Student?

A student with or without lower division work.
No transcripts need be submitted for entry as a certificate student. Upon completion of any six upper division fire science courses in the program, a certificate student receives a certificate from the National Fire Academy (NFA) and Cogswell College. This certificate is also available to degree-seeking students upon completion of six upper division fire science courses.



The Degrees at a Distance Program differs from Cogswell's on-campus programs in several ways:

- It is an upper division program,
- Tasks such as registration, advising, and withdrawal from courses are done at a distance by mail, phone, fax, or email, depending on the activity,
- DDP has its own academic calendar (see page 105),
- Associated Student Body fees are not charged,
- DDP applicants do not qualify for financial aid.

By completing the requirements for the Fire Science degree students will:

- be prepared for professional and allied fire service positions in all levels of government, business, and industry,
- apply theories and current practices of fire science, fire administration and fire prevention,
- be prepared to provide leadership in the preservation of life and property, and the reduction of human suffering resulting from all types of emergencies and disasters.

Degrees at a Distance Program for the Fire Science Program of Study

(120 Total Credits for a Bachelor of Science Degree)

CORE COURSES

Lower Division Transfer Requirements (60 credits)

General Studies (24 credits minimum)
English Composition
Speech
Technical Report Writing
U.S. History or American Government
Two Humanities
Two Social Sciences

Math/Science (12 credits)
College Algebra
Business Math or Financial Planning
Physical Science
Chemistry or Hazardous Materials

Fire Science (21 credits)

Elective (3 credits)

Upper Division Requirements (51 credits)

Fire Science (24 credits)

FS355	Advanced Fire Administration	3
FS357	Fire Prevention Organization and Management	3
FS359	Personnel Management for the Fire Science	3
FS474	Fire Protection Structure and Systems Design	3
FS482	Political and Legal Foundations of Fire Protection	3
FS484	Community and Fire Threat	3
FS486	Managerial Issues of Hazardous Materials	3
FS494	Senior Project	3

General Education Courses (9 credits)

English	3
Applied Ethics	3
Statistics	3

Electives (18 credits)

Management	3
Public Administration	3
Business Law	3
Others	9

CONCENTRATION COURSES

Fire Administration (9 credits) -**OR**- **Fire Prevention/Technology** (9 credits)

FS342	Analytical Approaches to Public Fire Protection	3	FS415	Fire Related Human Behavior	3
FS440	Disaster and Fire Defense Planning	3	FS442	Fire Dynamics	3
FS344	Applications of Fire Research	3	FS446	Incendiary Analysis and Fire Investigation	3

Degree at a Distance Program

The ten upper division FS courses and Sr. Project must be taken through the DDP. Cogswell also offers college algebra, statistics, upper-division English, ethics, a lower-division social science, and a lower-division humanities through correspondence and/or through resident programs, but these and the remaining course requirements may be taken at other institutions and the credit transferred to Cogswell. Certain state, military, and NFA certificates can fulfill some of the upper and lower division general education requirements.

FIRE SCIENCE COURSE DESCRIPTIONS

FS342 Analytic Approaches to Public Fire Protection 3(3,0)
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(3,0)
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.

FS355 Advanced Fire Administration 3(3,0)
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.

FS357 Fire Prevention Organization and Management 3(3,0)
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.

FS359 Personnel Management for the Fire Service 3(3,0)
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.

FS415 Fire Related Human Behavior 3(3,0)
Examines human aspects of the fire problem, including research and analysis of the problem and related issues in residential properties, wildland fires, assisted living/group home situations, commercial/industrial settings and multi-use highrise buildings.

FS440 Disaster and Fire Defense Planning 3(3,0)
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(3,0)
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 Incendiary Fire Analysis and Investigation 3(3,0)
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(3,0)
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.

FS482 Political and Legal Foundations of Fire Protection 3(3,0)
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.

FS484 Community and the Fire Threat 3(3,0)
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.

FS486 Managerial Issues in Hazardous Materials 3(3,0)
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.

FS494 Senior Project 3(3,0)
Requires a formal, written paper that presents a project the student has handled at his/her place of employment.
Prerequisite: Completion of a minimum of 5 of the 7 core fire science courses

EN498X Disasters In The Twentieth Century 3(3,0)
Requires an in-depth research paper that examines a 20th-century U.S. disaster of the student's choosing, using a thesis format. Review of research skills and the rules and conventions of good, clear writing prior to beginning on the research paper. Best papers enter the Cogswell College Library and are sent to the National Fire Academy's Learning Resource Center. (Fulfills upper division English requirement.)

HU220X 19th – 20th Century Art: Foundations of Modernism 3(3,0)
Explores the evolution of modern Western art beginning with a few styles in the early 19th century through many divergent approaches by the beginning of the 20th century. Develops the eye for perceiving differences in styles, media, and content. Examines relationships between developments in the arts and changes in the technology, science, and social values. Field trips to Stanford Museum of Art and the San Francisco Legion of Honor.

HU361X Applied Ethics 3(3,0)
Examines central issues in ethical theory within a framework of applied ethics, including the justification of moral points of view, the place of reason in ethics, the status of moral principals and judgments, the nature of moral issues, and moral experience.

MA115X College Algebra 3(3,0)
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

MA355X Statistics 3(3,0)
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.

Degree at a Distance Program

Degrees at a Distance Program for the Fire Service

Academic Calendar 2004 - 2005

FALL 2004
Registration packet to be mailed mid August
Register by September 24
Term dates: October 4 - January 18

FALL 2004 Resident Program at Cogswell, Sunnyvale CA
Registration packet to be mailed mid August
Register by September 1
Program dates: October 15 – 19 (Fri AM-Tues noon)

SPRING 2005
Registration packet to be mailed early December
Register by January 28
Term dates: February 7 - May 20

SPRING 2005 Resident Program I at Cogswell, Sunnyvale CA
Registration packet to be mailed early December
Register by December 17
Program dates: January 21 - 25 (Fri AM-Tues noon)

SPRING 2005 Resident Program II
Dates and Site TBA

SUMMER 2005
Registration packet to be mailed late April
Register by May 25
Term dates: June 6 - September 16

SUMMER 2005 Resident Program
Dates and Site TBA

FALL 2005 Resident Program at Cogswell, Sunnyvale CA
Registration packet to be mailed mid August
Register by August 31
Program dates: September 23 - 27 (Fri AM-Tues noon)

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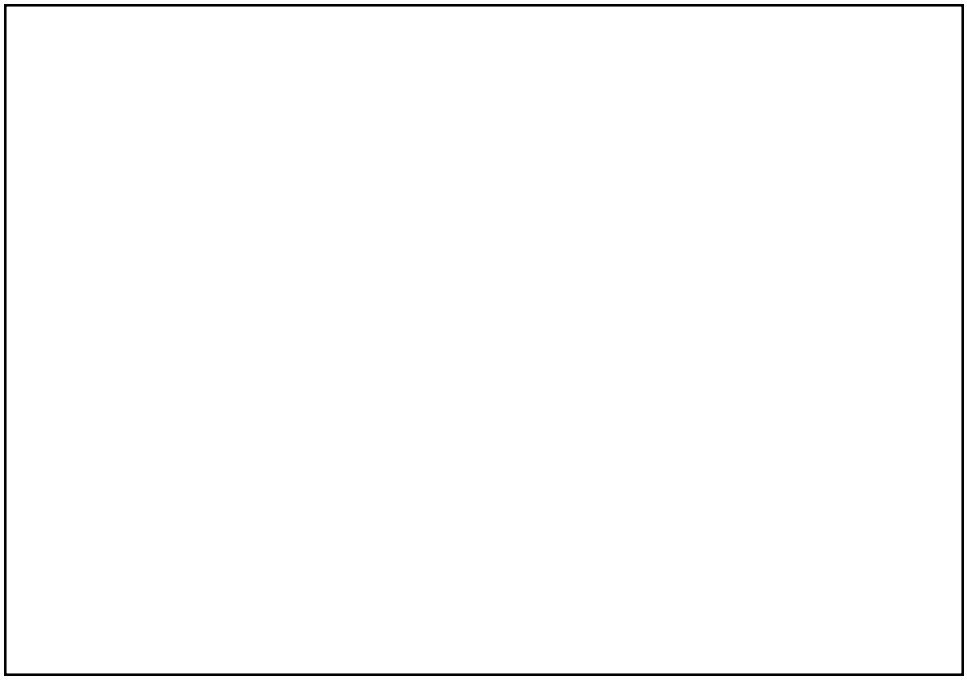
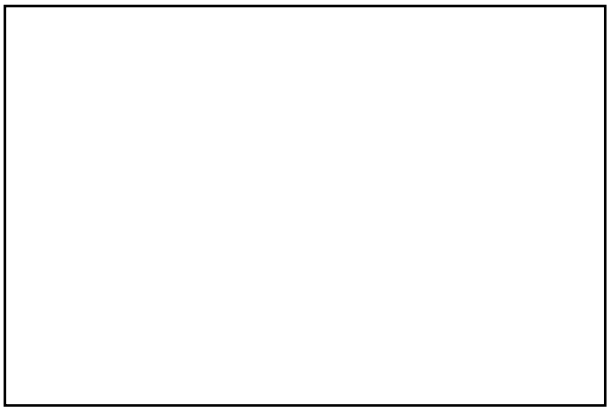


Degrees at a Distance Program Faculty



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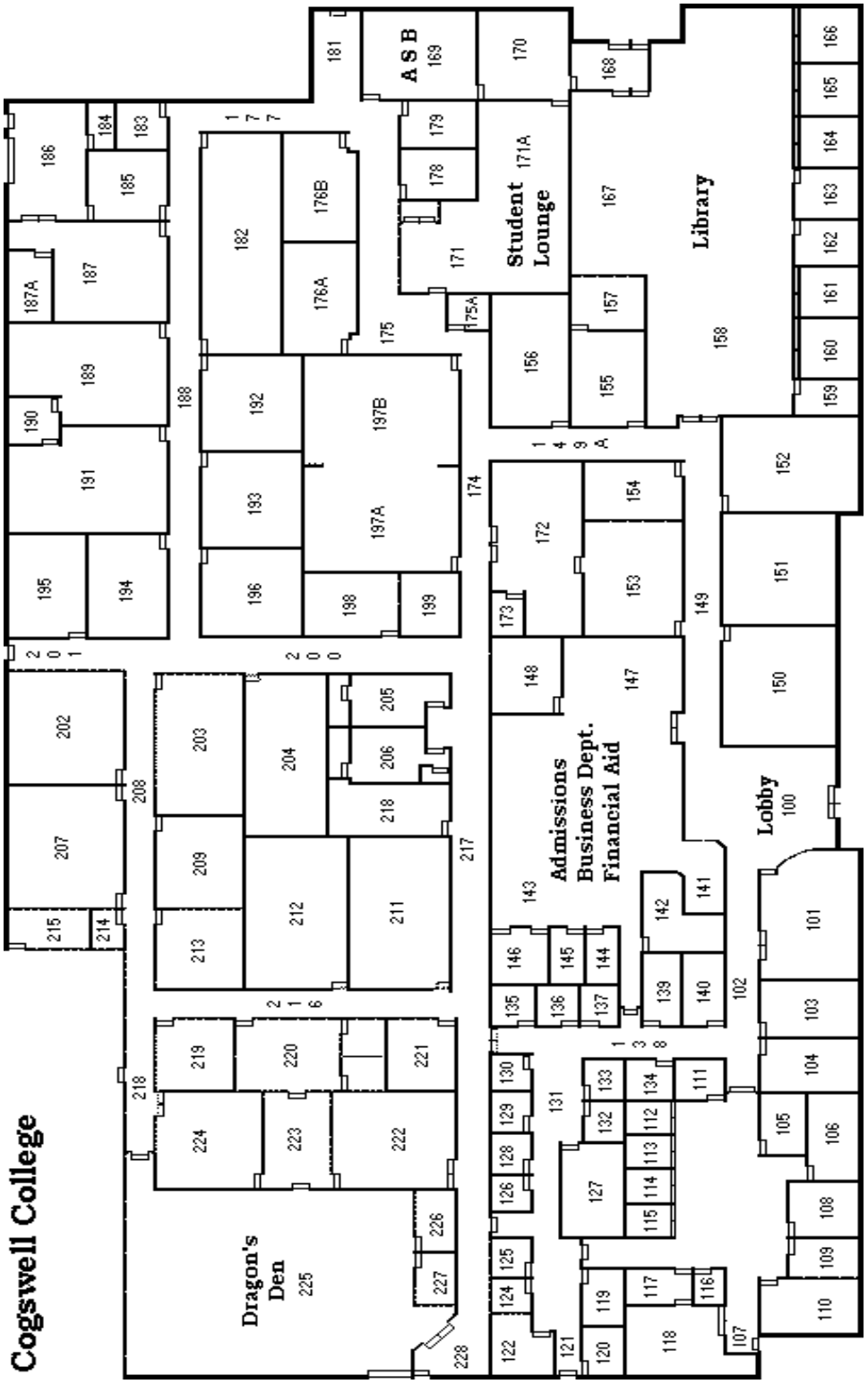
Cogswell College
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Admissions
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