DPS 4041. Individualized Basic Education
This course is designed for students with disabilities who need individualized diagnostic/prescriptive instruction in reading, writing and mathematics.

DPS 4042. Active Job Search
Designed for students with disabilities who are job ready and need placement services and advanced job search strategies. Tailoring resumes, cover letters, and applications. Interviewing techniques and job search planning/management. Field experiences to local businesses, employers, and organizations may also be required.

DPS 4043. Orientation to Vocational Ed (45 hrs)
Designed for students whose psychological disabilities interfere with the achievement of their educational and vocational goals. Course content will be tailored to the special needs of the students. Development of appropriate classroom behaviors, study skills and self-confidence will be stressed. Emphasis will be on the acquisition of vocational skills.

DPS 4050. Life Skills for the Disabled (90-270 hrs)
Designed for students identified as developmentally delayed learners who want to improve their basic life skills for vocational purposes and are unable to benefit from instruction offered in regular classes. Small group instruction is offered in money handling skills, computer basics, community resources, and personal responsibility in preparation for entry level jobs and daily living. Students with reading levels below third grade may experience difficulty. Designed to be completed in two years (as long as the student is making measurable progress).

DPS 4302. High School, GED, and Basic Skills for Disabled Students (90-450 hrs)
Designed for students with disabilities who want to earn a high school diploma or GED or who want to improve their basic skills for vocational or higher education purposes and are unable to benefit from instruction in regular classes. Small group and individualized instruction in reading, writing, math, and other high school subject areas and in preparation for proficiency and/or GED tests, as specified on each student’s Student Educational Contract (SEC). Course may be repeated as long as students are making measurable progress and/or until requirements are met. Students who want to earn a high school diploma or GED must meet certain eligibility criteria. They are also eligible for special test-taking accommodations.

DPS 4303. Adaptive Physical Education (Adaptive Yoga)
Designed for students with physically disabling conditions who want to improve and maintain their physical and mental well-being and who are unable to benefit from instruction offered in mainstream P.E. classes.

DPS 4104. Crafts - Blind/Visually Impaired
Various crafts and ceramics for students who are blind or visually impaired. Emphasis on skills which enhance daily life. Crafts include knitting, crocheting, sewing, macrame, beadwork, weaving, painting, printmaking and ceramics.

Deaf/Hard of Hearing
DPS 4210. Management of Hearing Loss
Instruction and practice in speechreading and other adaptive behavioral strategies. Acquaints students with appropriate assisting devices and available services for the hearing impaired. Accepting and coping with hearing loss is a fundamental objective. Appropriate for hearing impaired individuals and interested professionals.

DPS 4212. ASL/ESL Skills Development for the Deaf
This course is intended for deaf and hard of hearing students who desire to improve their English writing skills. The course provides exposure to written English and American Sign Language, focusing on the functional needs of the students.

DPS 4214. American Sign Language I
A beginning course in American Sign Language for persons desiring to communicate with deaf and hard of hearing persons. Coursework includes an introduction to Deaf Culture, expressive and receptive fingerspelling and grammatical structures which are introduced in the contexts of communication activities.

DPS 4215. American Sign Language II
An intermediate course in sign language for the hearing impaired or persons desiring to communicate with the deaf or hard of hearing. Continuation of the students’ work in manual communication skills, with emphasis on daily communication problems and colloquial expressions.

Earth Sciences
Announcement of Courses

CREDIT, DEGREE APPLICABLE COURSES:

Geography
GEOG 1. Physical Geography (3)
Lec-3, field trips
An introduction to the Earth’s physical environment. Processes and patterns of weather and climate, the development of landforms, plant and animal distributions, and the interpretation of maps. Attention given to the physical environment and natural hazards of California and the Bay Area. CSU/UC/CAN

GEOG 1L. Physical Geography Laboratory (1)
Lab-3, field trips
Prereq.: Completion/concurrent enrollment in GEOG 1
The study of weather and climate, tectonic processes, and landforms. Emphasis on the interpretation of weather maps, climatic data, aerial photographs, and topographic maps. CSU/UC
GEOG 4. Cultural Geography (3)
Lec-3, field trips
An introduction to patterns in the contemporary human landscape. Topics include dynamics of population growth, migration, systems of agriculture, the legacy of colonialism, uneven economic development, the historical development and spread of religion and language. CSU/UC/CAN

GEOG 7. Economic Geography (3)
Lec-3, field trips
An introduction to economic geography. Topics include patterns and processes of urbanization, industrialization, and the interconnected global economy. Contemporary issues such as international business and changing patterns of manufacturing in the United States. CSU/UC

GEOG 49. National Parks—Their Geology and Geography (3)
Lec-3, field trips CR/NC avail.
A survey of the national parks and monuments with emphasis on the western United States. An introduction to their discovery and development; appreciation of their particular beauty, natural phenomena, and historic significance. CSU

GEOG 91-92-93. Geography Work Experience (1-2-3)
Work-5, 10, 15 CR/NC avail.
Repeat: max. 6 units
Off-campus work may include employment or volunteer service in a geography-related setting (e.g., laboratory, museum, park) under the supervision of a qualified professional or faculty member. On-campus work consists of instruction and experience in the preparation, care, and maintenance of equipment, materials, training aids, and specimens used in the Earth Sciences Department. CSU

GEOG 186. Introduction to Geographical Information Systems (GIS) Applications (2)
Lec-1, lab-3
Foundation course for the use of GIS software. History, structure, uses, hardware and software requirements, and basic operation of GIS. Introduces Global Positioning Systems (GPS) as they relate to GIS. CSU
GEOG 186 = ET 186

Geology

GEOL 5. General Geology (4) sp
Lec-3, lab-3, field trips
Not open to students who have completed GEOL 10
An introduction to the materials and processes which form our planet. A look at the Earth with an eye toward understanding its physical aspects. Rocks and minerals; continents and ocean basins; construction and destruction of the landscape; mountains, earthquakes, global tectonics. Geological methods, tools, and information sources. CSU/UC

GEOL 10. Introduction to Geology (3)
Lec-3, field trips
Not open to students who have completed a course in general geology, or to students majoring in physical science or civil engineering
An introduction to the basic concepts of earth science and their relationships to people. Topics include minerals, rocks, volcanoes, earthquakes, streams, glaciers, geologic hazards, mineral resources, and plate tectonics. Emphasis on the geologic features of western North America. CSU/UC/CAN

GEOL 10L. Introduction to Geology Laboratory (1)
Lab-3, field trips
Prereq.: Completion/concurrent enrollment in GEOL 10
Introduction to the materials of the Earth, with emphasis on the recognition of common minerals and rocks, especially those common to California; study and interpretation of topographic and geologic maps. CSU/UC/CAN

GEOL 11. Historical Geology (3)
Lec-3, field trips
Prereq.: GEOL 5 or 10
Origin of the Earth and its development through geologic time. The formation and destruction of mountain ranges and ocean basins. The evolution of plants and animals as seen through the fossil record. Emphasis on the geologic history of North America. CSU/UC

GEOL 18. Geology of California (3)
Lec-3, field trips CR/NC avail.
Not offered in same year as GEOL 21
An introduction to California from a geologic viewpoint. The rocks and minerals, the geologic features, and the economic geology of California. The geologic history and importance of each natural province of California. CSU/UC

GEOL 20. Exploring the West (1)
Field trip-3 days and orientation CR/NC avail.
Prereq.: GEOL 5, 10, 11, 18 or 21
Repeat: max. 4 units
Field excursion to a selected locality of geologic interest in the West, mainly California. Emphasis on the geologic history of the area as reflected by present geologic features. Localities include: Yosemite National Park; Lassen National Park; Mono Basin; Lake Tahoe and vicinity; northern and southern Mother Lode regions; Central Coast Ranges and San Andreas Fault; Coast Range north and south of San Francisco Bay; and special areas. CSU

GEOL 21. Geology of the Bay Area (3)
Lec-3, field trips CR/NC avail.
Not offered in same year as GEOL 18.
Introduction to the geology of the Bay Area. Field trips emphasizing the physical, historical, engineering, and economic geology of the region. CSU

GEOL 25A-25B. Geology of Gems (3-3)
Lec-3, field trips CR/NC avail.
A many-faceted approach to the study of gemstones. All of the major and many minor gem materials examined from the viewpoints of discovery, geology, mineralogy, and use. CSU
GEOL 41-42-43, Current Topics in Earth Sciences (1-2-3)
Lec-1,2,3, and/or lab-3,6,9, field trips CR/NC avail.
One and two-unit courses are less than a semester in duration.
Exploration of topics of current interest in earth sciences.
CSU/UC

GEOL 91-92-93, Geology Work Experience (1-2-3)
Work-5, 10, 15 CR/NC avail.
Repeat: max. 6 units
Off-campus work may include employment or volunteer service in a geology-related setting (e.g., laboratory, museum, park) under the supervision of a qualified professional or faculty member. On-campus work consists of instruction and experience in the preparation, care, and maintenance of equipment, materials, training aids, and specimens used in the Earth Sciences Department. CSU

Oceanography
OCAN 10, Introduction to Oceanography (3)
Lec-2, lab-3, field trips
The ocean environment. Physical, chemical, biological, and ecological aspects of the sea, including the origin and extent of the oceans; nature of ocean basins; causes and effects of currents, waves, tides; plant and animal life in the sea; marine ecology and pollution. CSU/UC

Paleontology
PALE 1, Introduction to Paleontology (3)
Lec-2, lab-3
An introduction to the record of past life. The evolution of plants and animals and their role in the interpretation of the history of the Earth. CSU/UC

Economics
Announcement of Courses
(See also courses in “Business Administration” and “Business.”)

CREDIT, DEGREE APPLICABLE COURSES:

ECON 1, Principles of Economics (3)
Lec-3 CR/NC avail.
An introduction to the general principles, terminology, and methods of economics, with emphasis on macro-economics. General topics include: economic institutions, national income analysis, employment theory, money and banking, monetary and fiscal policy, and economic growth. CSU/UC/CAN

ECON 3, Principles of Economics (3)
Lec-3 CR/NC avail.
Prereq.: ECON 1
A continuation of the introduction to the general principles and terminology of economics, with emphasis on micro-economics. General topics include: supply and demand theory, utility, production, costs, revenues, market structures, income distribution, international trade, and comparative economic systems. CSU/UC/CAN

ECON 5, Introductory Statistics (4)
Lec-5 CR/NC avail.
Prereq.: MATH 860 or placement in MATH 90
No credit for this course if another statistics has been completed.
Introduction to statistical methods, with emphasis on the analysis of statistical data—their gathering, classification, presentation, and interpretation. Empirical and theoretical frequency distributions with emphasis on measures of central tendency and variation, probability, sampling, estimation, hypotheses-testing, correlation and regression analysis, and nonparametric statistics. CSU/UC

ECON 10, Economic History of the United States (3)
Lec-3 CR/NC avail.
May be taken in place of HIST 17A or 17B.
A survey of the economic development of the United States from colonial times to the present, with emphasis on the relationship of economic activities to social and political development. CSU/UC

ECON 25, Women in the Economy (3)
Lec-3 CR/NC avail.
An introduction to women's roles in the U.S. economy, including varying experiences related to race, ethnicity, and class. Examines women's occupations and earnings; women's household activities and how they affect paid work; women as consumers; public policy regarding women's work and poverty; and current special topics. Applies and contrasts mainstream and political economic theories within a feminist perspective. CSU/UC

ECON 30, Economics of the African American Community (3)
Lec-3 CR/NC avail.
An introduction to the principles of Black political economy. Black employment, employment discrimination, Black capitalism, the Black underclass, homelessness, and community economic development. Examination of the empirical link between race, class and income distribution. CSU/UC

Engineering and Technology
Announcement of Curricula

Engineering and industrial practice in the United States is based to a considerable extent on the team concept. Engineers, scientists, experts in management and production, and others coordinate their work with that of technicians, craftsmen, and workers with varying degrees of skill in order to complete particular projects. To meet the varying needs of students and industry, the Engineering and Technology Department at City College of San Francisco offers an Engineering Program along with a series of Engineering Technology programs to train technicians. The programs are designed so that students may satisfy the requirements for graduation from the College and receive a degree of Associate in Science and an Award of Achievement. In addition, The Engineering Technology programs provide a good foundation for transfer to a bachelor degree program in engineering technology or industrial technology.
Courses in the Engineering Department are identified according to the following headings: Engineering (ENGN), Engineering Technology (ET), and Total Quality Management (TQM).

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**Engineering Program**

**General Information**

Engineers develop the skill to design functional products and systems based upon a foundation formed from engineering, physical science, and mathematics course work. They pursue rewarding careers in a professional environment with good employment and advancement opportunities.

City College of San Francisco offers courses leading to the Associate of Science Degree and Award of Achievement in Engineering. Graduates generally transfer to four-year institutions as juniors where they can major in computer, electrical, electronics, mechanical, civil, industrial, chemical, manufacturing or other engineering. Others seek employment as an engineering assistant.

The degree program is based upon the recommendation of the Engineering Liaison Committee which represents the University of California, California State Universities, private universities, and community college engineering schools and departments.

**Prerequisites.** Beginning courses in engineering require one-year high school courses in algebra, geometry, advanced algebra, chemistry, physics, and mechanical drawing and a half-year course in trigonometry. The equivalents to these courses may be taken at City College.

**First Semester**

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENGN 24 Design Graphics</td>
<td>3</td>
</tr>
<tr>
<td>ENGN 48 The Engr Profession</td>
<td>1</td>
</tr>
<tr>
<td>MATH 110A Calculus I</td>
<td>4</td>
</tr>
<tr>
<td>English Composition*</td>
<td>3</td>
</tr>
<tr>
<td>CHEM 103A General Chemistry</td>
<td>4</td>
</tr>
<tr>
<td>Additional GE Requirements‡</td>
<td>2</td>
</tr>
</tbody>
</table>

**Subsequent Semesters**

Additional Major Requirements‡:
- ENGN 20 & 20L Circuit Analysis & Lab 4
- ENGN 36 Engrg Mechanics: Statics 3
- ENGN 38 Intro to Comp for Engrs 3
- ENGN 45 Materials Sci 3
- MATH 110B Calc II 4
- MATH 110C Calc III 4
- MATH 125 Diff Eq 3
- PHYC 4A 4AL Mech and Relativity 4
- PHYC 4B 4BL Elect & Magnetism 4
- PHYC 4C 4CL Waves, Optics, & Thermo 4
- Technical Elective** 3
- Additional GE Requirements‡ 12

* It is recommended that you complete ENGL 1A if you plan to transfer to a four-year school.
‡ Consult the catalog for specific requirements and courses available. It is recommended that you try to satisfy the requirements of the transfer institution as well as those of City College.

† If you wish to substitute another class because of specific requirements of the transfer institution you will attend, consult with the Engineering Department Advisor.

‡ Select from the following Technical Electives: CHEM 103B, ENGN 1A, ENGN 37, MATH 120, PHYC 4D.

NOTE: Four-year universities may have additional course requirements for completion of lower division. Consult the Transfer Center and the Engineering Advisor for additional information.

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**Engineering Technology Program**

**General Information**

In the Engineering Technology Programs, City College trains students for employment as engineering technicians - persons who work with or under the directions of engineers and perform duties requiring a combination of the theoretical knowledge of an engineer and some of the skills of a craftsman.

The College offers two-year curricula in engineering technology in two fields: Electronics Engineering Technology and Mechanical Engineering Technology. The curricula in these fields comprise the Engineering Technology Programs. Students should be aware that any change in major, such as a change from one technical curriculum to another or from one program to another, requires additional time for the completion of their revised educational objectives.

**Prerequisites.** High school prerequisites are one-year courses in algebra, geometry, mechanical drawing, and physics and one semester of trigonometry. A one-year course in high school chemistry is highly recommended for students intending to transfer to a bachelor degree program in Engineering Technology. Students who have not completed the required high school courses may take them at City College of San Francisco.

Students should possess a minimum level of competency in English communication skills. The completion of English as a Second Language 72 or ENGL 90 and 92 is recommended.

**Broad Preparation for Employment.** Because emphasis in the Program is on both fundamental engineering theory and basic industrial practices, graduates may qualify for employment in many fields: drafting, production planning and control, manufacturing, testing, inspection, sales, installation, maintenance, or servicing.

Each curriculum in engineering technology includes courses in subjects common to all branches of engineering. In general, these subjects include the following: graphics, mathematics, orientation to engineering, and physics. Through this related study, students obtain a better understanding of the work in their majors and develop a broad technical background.

**General Education.** The curricula also include instruction in general education so that students may satisfy the College graduation requirements in this area.

**Associate in Science Degree and Award of Achievement.** The Engineering Technology Program is designed so that students may satisfy the requirements for graduation from the College. Students who satisfy these requirements and
complete any of the curricula with final grades of C or higher in their major technical courses also receive the Award of Achievement. The Award of Achievement may be considered a recommendation by the faculty of the Engineering and Technology Department which, in conjunction with the Career Development and Placement Center, will aid the graduate in finding a position.

Transfer to Other Colleges and Universities. Students in the Engineering Technology Programs may either enter industry upon graduation or transfer to a four-year institution to earn a bachelor’s degree in engineering technology. Several campuses of the California State University such as the Sacramento, Long Beach, and Pomona campuses, as well as private institutions, such as Cogswell College, offer graduates this opportunity. Engineering Technology students may also choose to transfer to a bachelor degree program in industrial technology offered at several campuses of the California State University, such as the San Francisco, San Jose, and Chico campuses. The time required for completion of curricula open to graduates at these schools is normally two additional years. Students who intend to transfer should consult their advisers and the section in this catalog entitled “Transfer Information.”

Technology students initially enroll in the following common core courses:

First Semester

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENGN 48 The Enggr Profession</td>
<td>1</td>
</tr>
<tr>
<td>ET 50 Technical Math or equivalent math</td>
<td>4</td>
</tr>
<tr>
<td>ET 104 Intro. to Engineering Drawing &amp; Manuf</td>
<td>3</td>
</tr>
<tr>
<td>ET 60 Electronics I-DC/AC Circuit Analysis</td>
<td>4</td>
</tr>
<tr>
<td>PHYC 2A/2AL Intro Physics</td>
<td>4</td>
</tr>
</tbody>
</table>

Second Semester

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>ET 54 Microcomp Setup, Maint &amp; Repair</td>
<td>2</td>
</tr>
<tr>
<td>ET 65 Intro to Digital Circuits &amp; Techniques</td>
<td>3</td>
</tr>
<tr>
<td>Technical Electives</td>
<td>4</td>
</tr>
<tr>
<td>PHYC 2B/2BL Intro Physics</td>
<td>4</td>
</tr>
<tr>
<td>BSEN 74 Bus Corresp</td>
<td>3</td>
</tr>
<tr>
<td>or ENGL 94 Inter Reading &amp; Comp</td>
<td>3</td>
</tr>
</tbody>
</table>

Third Semester

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>ET 51 Adv Technical Math or equivalent math</td>
<td>4</td>
</tr>
<tr>
<td>Technical Electives</td>
<td>10</td>
</tr>
<tr>
<td>Additional requirement (General Ed)</td>
<td>3</td>
</tr>
</tbody>
</table>

Fourth Semester

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>TQM 101 Total Qual Management: Princ &amp; Elem</td>
<td>3</td>
</tr>
<tr>
<td>Technical Electives</td>
<td>6</td>
</tr>
<tr>
<td>SPCH 12 Speech</td>
<td>3</td>
</tr>
<tr>
<td>Additional Requirement (General Ed)</td>
<td>3</td>
</tr>
</tbody>
</table>

Electronic Engineering Technology

Degree Curriculum

In the curriculum in Electronic Engineering Technology, a two-year course of study, the Engineering and Technology Department offers students training for employment by offering instruction in digital/microprocessor and communication electronics. Students in this curriculum complete the common core courses (see preceding Common Core). Specialization is offered throughout the second through the fourth semesters.

The program adviser works closely with each student to assure normal progress. Upon successful completion of the curriculum, students receive the Associate in Science degree and the Award of Achievement.

Training in the Major. Training in the first year is designed to provide students with a sound working knowledge of the theory of direct- and alternating-current circuits common to both electrical and electronic applications and the basic principles of amplifiers, solid-state devices, digital techniques, circuits, and systems. In the second year, the student completes a course in advanced electronics, including coursework in RF (radio frequency) and microwave circuits, microprocessors and non- sinusoidal circuits.

Employment. Students who complete the curriculum satisfactorily are qualified for positions as technicians engaged in research and development; and in manufacturing, testing, installing, and maintaining electronic equipment. Positions to which graduates may advance after obtaining experience and further training include those of production supervisor, sales engineer, field engineer, and test engineer.

Award of Achievement. Students who complete the curriculum with final grades of C or higher in their major technical courses receive the Award of Achievement in Electronics Engineering Technology.

Technical Elective Courses for the Award of Achievement in Electronic Engineering Technology

Students majoring in Electronic Engineering Technology must take a total of 20 technical elective units, 17 from the following list and 3 from any technical area. These electronics courses are generally scheduled in the evenings.

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>ET 54 Microcomputer Setup, Maint &amp; Repair</td>
<td>2-6</td>
</tr>
<tr>
<td>ET 65 Electronics II-Linear Active Circuits</td>
<td>4</td>
</tr>
<tr>
<td>ET 163 Nonsinusoidal Circuits</td>
<td>3</td>
</tr>
<tr>
<td>ET 164 Analog and Comm. Electronics</td>
<td>3</td>
</tr>
<tr>
<td>ET 165 PCM/FM Communication Systems</td>
<td>3</td>
</tr>
<tr>
<td>ET 151 Assembly Lang &amp; Microproc Arch</td>
<td>3</td>
</tr>
<tr>
<td>ET 152 Microcomp Interfacing &amp; Troubleshoot</td>
<td>3</td>
</tr>
<tr>
<td>TQM 103 Total Qual Management: Implement</td>
<td>3</td>
</tr>
</tbody>
</table>

Students should consult their counselor or program adviser to determine the total number of units and courses needed to fulfill graduation requirements.

Mechanical Engineering Technology

Degree Curriculum

In the curriculum in Mechanical Engineering Technology, a two-year course of study, the Engineering and Technology Department offers students specialized training for employment as engineering technicians engaged in research, design, operation, maintenance, testing, or sales. Students in this curriculum complete the common core courses (see preceding Common Core). Specialization is offered from the second through the fourth semester. The program adviser works closely with each student to assure normal progress. Upon successful completion of the curriculum, students receive the Associate in Science degree and the Award of Achievement.
Training in the Major. Training in the first year is designed to provide students with a sound working knowledge of the principles of engineering drawing, applied mathematics, electrical circuits, physics, manufacturing methods, and computers. In the second year, students complete courses in computer-aided design (CAD), and computer-aided manufacturing (CAM).

Employment. Students who complete the curriculum satisfactorily are qualified for positions as estimator-designer, field engineer, assistant operating engineer, mechanical or research technician, junior test engineer or engineering sales representative. Positions to which graduates may advance after obtaining experience and further training include those of senior estimator-designer, field engineer, operating engineer, manufacturing engineer, technical supervisor, or sales engineer.

Award of Achievement. Students who complete the curriculum with final grades of C or higher in their major technical courses receive the Award of Achievement in Mechanical Engineering Technology.

Technical Elective Courses for the Award of Achievement in Mechanical Engineering Technology

Students majoring in Mechanical Engineering Technology must take a total of 20 elective units, 17 from the following list and 3 from any technical area.

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>ET 181 CAD I</td>
<td>3</td>
</tr>
<tr>
<td>ET 182 CAD II</td>
<td>3</td>
</tr>
<tr>
<td>ET 183A CAD III</td>
<td>2</td>
</tr>
<tr>
<td>ET 183B CAD IV</td>
<td>2</td>
</tr>
<tr>
<td>ET 183C Adv CAD: 3D Modeling</td>
<td>2</td>
</tr>
<tr>
<td>ET 183D Adv CAD: Rendering &amp; Animation</td>
<td>2</td>
</tr>
<tr>
<td>ET 184 Structural CAD Drafting</td>
<td>3</td>
</tr>
<tr>
<td>ENGN 24 Design Graphics</td>
<td>3</td>
</tr>
<tr>
<td>ET 83 Engineering Drafting</td>
<td>2</td>
</tr>
<tr>
<td>ET 86 Intro to CAD</td>
<td>2</td>
</tr>
<tr>
<td>ET 140 Manufacturing-Process</td>
<td>3-6</td>
</tr>
<tr>
<td>ET 144 Welding Laboratory</td>
<td>3-6</td>
</tr>
<tr>
<td>ET 145 Intermediate Welding</td>
<td>3-6</td>
</tr>
<tr>
<td>ET 146 Manuf Blueprint Reading</td>
<td>3</td>
</tr>
<tr>
<td>TQM 103 Total Qual Management: Implement</td>
<td>3</td>
</tr>
</tbody>
</table>

Students should consult their counselor or program adviser to determine the total number of units and courses required to fulfill graduation requirements.

Engineering-Related Occupations

Credit Certificate Curricula

General Information


Admission. Enrollment in these curricula is open to those who:
1. Want to add to their knowledge of and skills in engineering-related occupations, and
2. Want to improve their competence in these fields in order to prepare for advancement. Students are required to satisfy prerequisites before admission in certain courses in the curriculum; however, instructors will accept equivalent experience in lieu of various prerequisites.

Application for Certificate. To apply for a certificate in one of the curricula below, contact the Engineering and Technology Department office, Science Hall, Room 148, phone (415) 239-3505.

Credit Toward Graduation. All credit that students earn in obtaining the Certificate of Completion in any of the curricula may be applied toward satisfaction of the requirements for graduation from College.

Air-Conditioning and Refrigeration

Requirements for the Certificate of Completion. Students may obtain the Certificate of Completion in Air-Conditioning and Refrigeration by completing the following courses with the average final grade of C (2.00 grade point average) or higher. (The Engineering and Technology Department may require students who have had limited training and experience in air-conditioning and refrigeration to complete additional courses before awarding the Certificate of Completion.)

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>ET 135A Fund. of Air-Cond. and Refrig</td>
<td>2</td>
</tr>
<tr>
<td>ET 135B Fund. of Air-Cond. and Refrig</td>
<td>2</td>
</tr>
<tr>
<td>ET 135C Fund. of Air-Cond. and Refrig</td>
<td>2</td>
</tr>
<tr>
<td>ET 139C Eng'rd. Plumbing Systems</td>
<td>3</td>
</tr>
</tbody>
</table>

Drafting: Option I - CAD/CAM

Requirements for the Certificate of Completion. Students may obtain the Certificate of Completion in CAD/CAM by completing the following courses with a grade of C or higher in each course. (Students are expected to have basic drafting and manufacturing processes skills. If not, they should enroll in ET 104.)

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>ET 86 CAM I</td>
<td>2</td>
</tr>
<tr>
<td>ET 140 Manufacturing Processes</td>
<td>3</td>
</tr>
<tr>
<td>ET 181 CAD I</td>
<td>3</td>
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<tr>
<td>ET 182 CAD II</td>
<td>3</td>
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</table>

Drafting: Option II - Computer Aided Drafting (CAD)

Requirements for the Certificate of Completion. Students may obtain the Certificate of Completion in Computer Aided Drafting by completing the following courses with a grade of C or higher in each course. (Students are expected to have basic drafting skills. If not, they should enroll in ET 104.)
Electronics: Option I - Analog Electronics and Communication

Requirements for the Certificate of Completion. Students may obtain the certificate of Completion in Analog Electronics and Communication by completing the following courses with a grade of C or higher in each course. A minimum of four of the courses must be taken at City College of San Francisco. (Students are expected to have mathematics training up to trigonometry.)

Course Units
ET 60 Electronics I-DC/AC Circuit Analysis ............... 4
ET 65 Electronics II-Linear Active Devices ............... 4
ET 163 Non-sinusoidal Circuits ......................... 3
ET 164 Analog & Commun Electro ....................... 4
ET 165 PCM/PM Commun System ....................... 3

Electronics: Option II - Digital Electronics

Requirements for the Certificate of Completion. Students may obtain the certificate of Completion in Digital Electronics by completing the following courses with a grade of C or higher in each course. A minimum of three of the courses must be taken at City College of San Francisco.

Course Units
ET 60 Electronics I-DC/AC Circuit Analysis ............... 4
ET 63 Intro to Digital Circuits & Techniques ........... 3
ET 151 Assembly Lang. & Microproc Arch ............... 3
ET 152 Microcomp Interfacing & Troubleshoot ....... 3

Engineered Plumbing Systems

Requirements for the Certificate of Completion. Students may obtain the certificate of Completion in Engineered Plumbing Systems by completing the following courses with the average final grade of C or higher. (The Engineering and Technology Department may require students who have had limited training and experience in dealing with engineered plumbing systems to complete additional courses before awarding the Certificate of Completion.)

Course Units
ET 139A Engineered Plumbing Systems ............... 3
ET 139B Engineered Plumbing Systems ............... 3
ET 139C Engineered Plumbing Systems ............... 3

Personal Computer Repair Technology

Requirements for the Certificate of Completion. Students may obtain the Certificate of Completion in Personal Computer Repair Technology by completing the following courses with a grade of C or higher in each course. A minimum of three of the courses must be taken at City College of San Francisco.

Course Units
ET 54 Microcomp Setup, Maint & Repair ........... 2
ET 55 Adv Microcomp Repair ......................... 2
CIS 104 Microcomputer Hardware .................. 3
CIS 104A Microcomputer Hardware Adv .......... 3

Total Quality Management (TQM)

Total Quality Management (TQM) certificate program is designed for those employed in product or service organizations who desire to gain TQM skills in order to analyze their work processes and management systems for improving the quality of their products and services.

This program is also developed for the students in all vocational programs to increase their employability.

Requirements for the Certificate of Completion. The completion of the following courses with a grade of C or higher. (For course description see Announcement of Courses under Business.)

Course Units
TQM 101 TQM: Principles and Elements ............ 3
TQM 103 TQM: The Implementation Process ........ 3

Credit Toward Graduation. All credits that students earn in obtaining the Certificate of Completion in Total Quality Management (TQM) may be applied toward satisfaction of the requirement for graduation from college.

Combination Welding

Noncredit Program

Program Goal. Prepares students for welding plate, pipe, and sheet metal workers. Includes the study of electric arc, metal inert gas, tungsten inert gas, innershield and oxyacetylene welding techniques.

Admission Requirements. High school diploma, GED, or high school proficiency certificate. Demonstration by exam of an 8th grade reading, math, and language level. Remedial courses may be taken concurrently as needed. For more information call 267-6570.

Core Course Hours/Weeks
TIWE 9676 Combi Weld (4 sect of 270 hr) ........ 15/18
SECY 9256 Bus Math (as needed) ................. 5/18
SECY 9346 Effective Bus Comm (as needed) .... 5/18

Elective Courses. To be discussed with a counselor.

Requirements for Completion. Completion of required courses with grade C or higher. Credit by petition is available.
Engineering and Technology

Announcement of Courses

Engineering

CREDIT, DEGREE APPLICABLE COURSES:

ENGN 1A. Measurements and Plane Surveying (3)
Lec-2, lab-3
Prereq.: MATH 95 or ET 50 or equivalents (ea. concur.)
Theory and practice in linear and angular measurements.
Equipment and methods used in common surveying measurements.
Treatment of errors in measurements in surveying and other areas of engineering. CSU/UC/CAN

ENGN 20. Introduction to Circuit Analysis (3)
Lec-3
Prereq.: Completion/concurrent enrollment in MATH 110C, PHYC 4B and ENGN 20L
Basic circuit analysis techniques. Introduction to electronic circuits. CSU/UC/CAN

ENGN 20L. Introduction to Circuit Analysis Laboratory (1)
Lab-3
Prereq.: Completion/concurrent enrollment in ENGN 20
Laboratory experiments in circuit analysis. CSU/UC/CAN

ENGN 24. Design Graphics (3)
Lec-1.5, lab-4.5, field trips
Prereq.: ET 50 or MATH 95 or HS Trigonometry; ET 104 or 1 yr. HS Mechanical Drawing
Introduction to technical sketching, design, and engineering graphics; development of visualization skills by using computer aided drafting (CAD) software in conjunction with orthographic and presentation graphics; emphasis on computer aided design and graphical analytical methods with solutions to three- dimensional problems involving points, lines, surfaces, and solids. CSU/UC/CAN

Lec-3
Prereq.: PHYC 4A; and Completion/concurrent enrollment in MATH 110B
An introductory course in applied mechanics; analysis of forces acting on particles and rigid bodies in equilibrium.
Designed to meet the professional needs of students majoring in engineering. Vector algebra, free body diagrams, centroids, shear and bending moment diagrams, moments of inertia and friction. CSU/UC/CAN

ENGN 37. Engineering Mechanics - Dynamics (3) sp
Lec-3
Prereq: ENGN 36
Introduction to dynamics including both kinematics (the description of the position, velocity, and acceleration of a rigid body) and kinetics (the relationship between the forces acting on a rigid body and its velocity and acceleration). CSU/UC

ENGN 38. Introduction to Computing for Engineers (3)
Lec-3, conf-1
Prereq.: MATH 110A (concur.); or ET 51 or MATH 100A
ENGN 38 and CIS 112 may not be both taken for credit.
Engineering problem-solving using computer programming.
Problem-solving strategies, algorithm development and structured programming design. Solution of a variety of engineering problems from evaluating a simple function to modeling and simulation. Applications from mechanical, electrical and civil engineering. CSU/UC

ENGN 45. Materials Science (3)
Lec-2, lab-3
Prereq.: CHEM 101A or 103A, and PHYC 4A-4AL
Advisory: Completion/concurrent enrollment in CHEM 101B or 103B, and PHYC 4B-4BL
An introductory course in the structure and properties of the materials used by engineers. Application of basic principles for the selection and use of these materials. CSU/UC/CAN

ENGN 48. The Engineering Students and Their Profession (1)
Lec-2
Required of all students majoring in engineering or engineering technology and highly recommended for students considering a major in engineering or engineering technology.
The history and development of engineering as a profession. A review of current trends and developments in engineering and engineering technology; educational requirements, employment opportunities, and projected trends in the various branches of engineering and engineering technology. CSU/UC/CAN

ENGN 48L. Introduction to Engineering and Technology - Laboratory (1)
Lab-3
A project-oriented, hands-on introduction to the practices and methodologies used in engineering and technology. Includes work in electronics, computer aided drafting, mechanical construction and fabrication, and technical mathematics. CSU

Engineering Technology

CREDIT, DEGREE APPLICABLE COURSES:

ET 50. Technical Mathematics (4)
Lec-4
Prereq.: HS Intermediate Algebra and Trigonometry or MATH 92 or 90 and 95
Applied mathematics designed to develop ability to solve problems. Practical application of algebra, geometry, and trigonometry to basic problems in the applied sciences, including the study of alternating current circuits with emphasis on periodic functions, vector analysis, logarithms, and exponential functions. CSU

ET 51. Advanced Technical Mathematics (4) sp
Lec-4
Prereq.: ET 50
Instruction in applied mathematics and physical science designed to develop the student’s ability to solve fundamental engineering problems in mechanics and electronics. Introduction to analytical geometry, statistics, and calculus. CSU
ET 54. Microcomputer Setup, Maintenance, and Repair (2)
Lec-1, lab-3
Prereq.: ET 50
Advisory: Completion of a course in electronics or computer programming
This is a practical, hands-on course covering hardware maintenance of MS-DOS (PC, XT, AT, 386, 486, and Pentium) computers. Each student will have at least one computer to take apart, examine, test, diagnose, and load an operating system and other programs. CSU

ET 55. Advanced Microcomputer Repair (2)
Lec-1, lab-3
Prereq.: ET 54
Repeat: max. 6 units
This second course in PC hardware will concentrate on troubleshooting, interfacing, and upgrading of MS-DOS and Windows (PC, XT, AT, 386, 486 and Pentium) computers. A more detailed look at memory subsystems, interrupts, and memory and port addressing. SCSI, CD ROMs, sound cards, tape and disk backup systems, the hardware of local area networks, and methods of obtaining technical information. When time and hardware are available, Apple Macintoshes will also be studied. CSU

ET 60. Electronics I - DC and AC Circuit Analysis (4)
Lec-2, lab-6
Prereq.: ET 50 (concur.)
Principles of direct and alternating current circuit analysis; electrical and magnetic fields applied to capacitance and inductance; emphasis on basic laws. Complementary laboratory work emphasizing circuit connections, instruments and measurements. CSU

ET 63. Introduction to Digital Circuits and Techniques (3) sp
Lec-2, lab-3
Prereq.: ET 50 and 60
Review of basic logic gates and number systems. Design, analysis, and troubleshooting of combinational logic circuits, decoders, multiplexers, adders, flip-flops, counters, and registers. CSU

ET 65. Electronics II - Linear Active Circuits (4) fa
Lec-2, lab-6
Prereq.: ET 60
Basic and active electronic devices and their application to analog electronics and industrial control processes. Semiconductor components, diodes, transistors, JFETs, Mosfets, thyristors, photodetector devices. Power supplies, amplifiers, timing circuits, operational amplifiers. CSU

ET 83. Engineering Drafting (2)
Lec-1, lab-3
Prereq.: ET 181
CAD applications in advanced mechanical drafting. CSU

ET 86. Introduction to Computer-Aided Manufacturing - CAM I (2)
Lec-1, lab-3
Prereq.: ET 104
Introduction to computer numerical control, training in G and M codes. Hands-on training on the CNC machines. Testing, debugging, and running programs. Processes used to describe product geometry in computer terms. CSU

ET 104. Introduction to Engineering Drawing and Manufacturing (3)
Lec-1.5, lab-4.5
Development of detailed drawings (electrical, electronic, and mechanical) for the fabrication of individual projects. Sheet metal shop practices; use of hand tools; measurement and layout techniques. Printed circuit board design and fabrication. Machine tools and machine shop operations. CSU

ET 122S. Lead in Construction, Supervisor/Contractor (1.5)
Lec-32 (tot.), lab-9 (tot.), field trips CR/NC avail.
Preparation for interim certification as CA lead in construction supervisor/contractor. Lead uses, sources, characteristics, hazards, and safety; PPE and hygiene; monitoring, regulations and work practices; insurance and liability; record keeping; contract preparations, specifications, and administration; community relations. CSU

ET 122W. Lead in Construction, Worker (1)
Lec-22 (tot.), lab-12 (tot.), field trips CR/NC avail.
Preparation for interim certification as CA lead in construction worker. Lead uses, sources, characteristics, hazards, and safety; PPE and hygiene; monitoring, regulations, and work practices. CSU

ET 135A. Fundamentals of Air-Conditioning and Refrigeration (2)
Lec-1.5, lab-1.5
One of a series of three courses (See also ET 135B and 135C) designed to accommodate engineering students with varying backgrounds and work experience who wish to learn the basic concepts of air-conditioning and refrigeration. Emphasis on practical engineering problems.

The psychometrics of air and water-vapor mixtures, basic elements of air-conditioning, and psychometric processes. Use of psychometric instruments and psychrometric chart graphical analysis of the processes. CSU

ET 135B. Fundamentals of Air-Conditioning and Refrigeration (2)
Lec-1.5, lab-1.5
One of a series of three courses. (See also ET 135A and 135C)
Cooling loads, heat transfer equipment, air handling equipment, and the design of air-conditioning systems. Application of air-conditioning equipment, components, and control system of the air-conditioning system in the laboratory. Instruments and instrumentation for measuring air flow. CSU
ET 135C. Fundamentals of Air-Conditioning and Refrigeration (2)
Lec-1.5, lab-1.5
One of a series of three courses. [See also ET 135A and 135B.]
The refrigeration cycle, refrigeration systems, heat transfer components, and control systems. Laboratory work in operational characteristics; analysis of refrigeration system; and methods of measuring pressure, temperature, and flow rates within the system. CSU

ET 139A. Engineered Plumbing Systems (3)
Lec-3
Flow of liquids in drainage piping, sizing drainage systems, flow of air in vent piping, sewer systems, national and local codes, specifications and case problems. CSU

ET 139B. Engineered Plumbing Systems (3)
Lec-3, field trips
Pressurized water, automatic fire sprinkler, wet and dry stand-pipe, fuel gas in buildings. Centrifugal pumps, national and local plumbing and fuel gas codes, specifications and case problems. CSU

ET 139C. Engineered Plumbing Systems (3)
Lec-3
Review of plumbing, engineering design, codes, and specifications. Special projects in the field of plumbing engineering design. Copper system design. CSU

ET 140. Manufacturing Processes (3)
Lec-1.5, lab-4.5
Repeat: max. 9 units
Open to students not majoring in engineering
Elementary machine-tool practice, with special emphasis on the use of the lathe engine, horizontal and vertical milling machines, and drill press. CSU

ET 144. Welding Processes (3)
Lec-1.5, lab-4.5
Repeat: max. 9 units
Instruction in joining metal by welding. Laboratory practice in arc welding, inert-gas shielded welding (TIG and MIG). Oxyacetylene cutting and physical testing of welds. CSU

ET 145. Intermediate Welding Processes (3)
Lec-1.5, lab-4.5
Prereq.: ET 144
Repeat: max. 6 units
Intermediate laboratory practice in arc welding, inert-gas shielded welding, micro-wire welding, oxyacetylene welding and cutting, brazing, aluminum welding and brazing, and physical testing of welds. Preparation for meeting State Welding Certification requirements. CSU

ET 146. Manufacturing Blueprint Reading (3)
Lec-3
Basic skills in reading blueprints for both fabrication and manufacturing. Related math and use of measuring tools. Weld symbols, basic lines and views, basic joints for weldment fabrications. CSU

ET 151. Assembly Language and Microprocessors Architecture (3) fa
Lec-2, lab-3
Prereq.: ET 65 or equivalent
Microcomputer theory, design, and architecture using the IBM XT as an example system. Specific topics include: MS DOS, the Intel 8088 architecture and assembly language programming, using assemblers, architecture of the XT, memory, design of I/ O ports, programmable peripheral integrated circuits, and software interrupts. Software and hardware troubleshooting techniques. CSU

ET 152. Microprocessor Interfacing and Troubleshooting (3) sp
Lec-2, lab-3
Prereq.: ET 151
Theory and laboratory work covering the operation, design and troubleshooting of microprocessor interfaces, A/D, D/A, interrupts, DMA, floppy and hard disks, serial communication, and an introduction to local area networks. The Intel 8088 and an XT clone computer will be studied as an example system. CSU

ET 163. Nonsinusoidal Circuits (3)
Lec-2, lab-3
Prereq.: ET 63 and 65 (concur.)
Waveform analysis, measurements and errors in the time and frequency domain, applications of operational amplifiers, wave shaping and multivibrator circuits, SCRs and Triacs; emphasis on high-speed pulse measurement techniques. Practice in the use of pulse and function generators, associated test instruments and accessories. CSU

ET 164. Analog and Communication Electronics (4) sp
Lec-2, lab-6
Prereq.: ET 65 or equivalent
Theory and laboratory work covering class B amplifiers, differential amplifiers, negative feedback, distortion, stability, oscillators, class C amplifiers, mixers, and the am radio receiver. CSU

ET 165. PCM/FM Communication System (3) fa
Lec-2, lab-3
Prereq.: ET 164
Theory and laboratory work covering time domain and frequency domain analysis of FM systems (wide-band and narrow-band FM). Pulse coded modulation (PCM) in digital communication: sampling theorem coding and non-linear coding and communication multiplexings. CSU

ET 181. Computer Aided Drafting - CAD I (3)
Lec-1.5, lab-4.5
Prereq.: ET 104 or 1 yr HS Drafting
Students must have an understanding of orthographic projection, isometric drawing techniques and dimensioning according to ANSI standards.
Introduction to CAD hardware and software operations and their applications in drafting; basic shape description, display, edit and dimensioning. CSU/UC
ET 182. Intermediate Computer Aided Drafting - CAD II (3)
Lec-1.5, lab-4.5
Prereq.: ET 181 or 100 Hours of industrial work experience in basic AutoCAD applications on mechanical orthographic projection, dimension per ANSI standards, and isometric drawing.
Industrial application of AutoCAD drawing editor on large scale projects including blocks, attributes and extraction of “non-graphic” data stored within the drawing files. Control of display to reduce regeneration time through efficient drawing methods.
Three-dimensional coordinate system and the application of wire-frame and surface modeling of design concept geometry. Operation of various hardcopy output devices including pen plotting and printer plotting. CSU

ET 184. Structural CAD Drafting (2)
Lec-1, lab-3
Prereq.: Arch 52 or ET 181 or equivalent training
Structural design theory. Use of CAD to generate steel and concrete details. Use of “STRUCALC” software for structural design. CSU

ET 186. Introduction to Geographical Information Systems (GIS) Applications (2)
Lec-1, lab-3
This is a foundation course for the use of GIS software. It covers the history, structure, uses, hardware and software requirements, and basic operation of GIS. It also introduces Global Positioning Systems as they relate to GIS. CSU
ET 186 = GEOG 186

Total Quality Management (TQM) CREDIT, DEGREE APPLICABLE COURSES:

TQM 101. Total Quality Management: Principles and Elements (3)
Lec-3
Recommended for students from all disciplines.
Total Quality Management (TQM) is the systematic approach to constant improvement throughout an organization. TQM strives to provide customers with products and services that continually meet or exceed their expectations for quality. An introduction to the philosophy, the Deming 14 techniques for implementing Total Quality Management, and ethics involved in changing employer-employee relationships. CSU

TQM 103. Total Quality Management: The Implementation Process (3)
Lec-3
Advise: TQM 101
The study of General Systems Theory; process and analysis using the techniques of process flow diagramming and essential structure analysis; emphasis on statistical process control (SPC) charts for data collection and analysis; application of Total Quality Management in service organizations; development of inventory control systems using Material Requirements Planning (MRP) or Just-In-Time (JIT); team building and group facilitation, employee empowerment and evaluation system; continuing exploration of the ethical issues of Total Quality Management involving supplier relationships and fair market competition. CSU

Welding NONCREDIT COURSES:

TIWE 9676. Combination Welding
Advise: ABE 2074
Labs/lecture course designed to prepare students for entry into the trade as combination welders. Emphasizes safety, certification preparation, and relevant theory as it applies to industry. Students will weld a variety of metals using a combination of welding processes such as: gas, stick (SMAW), MIG, TIG, innershield, along with metal cutting and gouging.
TIWE 9677. Welding Gas/MIG/TIG/Pipe
Preparation for employment in the welding industry. Welding plate metal, sheet metal, sheet metal and pipe in flat, horizontal, vertical, and overhead positions. Five major welding processes and two cutting processes: oxy-acetylene welding, shielded metal arc welding, gas tungsten arc welding, gas metal arc welding, flux cored arc welding, and oxy-acetylene cutting and gouging. Instruction includes safety, terminology, applicable welding theory, blueprint reading, and related math.

TIWE 9680. Welding Blueprint Reading (54 hrs)
Advis: ESLN 3800, ABE 2074
Interpretation of blueprints, welding symbols and material specifications. Students will be able to read blueprint and interpret material specifications, identify weld symbols and sizes and develop basic techniques in sketching.

English
Announcement of Courses

A placement test is required of students prior to enrollment in most English courses. Students with a Bachelor's degree from a four-year college or university, or an AP score of 3 or higher, or a verbal SAT score (before April 1995) of 510 or higher, or a score of 660 or higher (after April 1995) on the SAT I (Writing Subject Test) may not need to take an English placement test and should see the English Eligibility Coordinator in Room 514, Batmale Hall. Questions concerning status or exceptions should be directed to the English Eligibility Coordinator.

The sequence of composition courses in English is 90, 92, 94, 96, 1A, 1B. Depending upon their initial placement in English and depending upon their educational goals, students may be required to complete one or more of these courses for graduation from City College or for transfer to a four-year college or university.

Students whose scores in the City College English placement examination are low are generally assigned to either English 90, 92, 94, or 96. Students for whom English is a second language may be required to take ESLN (English as a Second Language) courses. Foreign students whose command of English is inadequate must take the courses that the English Department requires, most frequently ESL. Students who complete a course or sequence in English with final grades of C or higher may not enroll in an equivalent or less advanced course in English. The Department Head of the English Department will rule on all matters of equivalency in connection with the College requirement in English.

For information about the English Eligibility Essay Exam, students should see the English Eligibility Coordinator in Batmale Hall, Room 514.

CREDIT, NON-DEGREE APPLICABLE COURSES:

ENGL K. Pronunciation, Spelling and Reading Skills (3)
Lec-3, conf-1, lab-1
Not recommended for students who are concurrently enrolled in ESL 22 through 58
ENGL K or ENGL 9 may be taken concurrently.
Concentration on the rules of English phonics and word attack skills and development of adequate comprehension, reading rate, and vocabulary.

ENGL L. Individualized Instruction in Basic Reading Skills (3)
Lec-3, conf-1, lab-1
CR/NC only
Prereq.: ESL 54 or 58 or higher; or placement in ENGL L
Advis: Completion/concurrent enrollment in ENGL K
Not open to students who have completed ENGL 9, 19, 96 or higher.
Repeat: Max. 9 units
Designed for students who need to develop reading skills, improve basic reading comprehension, increase vocabulary, and improve understanding of idiomatic English and figurative language.

ENGL S. Basic Composition And Reading Workshop (2)
Lec-2
Coreq.: ENGL 92
Eng S is part of the African American Achievement program.
Continued instruction and practice in reading and writing with emphasis on expository prose and literature as a basis for writing.

ENGL T. Intermediate Training In Expository Reading And Writing Techniques (2)
Lec-2
Coreq.: ENGL 94
ENGL T is part of the African American Achievement program.
Continued intermediate instruction and practice in expository reading and writing with emphasis on techniques of exposition and argumentation.

ENGL W. Writing With A Computer (1)
Lab-20 Hrs.
Advis: Typing Experience
CR/Nc Avail.
Learning to write compositions on a computer. Emphasis on composition and on editing and revision. Techniques for producing papers without the time-consuming rewriting of the entire work.

ENGL 90. Basic Composition And Reading I (3)
Lec-3, lab-1
Prereq.: ENGL L or placement in ENGL 90
A final grade of D or F does not allow the student to progress to ENGL 92 without the consent of the English Department Chair.
Credits earned in ENGL 90 do not satisfy the graduation requirements in written composition (Area B).
Basic instruction and practice in writing and reading. Emphasis on reading short selections as a basis for writing.
ENGL 92. Basic Composition and Reading II (3)
Lec-3, lab-1
Prereq.: ENGL 90 or placement in ENGL 92
A final grade of D or F does not allow the student to progress to ENGL 94 without the consent of the English Department Chair. Credits earned in ENGL 92 do not satisfy the graduation requirements in written composition (Area B).
Continued instruction and practice in writing and reading. Emphasis on reading expository prose and literature as a basis for writing.

CREDIT, DEGREE APPLICABLE COURSES:

ENGL 94. Intermediate Training in Expository and Argumentative Reading and Composition (3)
Lec-3
Prereq.: ENGL 92 or ESL 82, or placement in ENGL 94
Intermediate training in reading and writing; emphasis on techniques of logical, well-supported essays. CSU

ENGL 96. Advanced Intermediate Reading and Composition: Developing a College Writing Style (3)
Lec-3
Prereq.: ENGL 94, or placement in ENGL 96
Emphasis on critical reading of expository prose and imaginative literature and on writing essays, with attention to developing a variety of techniques in paragraph and sentence construction for the creation of a college writing style. CSU

ENGL 1A. University-Parallel Reading and Composition (3)
Lec-3
Prereq.: ENGL 96 or placement in English 1A; or an SAT verbal score (before April 1995) of 510 or Higher; or a score of 660 or higher (after April 1995) on the SAT II [Writing Subject Test] or an Advanced Placement Test score of 3 or higher; or completion of the Subject A course or passing the Subject A exam at the University of California. Practice in reading and writing expository prose. CSU/UC/CAN

ENGL 1B. University-Parallel Reading and Composition (3)
Lec-3, field trips
Prereq.: ENGL 1A
The second half of University-Parallel Reading and Composition; further instruction in expository writing in conjunction with the reading of literature. CSU/UC/CAN

ENGL 8. Words (3)
Lec-3
Prereq.: ESL 82 or completion/concurrent enrollment in ENGL 92 or higher
Study of word formations based on Latin and Greek roots and affixes, etymologies of words, development of the meaning of words, context clues, and semantic processes. CSU/UC

ENGL 9. Reading, Study Skills and Vocabulary: Intermediate (3)
Lec-3, conf-1, lab-1
Prereq.: ENGL L or higher or ESL 54 or 58 or higher
Not open to students who have completed ENGL 19 or are concurrently enrolled in ENGL 96 or higher.
Designed for students who wish to improve their reading and study skills and increase their vocabulary. CSU

ENGL 11. Using Idiomatic English in Writing (1)
Lec-2 (8 wks)
CR/NC avail.
Advise: ENGL 90, 92, or 94 (ea. concur.)
Open to those students who wish to improve their writing skills
Using idioms and constructing appropriate word combinations with the aid of the Longman Dictionary of Contemporary English. For polishing writing skills but not a replacement for a grammar class. CSU

ENGL 14A. Literary Magazine (1)
Lab-3
CR/NC only
Repeat: max. 2 units
May not be offered every semester.
Practical experience in compiling a literary magazine for circulation to students and faculty on campus; evaluation of literary contributions from students. CSU

ENGL 14B. Literary Magazine (2)
Lab-6
CR/NC only
Coreq.: ENGL 14A
Repeat: max. 4 units
Practical experience in editing and supervising production of a literary publication. CSU

ENGL 16. Practical Writing Workshop (3)
Lec-3
CR/NC only
Advise: ENGL 94 or placement in ENGL 96
Open to students eligible for ENGL 1A.
ENGL 16 does not satisfy any part of the graduation requirement in written composition; completion of ENGL 16 does not qualify a student for ENGL 1A.
Repeat: max. 9 units
Individualized instruction and practice in writing college level expository and argumentative essays, including timed writing and answers to essay questions. Useful for students who are preparing to take the English Eligibility Essay Exam; who are already qualified for ENGL 1A, but who want additional preparation; or who are preparing for essay exams at universities or written state or national exams. CSU

ENGL 19. Advanced Reading Techniques and Vocabulary (3)
Lec-3, conf-1, lab-1
CR/NC avail.
Advise: Completion/concurrent enrollment in ENGL 94 or higher
Designed for students who wish to increase their reading skills, improve comprehension and speed, and develop vocabulary. CSU

ENGL 20. Modern British and American Literature (3)
Lec-3
CR/NC avail.
Prereq.: ENGL 96 or placement in ENGL 1A
Consideration of works of significant authors in the United States and the British Commonwealth since 1900. CSU/UC

Lec-3
CR/NC avail.
Advise: Completion/concurrent enrollment in ENGL 90 or higher, or ESL 72 or higher
Recommended for students who wish to improve their knowledge and understanding of basic English grammar and those who want to tutor English/ESL.
An intensive and systematic review of the rules of English grammar to improve understanding and use of English. CSU
ENGL 30. Introduction to American Literature (3)
Lec-3 CR/NC avail.
Prereq.: ENGL 96 or placement in ENGL 1A
Study of the development of American literature from 1608 to the present, with emphasis upon writing since 1850. CSU/UC

ENGL 32A. Early African American Fiction (3)
Lec-3 CR/NC avail.
Prereq.: ENGL 96 or placement in ENGL 1A
Not open to students who are enrolled in or who have completed ENGL 34A.
A survey course designed to explore and analyze African American fiction from 1890 to 1940. CSU/UC

ENGL 32B. Contemporary African American Fiction (3)
Lec-3 CR/NC avail.
Prereq.: ENGL 96 or placement in ENGL 1A
Not open to students who are enrolled in or who have completed ENGL 34B.
An in-depth survey course designed to explore and critically analyze significant literary works of fiction by African American writers from 1940 to the present. CSU/UC

ENGL 34A. Early African American Fiction (3)
Lec-3 CR/NC avail.
Not open to students who are enrolled in or who have completed ENGL 32A.
A survey course designed to explore and analyze African American fiction from 1890 to 1940. CSU

ENGL 34B. Contemporary African American Fiction (3)
Lec-3 CR/NC avail.
Not open to students who are enrolled in or who have completed ENGL 32B.
An in-depth survey course designed to explore and critically analyze significant literary works of fiction by African American writers from 1940 to the present. CSU

ENGL 35A-H. Creative Writing (3 ea.)
Lec-3 CR/NC avail.
Prereq.: ENGL 96 or placement in ENGL 1A
No part of the ENGL 35 series is prerequisite to any other part.
ENGL 35A-B. Practice in writing, with special emphasis on the short story. CSU/UC; 35A: CAN
ENGL 35C-D. Practice in writing, with special emphasis on poetry. CSU/UC
ENGL 35E-F. Practice in writing, with special emphasis on the novel and plays. CSU/UC
ENGL 35G-H. Practice in writing, with special emphasis on autobiography. CSU

ENGL 36. African American Literature--A Survey (3)
Lec-3 CR/NC avail.
Prereq.: ENGL 96 or placement in ENGL 1A
Reading and analysis of formal and informal literary expressions of African Americans, from slavery to the present. CSU/UC

ENGL 37. African American Women in Literature (3)
Lec-3, field trip CR/NC avail.
An intensive examination of the literary efforts of African American women writers beginning with the Slave Narratives to the present. CSU/UC

ENGL 40. Advanced Composition (3)
Lec-3 CR/NC avail.
Prereq.: ENGL 1A
Students enrolling to satisfy the IGETC critical thinking requirement must take the course for a letter grade.
An advanced composition course that integrates critical thinking skills with the reading and writing of expository and argumentative essays. Focus on critical thinking skills, careful reading and textual analysis and evaluation, and writing non-fiction prose. CSU/UC

ENGL 41. Writing in Connection with Reading the Important Books of the Nineteenth and Twentieth Centuries (3)
Lec-3 CR/NC avail.
Prereq.: ENGL 96 or placement in ENGL 1A
Expository writing based upon the reading and analysis of important works of imaginative literature, as well as an examination of relevant philosophical sources of the late nineteenth and early twentieth centuries. CSU/UC

ENGL 43. Introduction to the Study of Poetry (3)
Lec-3 CR/NC avail.
Prereq.: ENGL 96 or placement in ENGL 1A
Lectures on poetry intended to develop the student's ability to read, understand, and evaluate a poem. CSU/UC/CAN

ENGL 44A-44B. Survey of World Literature, Past and Present (3-3)
Lec-3 CR/NC avail.
Prereq.: ENGL 96 or placement in ENGL 1A
ENGL 44A is not prerequisite to 44B.
ENGL 44A. Classical Literature. CSU/UC
ENGL 44B. Medieval to Present Literature. CSU/UC

ENGL 46A-46B-46C. Survey of Literature in English (3-3-3)
Lec-3 CR/NC avail.
Prereq.: ENGL 1A
Required for a university major in English.
No part of ENGL 46 series is prerequisite to any other part.
ENGL 46A. Chaucer through Milton. CSU/UC
ENGL 46B. Late-Seventeenth to Mid-Nineteenth Century. CSU/UC/CAN
ENGL 46C. Mid-Nineteenth through the Twentieth Century. CSU/UC
ENGL 49A-N. Selected Topics (3 ea.)
Lec-3 CR/NC avail.
Not open to students who are enrolled in or who have completed the same ENGL 48 topic.
No part of the ENGL 49 series is prerequisite to any other part.
Investigation of a major author or authors, a literary movement, theme, or genre. Exploration of the topic through lectures, films, and class discussion leading to a critical analysis of the literature in expository writing and in independent student projects.

ENGL 48A. James Joyce. CSU/UC
ENGL 48B. Detective Fiction. CSU/UC
ENGL 48C. Science Fiction and Fantasy. CSU/UC
ENGL 48D. George Eliot/Marian Evans. CSU/UC
ENGL 48E. Virginia Woolf and Her World. CSU/UC
ENGL 48G. Work and Influence of Mark Twain. CSU/UC
ENGL 48H. The Story of English. CSU/UC
ENGL 48I. Voices and Visions. CSU/UC
ENGL 48J. Transformations of Myth through Time. CSU
ENGL 48K. The Bible as Literature. CSU/UC
ENGL 48L. The Mystery: East and West. CSU/UC
ENGL 48M. The Literature of Consciousness. CSU
ENGL 48N. The Literature of AIDS. CSU

ENGL 50. Myth and Literature (3)
Lec-3 CR/NC avail.
Advised: ENGL 96 or placement in ENGL 1A
Study of classical mythology, its central themes and personalities, and its relation to Western literature. At option of the instructor, the course will include study of other mythologies related to this literature. CSU/UC

ENGL 55. Survey of Gay and Lesbian Literature (3)
Lec-3 CR/NC avail.
Prereq.: ENGL 96 or placement in ENGL 1A
A survey of gay and lesbian literature drawing on examples that present material relevant to present day experience. CSU/UC

ENGL 56A-C. Selected Topics in Gay and Lesbian Literature (3-3-3)
Lec-3 CR/NC avail.
Prereq.: ENGL 96 or placement in ENGL 1A
No part of the ENGL 56 series is prerequisite to any other part.
Selected topics in gay and lesbian literature focusing on specific chronological, generic, thematic, biographical, or national cultural structures. CSU/UC

ENGL 56A. The International Scene.
ENGL 56B. Contemporary Fiction.
ENGL 56C. American Classics.

ENGL 57. Women and Literature (3)
Lec-3, field trips CR/NC avail.
Prereq.: ENGL 96 or placement in ENGL 1A
Literature by women: reading, discussion, and analysis of literature written in English by women over the last four hundred years. Emphasis on the nineteenth and early twentieth century novel, including some poetry and drama; classical as well as new and re-discovered authors. CSU/UC

ENGL 58A. Contemporary Women Writers and Poets (3)
Lec-3, field trips CR/NC avail.
Prereq.: ENGL 96 or placement in ENGL 1A
Contemporary women writers and poets: reading, discussion, and analysis of fiction, poetry and drama written in English by contemporary women from diverse cultural and ethnic backgrounds. Works in translation may be included. CSU/UC

Classics
Announcement of Courses

CREDIT, DEGREE APPLICABLE COURSES:

CLAS 35. Tragic Dramas of Greece (3)
Lec-3 CR/NC avail.
Prereq.: ENGL 96 or placement in ENGL 1A
An intensive consideration of the tragic dramas of Greece from a literary standpoint. CSU/UC

English as a Second Language (ESL)

CREDIT COURSES

Initial recommended placement in the credit ESL program is based on results of (1) the ESL Placement Examination 2) depending on the examination score, a writing sample, and 3) consultation with the student; for continuing students, successful completion of courses with letter grades requires a grade of C or higher.
CREDIT, NON-DEGREE APPLICABLE COURSES:

ESL 22. Beginning Academic ESL (10)
Lec/conf-20 CR/NC only
Prereq.: Placement in ESL 22
Preparation for beginning ESL students for academic study in ESL at City College of San Francisco. Intensive study of basic grammar, listening, reading, writing, communication and study skills with vocabulary and structures appropriate for beginning students of ESL. 
Students who have received a final grade of NC in ESL 22 cannot progress to ESL 32.

ESL 32. ESL Intensive (10)
Lec/conf-20 CR/NC only
Prereq.: Placement in ESL 32 or completion of ESL 22
Preparation for ESL students for further academic study in ESL at City College of San Francisco. Intensive study of basic grammar, listening, reading, writing, communication skills, and study skills, with vocabulary and structures appropriate for students below ESL 42, 44, 46.
Students who have received a final grade of NC in ESL 32 cannot progress to ESL 42, 44, and 46.

ESL 32A. ESL Intensive (5)
Lec/conf-10 CR/NC only
Prereq.: Placement in ESL 32 or completion of ESL 22
Preparation for ESL students for further academic study in ESL at City College of San Francisco. Intensive study of basic grammar, listening, reading, writing, communication skills, and study skills, with vocabulary and structures appropriate for students below ESL 42, 44, 46.
Students who have completed ESL 32 or who are currently enrolled in it cannot receive credit for ESL 32A.

ESL 32B. ESL Intensive (5)
Lec/conf-10 CR/NC only
Prereq.: Placement in ESL 32 or completion of ESL 32A
Preparation for ESL students for further academic study in ESL at City College of San Francisco. Intensive study of basic grammar, listening, reading, writing, communication skills, and study skills, with vocabulary and structures appropriate for students below ESL 42, 44, 46.
Students who have completed ESL 32 or who are currently enrolled in it cannot receive credit for ESL 32B.

ESL 42. Elementary Grammar and Writing (3)
Lec/conf-5
Prereq.: Placement in ESL 42 or completion of ESL 32
Intended to be taken concurrently with required courses in reading and vocabulary (ESL 44) and conversation (ESL 46) that have not been previously completed with a final grade of Credit or C or higher.
Intensive practice in and review of the use of basic grammatical structures and forms, both in sentences and in short narrative and descriptive passages and paraphrases. Practice in reading short passages that serve as models for writing as well as in the use of vocabulary and expressions. Emphasis on communication and accuracy.
Students who receive a final grade of D or F in ESL 42 cannot progress to ESL 52 or 58.

ESL 44. Elementary Reading and Vocabulary (3)
Lec/conf-5, lab-1
Prereq.: Placement in ESL 44 or completion of ESL 32
Intended to be taken concurrently with required courses in writing and grammar (ESL 42) and conversation (ESL 46) that have not been previously completed with a final grade of Credit or C or higher.
Reading skills including vocabulary development, reading rate and contextual predictions.
Students who receive a final grade of D or F in ESL 44 cannot progress to ESL 54 or 58.

ESL 46. Basic Listening and Conversation Skills (2)
Lec/conf-3 CR/NC avail.
Prereq.: Placement in ESL 46 or completion of ESL 32
Intended to be taken concurrently with required courses in writing and grammar (ESL 42) and reading and vocabulary (ESL 44).
Basic practice in the spoken language: Exchange of information in different kinds of situations, solving problems through discussion; practice in vocabulary and grammatical structures needed in various situations; informal classes: emphasis on communication and participation.
Students who receive a final grade of D or F or NC in ESL 46 cannot progress to ESL 56.

ESL 48. Elementary Grammar/Writing/Reading (6)
Lec/conf-10, lab-1
Prereq.: Placement in ESL 42 and 44 or completion of ESL 32
Intended to be taken concurrently with required course in conversation (ESL 46) that has not previously been completed with a final grade of Credit.
Intensive practice in and review of basic grammatical structures and forms, both in sentences and in short narrative and descriptive passages and paraphrases. Practice in reading short passages that serve as models for writing as well as reading with emphasis on contextual prediction, vocabulary expansion, and comprehension.
Students who receive a final grade of D or F in ESL 48 cannot progress to ESL 52, 54, or 58.

ESL 56. Intermediate Listening and Conversation Skills (2)
Lec/conf-3 CR/NC avail.
Prereq.: Placement in ESL 56 or completion of ESL 46
Intended to be taken concurrently with required courses in grammar and writing (ESL 52) and reading and vocabulary (ESL 54).
Intermediate practice in the spoken language: Exchange of information in different kinds of situations, solving challenging problems through listening and discussion. Emphasis on effective academic preparation, communication and participation.

CREDIT, DEGREE APPLICABLE COURSES:

ESL 49. Pronunciation (2)
Lec/conf-3, lab-1
Prereq.: Completion of ESL 32 or placement in ESL 42 or higher
Intensive practice in the oral control of American English emphasizing both pronunciation and listening skills. CSU
ESL 51A. ESL for Child Development (3)
Lec-3 CR/NC avail.
Prereq.: Placement in ESL 52 and 54 or higher or completion of ESL 42 and 44; or 48; May be taken concurrently with either CDEV 65 or 66, or alone
Repeat: max. 9 units
English as a second language support for Child Development (CDEV) 65 and 66 for limited English speakers. Reading strategies to successfully manage CDEV course load; writing strategies to successfully complete CDEV class reports and tests. Vocabulary building in child development terminology. Instructor will conduct periodic conferences with CDEV instructors on student progress and achievement. CSU

ESL 52. Intermediate Grammar and Writing (3)
Lec/conf-5
Prereq.: Placement in ESL 52 or completion of ESL 42 or 48
Intended to be taken concurrently with required courses in reading and vocabulary (ESL 54) and conversation (ESL 56) that have not been previously completed with a final grade of Credit or C or higher.
Intensive practice in writing sentences, paragraphs, and short multi-paragraph compositions using basic grammatical structures and forms. CSU/UC Students who receive a final grade of D or F in ESL 52 cannot progress to ESL 62 or 68.

ESL 54. Intermediate Reading and Vocabulary (3)
Lec/conf-3
Prereq.: Placement in ESL 54 or completion of ESL 44 or 48
Intended to be taken concurrently with required courses in grammar and writing (ESL 52) and speaking and listening (ESL 56).
Strategies to increase speed and comprehension of reading for general and academic purposes. CSU Students who receive a final grade of D or F in ESL 54 cannot progress to ESL 68.

ESL 58. Intermediate Grammar/Writing/Reading (6)
Lec/conf-8
Prereq.: Placement in ESL 52 and 54 or completion of ESL 42 and 44; or 48
Intended to be taken concurrently with required course in conversation (ESL 56).
Intensive practice in writing sentences, paragraphs, and short multi-paragraph compositions using basic grammatical structures and forms. Strategies to increase speed and comprehension of reading for general and academic purposes. CSU/UC Students who receive a final grade of D or F in ESL 58 cannot progress to ESL 60, 62 or 68.

ESL 60. Advanced Grammar (2)
Lec/conf-3
Prereq.: Placement in ESL 60 or completion of ESL 52 or 58
Intended to be taken concurrently with ESL 62 or 72.
Practice of advanced grammatical patterns. CSU

ESL 62. Elementary Composition and Reading (3)
Lec-3
Prereq.: Placement in ESL 62 or completion of ESL 52 or 58, and completion/concurrent enrollment in ESL 54
Intended to be taken concurrently with ESL 60.
Practice in writing well-organized and grammatically correct paragraphs, summaries, and compositions. Further practice in developing reading skills and using reading passages to support written composition work. CSU/UC Students who receive a final grade of D or F in ESL 62 cannot progress to ESL 72.

ESL 66. Advanced Listening and Reading (3)
Lec-3
Prereq.: Placement in ESL 62, 72, or 82, or completion of ESL 52 and 54; or 58
Preparation for ESL students in academic skills and strategies that will improve their performance in mainstream courses (e.g., listening skills to improve comprehension of classroom lectures and demonstrations, discipline-specific vocabulary expansion, and ESL reading and writing strategies for note and test-taking). Designed for students who already possess time management and native-language academic skills. CSU

ESL 68. Elementary Reading, Composition and Advanced Grammar (5)
Lec/conf-6
Prereq.: Placement in ESL 62 and 60 or completion of ESL 52 and 54; or 58
Practice in writing well-organized paragraphs and compositions; further practice in reading; practice in advanced grammatical patterns. CSU/UC Students who receive a final grade of D or F in ESL 68 cannot progress to ESL 72.

ESL 69. Accent Improvement (1)
Lec-3 (9 wks) CR/NC only
Prereq.: Placement in ESL 62 or higher or completion of ESL 52 or 58 or higher
Repeat: max. 3 units
Students with severe pronunciation problems should enroll in ESL 49 before taking ESL 69.
Improvement in standard American English pronunciation, voice quality, and physical presentation. CSU

ESL 71. Advanced Editing (1)
Lec/conf-2 CR/NC only
Coreq.: ESL 72, 82, ENGL 94, or 96
Repeat: max. 3 units
Intended for non-native speakers of English.
Practice of editing strategies and skills to improve understanding and use of written English; review of advanced grammatical patterns, and identification and practice of advanced structures beyond the sentence level. CSU
ESL 72. Intermediate Composition and Reading (3)
Lec-3
Prereq.: Placement in ESL 72 or completion of ESL 62 or 68; and completion/concurrent enrollment in ESL 60
Practice in writing expository essays with training in their planning and preparation. Reading for comprehension and analysis to accompany and support written composition work. ESL 60 or 71 may be taken concurrently. CSU/UC
Students who receive a final grade of D or F in ESL 72 cannot progress to ESL 82.

ESL 79. Advanced Speaking and Pronunciation (3)
Lec-3 CR/NC avail.
Prereq.: Placement in ESL 72 or 82 or completion of ESL 62 or 68; May be taken one semester after completion of ESL 82
Practice in effective communication in everyday, academic, and professional situations through the use of dialogues, role plays, improvisations, plays, interviews, debates, and individual and group presentations. Practice in communication skills and pronunciation, stress, intonation, phrasing, phrase reductions and tone as needed. CSU

ESL 82. Advanced Composition (3)
Lec-3
Prereq.: Placement in ESL 82 or completion of ESL 72
Further practice in reading and writing various forms of composition necessary in college work. ESL 71 may be taken concurrently. CSU/UC

Vocational ESL Office Training
Noncredit Certificate Program

Program Goal. The program prepares students for a wide variety of entry-level clerical positions in the automated office environment or for further advanced studies. Class instruction includes basic business skills (keyboarding, 10-key calculation, office correspondence and filing), business communication skills (business English, telephone training, and job search), and computer applications (word processing, database management, and spreadsheets).

Admission Requirements. Completion of Intermediate Low 5 (ESLN 3500 or 3505) or equivalent language ability; typing (25 wpm or with permission of instructor).

Length of Program: 810 hours

Core Courses

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>ESLV 3804</td>
<td>ESL Clerical Procedures</td>
<td>180</td>
</tr>
<tr>
<td>ESLV 3801</td>
<td>Voc English-as-a-Second Language OR</td>
<td></td>
</tr>
<tr>
<td>ESLV 3819</td>
<td>Social Communication AND</td>
<td></td>
</tr>
<tr>
<td>ESLV 3829</td>
<td>Computer Voc. ESL</td>
<td>180</td>
</tr>
<tr>
<td>SECY 9374</td>
<td>Keyboardin-All Level</td>
<td>or SECY 9375 Clerical Keyboarding OR</td>
</tr>
<tr>
<td>ESLB 3822</td>
<td>ESLN Lang. Skills Keyboard</td>
<td>180</td>
</tr>
<tr>
<td>SECY 9354</td>
<td>Business Machl-Key</td>
<td>or SECY 9341 Bus Math wih Spreadsheets</td>
</tr>
<tr>
<td>ESLB 3821</td>
<td>Introduction to Micro</td>
<td>or COMP 9857 Microcomp Bus</td>
</tr>
<tr>
<td>Electives (Selected from below)</td>
<td></td>
<td>90</td>
</tr>
</tbody>
</table>

Electives:
COMP 9857 Microcomp Bus Appl (if ESL 3821 before) ........................................ 90
COMP 9901 Databases–Beginning ................................................................. 45
ESL 3823 Practical Engl on the Job II .............................................. 90
WOPR 9486 Word Processing–Beginning ............................................. 45

Optional. Students may take additional ESLN courses while enrolled in this program.

Requirements for Completion. In addition to the course requirements, students must also fulfill the following requirements: 80% minimum attendance; Typing (45 wpm; 10% error rate) and 10-key (160 nwpm; 5% error rate).

For entry requirements, application procedures, and financial assistance consult counseling offices at the following campuses where this program is offered: Alemany 561-1875; Chinatown/ North Beach 561-1853; Downtown 267-6500

NONCREDIT COURSES

These courses are designed for students whose first or native language is not English. Students gain proficiency in English to find employment, to continue their education, and to function successfully in the culture and society of the United States. Survival skills are stressed in the first three levels of the program. Vocational tracks provide a bridge to vocational training. Up to 90 ESL credits may be used as elective credit for the high school diploma.

Course prerequisites in English as a Second Language may be met by demonstrating equivalent knowledge and skills.

Academic ESL courses formerly titled "ESL Workshop" are now offered for credit.

ESL, Academic
ESLA 3012. Test of English as a Foreign Language (TOEFL) Preparation (25 hrs)
Advising: High Intermediate to Advanced English skills, ability to work independently
Development of test-taking techniques essential for success in taking TOEFL exams. Sample tests of Listening, Grammar and Reading sections administered.

ESL, Bridge
Grades of CR/NC are offered for ESLB courses.

ESLB 3821. Introduction to Microcomputers for ESL (90 hrs)
Advising: Completion of Beginning 4 (ESLN 3400) or equivalent language ability, 20 wpm keyboarding speed or consent of instructor
Introduction to computer skills in ESL context. Development of computer vocabulary related to word processing, spreadsheets, database. Application of reading and writing skills to create and edit documents, worksheets and data reports using simple software.
ESLB 3822. ESL Language Skills/Keyboard (180 hrs)
Advised: Completion of Beginning Low 1 (ESLN 3100) or equivalent language ability
An introduction to keyboarding skills with materials and lessons especially adapted for ESLN students. Development of keyboarding techniques for centering, tabulating, speed and accuracy. Application of typing skills to writing at appropriate ESL level.

ESL, Citizenship
ESLC 3030. ESL/Citizenship Literacy (90 hrs)
Advised: Native Language Literacy and completion of ESL Literacy -A (ESLN 3010) or equivalent
Preparation for U.S. Citizenship test given by Department of Immigration and Naturalization Services. Speaking, listening, reading and writing skills applied to answering test questions on personal information, U.S. history, government and the Constitution.

ESLC 3031. ESL/Citizenship (90 hrs)
Advised: Completion of Beginning Low 1 (ESLN 3100) or equivalent language ability
Preparation for U.S. Citizenship test given by Department of Immigration and Naturalization Services. Speaking, listening, reading and writing skills applied to answering test questions on U.S. history, government and the Constitution.

ESLC 3032. ESL Citizenship Multi-Level 1-4 (90 hrs)
Advised: Native Language Literacy and completion of Beginning Low 1 or ESL Citizenship Literacy; or equivalent language ability
Preparation for U.S. Citizenship test given by the Department of Immigration and Naturalization Services. Speaking, listening, reading and writing skills applied to answering test questions on personal information, U.S. history, government and the Constitution.

ESLC 3033. ESL Citizenship Multi-Level 5-8 (90 hrs)
Advised: ESLN 3400 or ESLN Citizenship Multi-Level 1-4 or equivalent language level
Preparation for U.S. Citizenship test given by the Department of Immigration and Naturalization Services. Speaking, listening, reading and writing skills applied to answering test questions on personal information, U.S. history, government and the Constitution. In-depth discussion of the above topics as they relate to current events.

ESL, Focus
ESLF 3000. Native Language Literacy (180 hrs)
Advised: Little or no formal educational experience in native country
Development of literacy skills in native language. Emphasis on reading, writing, math and basic education. 1-6 semesters depending on mastery of course objectives.

ESLF 3001. ESL Women’s Issues (90 hrs)
Advised: Completion of Intermediate Low 5 (ESLN 3500) or equivalent language ability
Development of listening, speaking, reading, and writing skills though discussions on topics that affect women’s lives such as family life, changing roles of men and women, gender and the workplace.

ESLF 3002. ESL Current Events (90 hrs)
Advised: Completion of Intermediate High 6 (ESLN 3600) or equivalent language ability
Readings from a variety of materials on current events and issues followed by discussions to increase awareness of local, state, national and international issues. Development of reading vocabulary, listening and speaking skills. Emphasis on evaluation and interpretation of materials.

ESLF 3003. ESL Math (90 hrs)
Advised: Completion of Beginning Low 1 (ESLN 3100) or equivalent language ability
Development of math vocabulary used in directions and written problems involving whole numbers, fractions, decimals and percents in an ESL context.

ESLF 3004. Lifeskills ESL (90 hrs)
Advised: Semi-literate in native language
Designed for students with visual, auditory, short-term memory, or physical limitations. Development of basic language skills using topics, materials, and pacing appropriate to students’ needs and interests.

ESLF 3005. Writing with a Computer - Intermediate (90 hrs)
Advised: Completion of Beginning High 4 (ESLN 3400) or equivalent language ability
Writing in interactive classroom environment using computers to create, save, revise, and print. Revising and editing done through peer-group response and/or teacher feedback. Emphasis on paragraph development and organization.

ESLF 3006. Computer-Assisted ESL (180 hrs)
Advised: Completion of Beginning High 4 (ESLN 3400) or equivalent language ability
Listening, speaking, reading and writing skills expanded and developed through group computer projects and interactive classroom environment. Emphasis on accuracy and fluency.

ESLF 3126. Listening - Beginning Low (90 hrs)
Advised: Entry level or Beginning Low 1 or 2 listening ability
Beginning listening comprehension developed. Emphasis placed on listening in real life situations.

ESLF 3127. Speaking - Beginning Low (90 hrs)
Advised: Entry level or Beginning Low 1 or 2 speaking ability
Speaking skills developed through dialogues relevant to daily needs and activities. Asking and answering simple questions emphasized.

ESLF 3128. Reading - Beginning Low (90 hrs)
Advised: Entry level or Beginning Low 1 or 2 reading ability
Basic reading skills practiced, including phonics, recognition of basic sight words, and vocabulary building.

ESLF 3129. Writing - Beginning Low (90 hrs)
Advised: Beginning Low 1 or 2 writing ability; literate in native language
Basic mechanics such as punctuation and capitalization emphasized. Most content dictated, substituted, completed or copied from other sources. Writing intended primarily to facilitate and reflect learning of spoken language.
ESL 3144. Pronunciation - Beginning (90 hrs)
Advis: Completion of ESL Literacy B or equivalent language level
Development of basic pronunciation skills through understanding of English sounds. Rhythm, stress, and intonation introduced.

ESL 3346. Listening - Beginning High (90 hrs)
Advis: Beginning High 3 or 4 listening ability
Listening comprehension skills developed and expanded. Emphasis placed on listening in real life situations, including school and vocational settings.

ESL 3347. Speaking - Beginning High (90 hrs)
Advis: Beginning High 3 or 4 speaking ability
Speaking skills practiced and further expanded in communicative situations relevant to daily needs and personal vocational interests. Informal student talks given.

ESL 3348. Reading - Beginning High (90 hrs)
Advis: Beginning High 3 or 4 reading ability
Basic reading skills practiced and developed, including interpreting vocabulary in context, reading simplified forms, and using various reading strategies to comprehend written materials.

ESL 3349. Writing - Beginning High (90 hrs)
Advis: Beginning High 3 or 4 writing ability
Use of correct mechanics and formatting expanded. Writing for self-expression and practical communication needs introduced. Increased language ability drawn upon to produce limited description and narrative in controlled tasks.

ESL 3566. Listening - Intermediate Low (90 hrs)
Advis: Intermediate Low 5 or 6 listening ability
Intermediate listening skills developed. Emphasis placed on listening in real life situations, including vocational and academic settings.

ESL 3567. Speaking - Intermediate Low (90 hrs)
Advis: Intermediate Low 5 or 6 speaking ability
Fluency and accuracy in speaking developed. Oral student reports, presentations and demonstrations given. Job interviews role played.

ESL 3568. Reading - Intermediate Low (90 hrs)
Advis: Intermediate Low 5 or 6 reading ability
Intermediate skills practiced including interpreting and analyzing authentic articles, utilizing reference materials, and increasing speed in reading.

ESL 3569. Writing - Intermediate Low (90 hrs)
Advis: Intermediate Low 5 or 6 writing ability
Longer written work produced in less controlled tasks, with expanded vocabulary and sentence style. Paragraph development and methods of organization introduced. Work revised and edited from peer-group response and/or teacher feedback.

ESL 3584. Pronunciation - Intermediate (90 hrs)
Advis: Completion of Beginning High 4 or equivalent language ability
Pronunciation skills expanded for better oral communication. Review of formation and production of English sounds. Rhythm, stress, and intonation in intermediate level conversations developed.

ESL 3786. Listening - Intermediate High (90 hrs)
Advis: Intermediate High 7 or 8 listening ability
Intermediate listening skills reinforced and applied to authentic listening material.

ESL 3787. Speaking - Intermediate High (90 hrs)
Advis: Intermediate High 7 or 8 speaking ability
Speaking skills practiced and further refined in communicative situations. Speeches, presentations, and demonstrations given. Critical thinking and problem solving stressed. Job interview skills expanded.

ESL 3788. Reading - Intermediate High (90 hrs)
Advis: Intermediate High 7 or 8 reading ability
Intermediate reading skills practiced and expanded, including interpreting narrative and descriptive passages, and using reference materials and library conventions.

ESL 3789. Writing - Intermediate High (90 hrs)
Advis: Intermediate High 7 or 8 writing ability
Compositions produced as a response to a variety of authentic sources including movies, TV and news stories. Emphasis on development, organization and style.

ESL, General

ESL 3010. ESL Literacy-A (180 hrs)
Advis: Pre-literate, non-literate or semi-literate in native language with little or no English language skills
Orientation to the classroom and development of ESLN literacy skills. Emphasis on oral English for survival and development of pre-reading and pre-writing skills.

ESL 3015. ESL Literacy A-5 (90 hrs)
Orientation to classroom procedures and development of ESLN literacy skills. Emphasis on oral English and development of pre-reading and pre-writing skills for survival.

ESL 3020. ESL Literacy B (180 hrs)
Advis: Completion of ESL Literacy A or semi-literate in native language or literate in non-Roman alphabet with limited English skills
Development of ESLN literacy skills. Emphasis on English sound/symbol correspondence, reading and writing simple English sentences.

ESL 3100. Beginning Low 1 (180 hrs)
ESL 3105. Beginning Low 1 (90 hrs)
Advis: Semi-literate in native language with little or no English
Basic language skills designed to meet daily needs; aural development, oral readiness and reading readiness are stressed.

ESL 3140. Beginning Multi-level 1-4 (180 hrs)
Advis: Literate in native language
Designed to meet the needs of students with various levels of beginning English proficiency.

ESL 3150. Beginning Low 1-2 Intensive (180 hrs)
Advis: Literate in native language with ability and desire to acquire language at an accelerated rate
Accelerated course. Basic language skills designed to meet daily needs. Aural development, oral readiness, and reading readiness stressed.
ESLN 3200. Beginning Low 2 (180 hrs)
ESLN 3205. Beginning Low 2 (90 hrs)
Advised: Completion of Beginning Low 1 (ESLN 3100) or equivalent language ability
Builds on basic language skills from Beginning Low 1. Aural development, oral readiness, and reading readiness are developed further.

ESLN 3300. Beginning High 3 (180 hrs)
ESLN 3305. Beginning High 3 (90 hrs)
Advised: Completion of Beginning Low 2 (ESLN 3200) or equivalent language ability
Aural and oral skills expanded and practiced in communicative situations. Reading and writing skills are further developed.

ESLN 3350. Beginning High 3-4 Intensive (180 hrs)
Advised: Completion of Beginning Low 2 (ESLN 3200) or equivalent language ability; ability and desire to acquire language at an accelerated rate
Accelerated course. Aural and oral skills expanded and practiced in communicative situations. Transition from using reading and writing as reinforcement of oral/aural skills to reading and writing as independent skills.

ESLN 3400. Beginning High 4 (180 hrs)
ESLN 3405. Beginning High 4 (90 hrs)
Advised: Completion of Beginning High 3 (ESLN 3300) or equivalent language level
Builds on skills developed in Beginning High 3. Transition from using reading and writing for reinforcement of oral/aural skills to reading and writing as independent skills.

ESLN 3500. Intermediate Low 5 (180 hrs)
ESLN 3505. Intermediate Low 5 (90 hrs)
Advised: Completion of Beginning High 4 (ESLN 3400) or equivalent language level
Intermediate grammatical structures introduced. Fluency and communication stressed. Balance between listening/speaking skills and reading/writing skills emphasized.

ESLN 3550. Intermediate Low 5-6 Intensive (180 hrs)
Advised: Completion of Beginning High 4 (ESLN 3400) or equivalent language level. Ability and desire to work at an accelerated rate.
Accelerated course. Integration of basic language skills; development of the ability to discuss and write with a degree of accuracy and fluency. Intermediate grammatical structures introduced. Emphasis on communication skills necessary for real life situations, including classroom and vocational settings.

ESLN 3580. Intermediate 5-8 Multi-level (180 hrs)
Advised: Completion of Beginning High 4 (ESLN 3400) or equivalent language level
Designed to meet the needs of students with various levels of intermediate English proficiency.

ESLN 3600. Intermediate Low 6 (180 hrs)
ESLN 3605. Intermediate Low 6 (90 hrs)
Advised: Completion of Intermediate Low 5 (ESLN 3500) or equivalent language ability
Ability to discuss and write with a degree of accuracy and fluency developed. Communication skills necessary for real life situations, including classroom and vocational settings, emphasized.

ESLN 3700. Intermediate High 7 (180 hrs)
Advised: Completion of Intermediate Low 6 (ESLN 3600) or equivalent language ability
High intermediate language skill designed to meet daily needs in familiar situations, with emphasis on fluency and communication.

ESLN 3750. Intermediate High 7-8 Intensive (180 hrs)
Advised: Completion of Intermediate Low 6 (ESLN 3600) or equivalent language ability and desire to acquire language at an accelerated rate
Accelerated course. High intermediate language skills designed to meet daily needs in familiar situations with emphasis on fluency and communication.

ESLN 3785. Intermediate High 7-8 (90 hrs)
Advised: Completion of Intermediate Low 6 (ESLN 3600) or equivalent language ability
High intermediate language skills designed to meet daily needs in familiar situations, with emphasis on fluency and communication.

ESLN 3800. Intermediate High 8 (180 hrs)
Advised: Completion of Intermediate High 7 (ESLN 3700) or equivalent language ability
High intermediate language skills designed to meet daily needs in familiar situations, with emphasis on fluency and communication in the four language skills.

ESL, Vocational
Grades of CR/NC are offered for ESLV courses.

ESLV 3800. Vocational ESL - 5 (90 hrs)
Advised: Completion of Beginning High 3 (ESLN 3300) or equivalent language ability
Verbal communication skills and cultural knowledge needed in preparation for finding employment in the United States.

ESLV 3801. Vocational ESL - 10 (180 hrs)
Advised: Completion of Beginning High 3 (ESLN 3300) or equivalent language ability
Verbal communication skills and cultural knowledge needed for obtaining employment and staying successfully employed in the U.S.

ESLV 3804. VESL for Clerical Procedures (180 hrs)
Advised: Completion of Intermediate Low 5 (ESLN 3500) or equivalent language ability
Communicative language required for entry-level clerical work. Terminology related to office procedures, forms, filing, and telephone training. Language for job search and job retention included.

ESLV 3807. Housekeeping (88 hrs)
For those interested in entry-level positions in housekeeping. Includes language on housekeeping methods and terminology such as use of cleaning products and electrical appliances, health and safety procedures, record keeping, employer/employee relations, and job search preparation.
ESLV 3808. Cooking Terminology (90 hrs)
Advised: Beginning High 4 (ESLV 3400) or equivalent language ability
Verbal communication skills for the culinary worker. English terminology for cooking utensils, supplies, common tasks, and safety in culinary occupations.

ESLV 3813. ESL/ABE for Automotive Technology (270)
Advised: Intermediate Low 6 (ESLV 3600) or ABE 2074 or equivalent language ability
Language and communication skills, including technical vocabulary, informal speech and idioms used by automotive mechanics. Reading of shop manuals and automotive specification data and the comprehension of oral and written descriptions.

ESLV 3814. VESL for Chinese Cooks (90 hrs)
Advised: Completion of Beginning High 3 (ESLV 3300) or equivalent language ability
Verbal communication skills for the job. English terminology for cooking utensils, supplies, common tasks, and safety in restaurants specializing in Chinese cuisine.

ESLV 3816. Practical English on the Job (Janitorial) (180 hrs)
Advised: Beginning High 4 (ESLV 3400) or equivalent language ability
Verbal communication skills for the job and English terminology of equipment, supplies, common tasks, and safety in janitorial work.

ESLV 3819. Social Communication (90 hrs)
Advised: Completion of Beginning High 4 (ESLV 3400) or equivalent language ability
Conversational strategies for appropriate interaction in American work and social settings; cross-cultural discussions about social customs and practice in telephone procedures.

ESLV 3822. Practical English on the Job I (90 hrs)
Advised: Completion of Intermediate Low 6 (ESLV 3600) or equivalent language ability
Verbal communication skills to handle customers, engage in small talk with co-workers, discuss work performance with supervisors, understand cultural differences and be socially interactive on the job.

ESLV 3823. Practical English on the Job II (90 hrs)
Advised: Completion of Intermediate Low 6 (ESLV 3600) or equivalent language ability
Obtain, practice, and utilize communication skills and related vocabulary in the areas of getting a job and interview procedures.

ESLV 3824. Food Service/Hospitality VESL (180 hrs)
Advised: Beginning High 4 (ESLV 3400) or equivalent language ability
Verbal communication skills for the job, and English terminology of cooking utensils, supplies, common tasks, and safety in food service occupations.

ESLV 3825. VESL and Career Exploration I (45 hrs)
Advised: Beginning High 3 (ESLV 3300) or equivalent language ability
Verbal communication skills and vocabulary related to keeping a job, discussing personal goals, and understanding cultural/social skills as they relate to the workplace.
Part 1 in a 2-part series. See VESL and Career Exploration II (ESLV 3826).

ESLV 3826. VESL and Career Exploration II (45 hrs)
Advised: Beginning High 3 (ESLV 3300) or equivalent language ability
Communication skills and vocabulary related to the areas of getting a job, personal skills evaluation, career evaluation and resume writing.

ESLV 3827. VESL for Hotel/Service Workers (90 hrs)
Advised: Beginning High 4 (ESLV 3400) or equivalent language ability
Verbal communication skills for the job, and English terminology of equipment, supplies, common tasks, and safety in hotel service work.

ESLV 3828. Business Writing on Micros/ESL (90 hrs)
Advised: Intermediate High 7 (ESLV 3700) and SECY 9388 or 25 wurpm keyboarding (or) Intermediate High 8 (ESLV 3800) (or) equivalent language ability
Development of business communication skills using a simple word processor. Includes composition and style of documents, vocabulary and spelling, review of grammar, and punctuation. Recognition, pronunciation, and usage of computer terminology relevant to word processing.

ESLV 3829. Computer VESL (90 hrs)
Advised: Intermediate Low 6 (ESLV 3600) or equivalent language ability
Communicative language skills, computer vocabulary and terminology used in the automated office environment. Additional focus will be on knowledge and procedures for responding to computer messages and problem-solving.

ESLV 3830. VESL for Health Workers (180 hrs)
Advised: Intermediate Low 6 (ESLV 3600) or equivalent language ability
Designed for health care workers and others interested in the health field. Focus on language skills necessary to function in a medical environment. Study of basic medical terms and pronunciation. Social and cultural skills necessary for successful verbal interaction in health care surroundings.

ESLV 3831. VESL for Construction Workers (180 hrs)
Advised: Beginning High 4 (ESLV 3400) or equivalent language ability
Verbal communication skills for the job, and English terminology of tools, supplies, materials, tasks, and safety in the construction field.
ESLV 3832. VESL for Construction Workers (90 hrs)
Advised: Beginning Lw 2 (ESLN 3200) or equivalent English language ability or with the consent of an ESLN instructor
Verbal communication skills for the job and English terms for tools, supplies, materials, tasks and safety in the construction field. Instructors and/or coordinators from vocational and apprenticeship programs (i.e., Carpentry, Electrical, Sheet Metal, etc.) may serve as guest speakers.

ESLV 3833. VESL for Child Development A (90 hrs)
Advised: Beginning Lw 4 (ESLN 3400) or equivalent language ability
Practice in language needed by students enrolled in child development classes. Strategies for reading of simple material on childcare philosophy, trends, and practices. Familiarization with popular children's books, nursery rhymes, finger plays and games for pre-school-age children. Academic skills focus. May be taken before or concurrently with ESLN for CDEV "B."

ESLV 3834. VESL for Child Development B (90 hrs)
Advised: Beginning Lw 4 (ESLN 3400) or equivalent language ability
Practice in language needed by workers in the childcare field. Strategies for reading simple material on childcare philosophy, trends, and practices. Familiarization with popular children's books, nursery rhymes, finger plays and games for pre-school-age children. Job skills focus. May be taken before or concurrently with VESL for CDEV "A."

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**Environmental Horticulture and Floristry**

**Announcement of Curricula**

**General Information**
The Environmental Horticulture and Floristry Department offers students a choice of preparation for employment in producing, selling, and caring for plants and flowers used to beautify homes, stores, gardens, parks, highways, and industrial property. Training is offered in four fields: commercial cut-flower and greenhouse production, landscape gardening and landscape contracting, nursery and garden-center operation, and retail floristry. The Program in Environmental Horticulture and Floristry comprises the curricula in these fields. Students may complete majors concurrently in any two of these fields, or, with the help of the teaching staff, plan a course of study to meet their particular needs.

**Admission.** Enrollment is open to all interested students.

**Work Experience Training.** Students in the Program may obtain field training in the horticulture or floral industries by enrolling in the appropriate work-experience course. To receive credit, students must work at least 5 hours weekly in an approved position. The College helps students in the course find internship opportunities or salaried employment.

Placement depends upon students' abilities and records, employers' requirements, and economic conditions. Students are supervised by both employers and instructors. Students may offer toward graduation a maximum of eight semester units earned in work experience courses.

Associate in Science Degree and Award of Achievement. The Program in Environmental Horticulture and Floristry is designed so that students may satisfy the requirements for graduation from the College. Students who satisfy these requirements and complete any of the following curricula with an average final grade of C (2.00 grade-point average) or higher receive the Award of Achievement. Students who complete a curriculum suggested by the Department to enable them to meet special needs also receive the Award if they satisfy Department requirements.

**Transfer to Other California State Universities.** Students who complete any of the following curricula satisfactorily may transfer to California Polytechnic State University, San Luis Obispo; California State Polytechnic University, Pomona; or California State University, Fresno and work toward the degree of Bachelor of Science in ornamental horticulture.

**Approval of Instruction.** The curricula in environmental horticulture are approved by the following organizations: the Association of Landscape Architects; California Arborists Association; California Association of Nurserymen (Central, Peninsula, and Redwood Chapters); California Fertilizer Association; California Seed Trade Association; Golf Course Superintendents Association; California Landscape Contractors Association; Park Employees Union, Local No. 111, AFL-CIO; San Francisco Professional Gardeners Association; Agricultural Chemicals Association; Bedding Plant Association; California Anti-Litter League; California Cut Flower Growers Association; California Horticultural Society; and the State Division of Highways. The curriculum in Floristry is offered in cooperation with the San Francisco Bay Area Florists Association.

**Commercial Cut-Flower and Greenhouse Production**

**Degree Curriculum**

Students who satisfactorily complete the Curriculum in Commercial Cut-Flower and Greenhouse Production, a two-year course of study, are qualified for employment in the cut-flower and greenhouse production industries in the following capacities: cut-flower grower, flower groundsman, flower shipper, plant propagator, plant salesperson, and pot-plant grower.

The course of study includes instruction in commercial cut-flower and greenhouse production, principles of environmental horticulture, plant identification, the use of horticultural machines, and business practices in the ornamental-horticultural industry.

Students who complete the curriculum with an average final grade of C (2.00 grade-point average) or higher receive the Award of Achievement in Commercial Cut-Flower and Greenhouse Production.
Courses Required for the Award of Achievement in Commercial Cut-Flower and Greenhouse Production
First Semester
Course                                      Units
O H 50 Intro to Environmental Horticulture   3
O H 56 Horticulture Machines                 3
O H 76 Fall & Winter Plant Ident             4
Additional graduation requirements

Second Semester
O H 58 Comm Cut-Flower & Greenhouse Prod    3
O H 77 Spring & Summer Plant Ident           4
R F 81 Flower & Foliage I. & Care            2
Additional graduation requirements

Third Semester
O H 63 Soils                                3
O H 65 Reprod of Ornamental Plants           3
SPCH 11 Intro to Public Speaking              3
R F 82 Indoor Plant I.D. & Care              2
Additional graduation requirements

Fourth Semester
O H 60 Bus Practices in Environ Horticulture 3
O H 75 Pest Control                         3
O H 97 Wk Exper                             3
O H 70A Landscaping Design or
O H 71A Landscape Construction               3 or 4
Additional graduation requirements

Recommended electives: ACCT 50, SMBS 135

Courses Required for the Award of Achievement in Landscape Gardening and Landscape Contracting
First Semester
Course                                      Units
O H 50 Intro to Environmental Horticulture   3
O H 56 Horticulture Machines                 3
O H 76 Fall and Winter Plant Ident           4
SPCH 11 Intro to Publ Speak                  3
Additional graduation requirements

Second Semester
O H 53A Landscape Horticulture               3
O H 63 Soils                                3
O H 75 Pest Control                         3
O H 77 Spring and Summer Plant Ident         4
Additional graduation requirements

Third Semester
O H 53B Landscape Horticulture               3
O H 70A Prin of Landscaping Design           3
O H 71A Prin of Landscaping Construct        4
Additional graduation requirements

Fourth Semester
O H 60 Bus Practices in Environ Horticulture 3
O H 70B Adv Landscape Design                 3
O H 71B Prin of Landscaping Construct        4
O H 97 Wk Exper                             3
Additional graduation requirements

Recommended electives: ACCT 50, SMBS 135

Landscape Gardening and Landscape Contracting
Degree Curriculum
Training in the curriculum in Landscape Gardening and Landscape Contracting, a two-year course of study, is planned so that graduates, depending upon their interests, abilities, and achievement, may qualify for employment in a wide variety of capacities. Positions that graduates may hold in private employment, or for which they may take civil-service examinations, include those of landscape or maintenance gardener, junior landscape architect, nurseryman, weed-seed analyst, flower groundsman, horticultural inspector, crop foreman, highway-landscape leadman, and highway tree-maintenance person. Graduates may also hold positions in private employment as arborists; cut-flower and bedding-plant growers; insecticide, fertilizer, nursery or garden-center salespeople; landscape contractors; and landscape consultants.

The course of study includes instruction in principles of landscape design and landscape construction, principles of ornamental horticulture, plant identification, landscape horticulture, and business practices in the ornamental-horticultural industry.

Students who complete the curriculum with an average final grade of C (2.00 grade-point average) or higher receive the Award of Achievement in Landscape Gardening and Landscape Contracting.

Nursery and Garden-Center Operation
Degree Curriculum
Students who complete the curriculum in Nursery and Garden-Center Operation satisfactorily are qualified for employment in the wholesale and retail nursery businesses as growers, propagators, salespeople, and seedsmen. Graduates of this two-year course of study may also take civil-service examinations for positions as spray-control operators and supervisors, weed-seed analysts, farm and garden supervisors, horticultural inspectors, and plant propagators.

The course of study includes instruction in nursery operation, principles of ornamental horticulture, plant identification, the use of horticultural machines, and business practices in the ornamental-horticulture industry.

Students who complete the curriculum with an average final grade of C (2.00 grade-point average) or higher receive the Award of Achievement in Nursery and Garden-Center Operation.

Courses Required for the Award of Achievement in Nursery and Garden-Center Operation
First Semester
Course                                      Units
O H 50 Intro to Environmental Horticulture   3
O H 56 Horticulture Machines                 3
O H 76 Fall and Winter Plant Ident           4
Additional graduation requirements
Second Semester
O H 63 Soils ............................................. 3
O H 75 Pest Control ..................................... 3
O H 77 Spring and Summer Plant Ident ................. 4
Additional graduation requirements

Third Semester
O H 57A Wholesale Nursery Operations ............. 3
O H 65 Reprod of Ornamental Plants ................. 3
SPCH 11 Intro to Public Speak .......................... 3
O H 70A Landscaping Design ............................ 3
Additional graduation requirements

Fourth Semester
O H 57B Retail Nursery Management ................. 3
O H 60 Bus Practices in Environ Horticulture ......... 3
O H 97 Work Experience .................................. 3
O H 71A Landscaping Construct ........................ 4
Additional graduation requirements

Recommended electives: ACCT 50, SMBS 135

Certificate Curriculum
The program of study for the Certificate of Completion in Environmental Horticulture is designed to give students both broad and specialized training for entry employment or to add to their capabilities in one of the following fields: greenhouse operation, landscape horticulture, and nursery and garden-center operation.

Admission. Enrollment is open to all interested students. Employment. A number of entry positions are open to those who complete training in any of the preceding fields. Those who complete the requirements in landscape horticulture may work as self-employed maintenance gardeners or take State and city civil-service examinations for the position of maintenance gardener. Those who complete the requirements in greenhouse operation or nursery and garden-center operation are qualified for employment in sales work and in various kinds of maintenance, such as potting, cutting, and seeding.

Requirements for the Certificate of Completion. Students may obtain the Certificate of Completion in Environmental Horticulture (in one or more areas of specialization: Landscape Maintenance, Nursery Operations, Commercial Cut-Flower & Greenhouse Production, Landscape Design and Landscape Construction) by completing the following courses with the average final grade of C (2.00 grade-point average) or higher:

Course | Units
--- | ---
O H 50 Intro to Environmental Horticulture .......... 3
O H 56 Horticulture Machines ........................... 3
O H 60 Bus Practices in Environ Horticulture ......... 3
O H 63 Soils ............................................. 3
O H 75 Pest Control ..................................... 3
O H 76 Fall and Winter Plant Ident ...................... 4
O H 77 Spring and Summer Plant Ident ................. 4
SPCH 11 Intro to Public Speak ............................ 3
One of the sequences listed below .................. 3, 6, or 8
O H 53A-53B
O H 57A-57B
O H 58-65
O H 70A-70B
O H 71A-71B

Credit Toward Graduation. All credit that students earn in obtaining the Certificate of Completion in Ornamental Horticulture may also be applied toward satisfaction of the requirements for graduation from the College.

Floristry
Degree Curriculum
Instruction in retail floristry is offered in cooperation with the San Francisco Bay Area Retail Florists’ Association.

Enrollment is open to all interested students.

The two-year course of study is designed to give students thorough and well-balanced training in buying flowers, in the art of arranging and selling them to the public, and in operating a retail flower shop. Students who complete the curriculum satisfactorily are qualified for employment as salespersons and designers in the retail-floral industry.

The course of study includes instruction in the following: basic business arithmetic, flower-shop procedures and basic designs, work experience, business records and record keeping, flower shop management and merchandising, and marketing.

Students who complete the curriculum with an average final grade of C (2.00 grade-point average) or higher receive the degree of Associate in Science and the Award of Achievement in Floristry.

Courses Required for the Award of Achievement in Floristry
First Semester
Course | Units
--- | ---
BSMA 1 Basic Business Arithmetic ................. 2
R F 80A Flower Shop Proc & Basic Design ............. 5
R F 81 Flower and Foliage Identification ............. 2
R F 85 Introduction to Flower Arranging ............ 2
Additional graduation requirements
Second Semester
ACCT 50 (or equivalent) Intro to Account ............... 4
R F 80B Intermediate Floral Design .................. 5
R F 82 Interior Plant Identification .................. 2
Additional graduation requirements
* Not required of students who have passed the City
College placement examination in mathematics. Students
who have passed this examination should take an elective
in lieu of BSMA J.

Third Semester
R F 80C Advanced Floral Designs .................... 3
R F 86 Oriental Style Floral Arranging ................. 1.5
R F 98 Work Experience .................................. 3
Additional graduation requirements

Fourth Semester
MRKT 140 Marketing .................................. 3
R F 84 Flower-Shop Oper ................................. 3
R F 98 Work Experience .................................. 3
Additional graduation requirements

Recommended electives: ART 130; BSEN 74, 76; CIW 18;
MRKT 122, 170; SMBS 135; PSYC 26

Environmental Horticulture and Floristry
Announcement of Courses

Environmental Horticulture
CREDIT, DEGREE APPLICABLE COURSES:

O H 50. Introduction to Environmental Horticulture (3)
Lec-2, lab-3, field trips
Introduction to the field of environmental horticulture: nursery
and greenhouse production; landscape design, installation and
maintenance; arboriculture; floristry. Career opportunities are
explored in class and on field trips. Introduction to technical
aspects of horticulture including plant anatomy, soils and
amendments, fertilizers, composting, plant propagation, plant-
ing and transplanting, irrigation, landscape and turf mainte-
nance, pruning, pest control, tree care. Hands-on practice of
plant propagation, planting and transplanting; pruning, prepare-
ment of growing media and other horticultural skills. CSU

O H 54. Turfgrass Management (1.5)
Lec-1, lab-2, field trips
Advisory: O H 50 and 53A or demonstration of exit skills
Establishment and care of turf areas. Uses of turf in landscape.
Site preparation, species selection, and planting of seed, sod
and hydroseed. Turf maintenance including mowing, irriga-
tion, fertilization, thatch management, aeration and renovation.
Identification and control of turf pests. Care of specialized turf
areas including golf-greens and athletic fields. Use and opera-
tion of irrigation and maintenance equipment. CSU

O H 55. Tree Care (3) sp
Lec-2, lab-3, field trips
Advisory: O H 50, 76 or 77, or Completion/concurrent enrollment
in O H 53A or 53B
The care and management of large ornamental trees common
to residential, public and industrial landscaping. Stresses
correct staking, irrigating and fertilizing of ornamental trees,
as well as diagnostic cavity work, bracing, cabling and pruning.
The use of ropes and other safety equipment in the skill of pro-
fessional tree climbing is emphasized. CSU

O H 56. Horticulture Machines (3)
Lec-2, lab-3, field trips
Advisory: Completion/concurrent enrollment in O H 50
Field shop practice in the operation of horticultural equip-
ment such as the sod cutter, trencher, aerator, chipper/shredder,
and chain saw. Proper use of mowers and rototillers,
as well as heavy equipment, such as tractors and skip loaders.
Repair, maintenance, and preventative procedures for small
engines including Briggs and Stratton, Honda, Wisconsin,
and Tecumseh. CSU

O H 57A. Wholesale Nursery Operations (3) fa
Lec-2, lab-3, field trips
Advisory: O H 50 and 65, and O H 76 or 77, or demonstration of
exit skills
Cultural practices and management of wholesale nursery opera-
tions from groundcovers and perennials to specimen trees.
Emphasis on container production. Propagation and planting,
nursery structures and equipment, growing media, irrigation,
growth management, pest control, post-harvest operations.
Management topics include site selection, nursery organiza-
tion, industry standards, shipping, laws and regulations, niche
marketing. Careers explored. CSU

O H 57B. Retail Nursery Operations (3) fa
Lec-2, lab-3, field trips
Advisory: O H 50, 75, and O H 76 or 77, or significant field ex-
perience
Overview of the retail trade. Preparation for the California
Association of Nurserymen's certification exams, introduction to
marketing and management techniques, and practical training
for employment in the nursery or garden center. Examines a
wide variety of retail operations including mass market outlets,
small specialized nurseries, catalog operations, single-store busi-
nesses, small and large chain stores, and "high end" specialty
shops. CSU
O H 58. Greenhouse Operations (3) fa
Lec-2, lab-3, field trips
Advise: O H 50, 65, and O H 76 or 77, or significant field experience
Overview of commercial greenhouse operations including materials and construction, heating and cooling systems, containers and greenhouse equipment; crops surveyed include foliage, cut flowers, potted flowering plants; emphasis on bedding plants; management of growing medium, irrigation, fertilization temperature, growth regulators, CO2, light and temperature; alternative cropping systems, post-production handling, and marketing discussed. CSU

O H 60. Business Practices in Environmental Horticulture (3) fa
Lec-3, field trips
Practical business problems in various branches of environmental horticulture including estimating, sales and service, public relations, budgets and record keeping, and starting a business. CSU

O H 63. Soils (3) sp
Lec-2, lab-3, field trips
Advise: O H 50 or significant field experience
Introduction to soils and growing media as encountered in ornamental horticulture. Preparation and management of field and container soils. Soil composition and texture, soil chemistry, organic matter, colloids, soil structure, soil water and pH, plant nutrients and fertilizers, amendments, composting, beneficial soil organisms and diseases, drainage and irrigation. Managing turf, landscape and container soils. CSU

O H 65. Plant Propagation (3) sp
Lec-2, lab-3, field trips
Advise: Completion/concurrent enrollment in O H 50 or demonstration of exit skills
Principles and practices of reproducing plants as commercially practiced in the horticulture industry. Topics include propagation by seed and vegetative methods including cuttings, layering, division, grafting, and micro-propagation. CSU

O H 66. Irrigation (2) fa
Lec-1, lab-3, field trips
Advise: O H 50, 53A, or significant field experience
Basics of design, installation, maintenance, and troubleshooting of sprinkler and drip irrigation systems. Emphasis on landscape and turf irrigation. Nursery and greenhouse irrigation. Topics include establishing hydrosone, providing drainage, calculating pressure and flow requirements, system design and installation, equipment and fittings, automatic control systems and water conserving technologies. CSU

O H 70A. Principles of Landscaping Design (3)
Lec-2, lab-3, field trips
Lectures, reading assignments, and hands-on laboratory projects involving the principles of landscape design; especially as applied to residential properties. Graphic drafting techniques are included. CSU

O H 70B. Advance Principles of Landscape Design (3)
Lec-2, lab-3, field trips
Advise: O H 70A
Principles of advanced landscape design, especially as applied to residential properties. CSU

O H 71A. Landscape Construction (4)
Lec-2, lab-6, field trips
Principles of landscape construction, especially as applied to construction safety, tools, hardware, lumber, fences, gates, benches, decks, steps, paints, stains, concrete paving, concrete blocks, stone walls, and other physical aspects of landscape construction. CSU

O H 71B. Landscape Construction (4)
Lec-2, lab-6, field trips
Projects dealing with the use of bricks, concrete blocks, drainage, irrigation, fountains, pumps, landscape surveying, and estimating. CSU

O H 75. Pest Control (3) sp
Lec-3, field trips
Advise: O H 50; O H 53A, 57A, or 65 (concur.); or demonstration of exit skills
An overview of pest management in landscape, greenhouse, and nursery operations; introduction to the identification life cycles, and damage of common pests; emphasis on integrated pest management techniques with an introduction to cultural, mechanical, biological, and least-toxic chemical controls; legal requirements applicable to the safe use of pesticides; preparation for the State Qualified Applicator Certificate examination; QAC/QAL continuing education credit available. CSU

O H 76. Fall and Winter Plant Identification (4) fa
Lec-1, conf-1, field trips
Identification of approximately 150 ornamental trees, shrubs, vines, and perennials commonly used in the San Francisco Bay Area for fall and winter bloom, fruit, or foliage. Basic plant anatomy and terminology used in the taxonomic classification of plants. Emphasis on cultural requirements, habits of growth, and landscape use of plants. CSU

O H 77. Spring and Summer Plant Identification (4) sp
Lec-3, conf-1, field trips
Identification of approximately 150 ornamental trees, shrubs, vines, and perennials commonly used in the San Francisco Bay Area for spring and summer bloom, fruit, or foliage. Basic plant anatomy and terminology used in the taxonomic classification of plants. Emphasis on cultural requirements, habits of growth and landscape use of plants. CSU

O H 91-92-93. Independent Study (1-2-3)
Conf-1, lab-3, 6, 9, field trips
CR/NC avail.
Prereq.: 6 units of O H course work and project approval
Research dealing with a special topic in environmental horticulture. Allows students the opportunity to investigate horticultural problems of special interest or conduct an in-depth project. Emphasis on practical application and current issues in horticulture. CSU
O H 97. Work Experience (1-4)
Conf-1, work-5 per unit, field trips
Prereq.: Completion of 6 units in Environmental Horticulture
Coreq.: Enrollment in a minimum of 7 units of course work
including this course, and consent of instructor
Repeat: max. 9 units
Field application of principles and practices taught in horticulture
courses. A supervised work experience program with
cooperating employers, providing students with hands-on expe-
xperience and a smooth transition into commercial practice.
Students acquire job experience in their chosen field of horti-
culture. Preparation of job applications and resumes. Interview
career development skills discussed. CSU

O H 101. Garden Practices (3) sp
Lec-3, field trips CR/NC avail.
Topics include basic tools, soil improvement and composting,
planning a garden adapted to climate and microclimate, plant
selection, seed germination, transplanting, watering and water
conservation, pest management (using integrated, least-toxic
methods), and basic maintenance, including pruning. Plants
discussed include annuals, bulbs, perennials, groundcovers,
lawns, shrubs, trees, vegetables, fruit shrubs and trees,
drought-tolerant plants and street trees, and houseplants.
Appropriate for students seeking careers in horticulture as well
as for home gardeners. CSU

O H 102. Greenhouse Crops (3) fa
Lec-2, lab-3, field trips
Advise: O H 50, 65, and O H 76 or 77, or demonstration of exit
skills
Propagation, culture, post-harvest handling and care of prin-
ciple greenhouse crops. Foliage and cut flowers including roses
and carnations. Emphasis on potted flowering plants including
poinsettias, azaleas, hydrangeas, chrysanthemums, cyclamen,
gesneriads, lilies, and other forced bulbs. Discussion of pests,
alternative crops, and field-grown flowers. CSU

O H 104. Principles of Landscaping (3)
Lec-3
Fundamentals of and practices in designing the small home
garden. CSU

O H 111-112-113. Selected Topics in Ornamental
Horticulture (1-3)
Lec-1 to 3; lab-1 to 3, field trips CR/NC avail.
Repeat: if no subject repeat
Investigation in depth of selected topics in horticulture. Consider-
ation of current issues and innovations; expansion of
subjects covered briefly in introductory courses. CSU
  O H 111A. Year-Round Garden Color (1)
  O H 111B. Orchids (1)
  O H 111C. Container Gardening (1)
  O H 111D. Introduction to Xeriscaping (1)
  O H 111E. Vegetables & Herbs: Fall (1)
  O H 111F. Vegetables & Herbs: Spring (1)
  O H 111G. Vegetables & Herbs: Summer (1)

Floristry
CREDIT, DEGREE APPLICABLE COURSES:

R F 80A. Flower Shop Procedures and Basic Design (5)
Lec-3, lab-6, field trips
Beginning floral design and arrangement techniques com-
monly used by professional flower artists. Practical application
in identifying and constructing numerous floral designs, includ-
ing arrangements for home interiors, parties, hospital,
sympathy, and other decorative and special occasions. In-
cludes corsage and body flower designing as well as identification
of aesthetic and mechanical accessories common to the
floral industry. Appropriate use of the principles and elements
of design are stressed. CSU

R F 80B. Intermediate Floral Design (5)
Lec-3, conf-1, lab-5, field trips
Prereq.: R F 80A
Intermediate study of and practice in professional flower
arranging techniques used by the floral industry. Emphasis on
sympathy tributes, window and store display, oriental, high
style design and European floral design. CSU

R F 80C. Advanced Floral Design (3)
Lec-2, conf-2, lab-1, field trips
Prereq.: R F 80B
Advanced principles and techniques for designing, coordina-
ting, and installing floral displays for weddings, parties,
churches, receptions, residences, and corporate and hotel
accounts. Traditional, contemporary, and European style
designs for wedding bouquets, personal flowers, and arrange-
ments. Business aspects such as consulting, selling, planning,
and pricing. CSU

R F 81. Flower and Foliage Identification/Culture and
Care (2)
Lec-2, field trips
Identification of cut flowers and foliage used in commercial
floristry, with emphasis on post-harvest care and handling,
vase life, wholesale packaging, pricing, and uses in floral
designing. CSU

R F 82. Interior Plant Identification (2)
Lec-2, field trips
Identification of indoor/tropical house plants used in com-
mercial floristry, with emphasis on post-harvest care and
handling, culture, wholesale packaging, pricing, and uses in
floral design. CSU

R F 84. Flower-Shop Operations (3)
Lec-3, field trips
Principles and practices of flower-shop operation including
salesmanship, types of shops, merchandising, buying, advertis-
ing, delivery, and personnel. CSU
**R F 85. Introduction to Flower Arranging (2)**
Lab-3, field trips.
Repeat: max. 4 units
Students provide own materials.
Introduction to basic flower arranging, flower and foliage use, care and handling of fresh materials, use of everlasting materials, flower forms, types and use of containers. Basic historical periods and styles of decorating for beginners. CSU

**R F 86. Oriental Style Flower Arranging (1.5)**
Lec-1, lab-2, field trips
Repeat: max. 6 units
Students provide own materials.
Overview, understanding and appreciation of oriental style flower arrangement, known generally as Ikebana. Emphasis on principles of designs, experimentation, technique, exploration, and critique intended to develop creativity and manipulative ability. CSU

**R F 88. Designs in Floristry (2)**
Lec-1, conf-1, lab-1, field trips
Prereq.: O H 80A or current employment in the Floral Industry
Repeat: max. 4 units
An in-service training program for those engaged in the field of floristry and also for those students currently enrolled in the Retail Floristry Department. Guest lecturer-demonstrators. Design work in corsages, vase arrangements, memorial flowers, and wedding work. CSU

**R F 98. Work Experience (1-4)**
Conf-1, work-5 (ea unit)
Prereq.: Completion/concurrent enrollment in O H 80B
Coreq.: Enrollment in a minimum of 7 units of course work including this course, and consent of instructor
Repeat: max. 6 units
A supervised work experience program including work with pay, at an approved retail flower shop. Designed to provide the student with an opportunity to learn and practice skills with instructor and professional guidance. CSU

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**Ethnic Studies**


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**Film**

**General Information**
The Film Department is dedicated to teaching aesthetic and technical approaches to all phases of filmmaking.

Cinema has evolved over the past century as the most powerful visual language, art and craft. In our era of rapidly changing technology, with digital and electronic techniques incorporated into moving image production, the projected celluloid film image remains the state of the art, and the cinematic approach is chosen to create works of lasting value.

Our two-year Production Program enables beginning students to advance to making 16mm sound films using film and video techniques. The emphasis is hands-on film production, with instruction and encouragement from our outstanding faculty of experienced professional filmmakers. Students can qualify for the Film Department Certificate of Completion, and skilled students will find many job sources in the San Francisco Bay Area, where the film industry is one of the largest employers.

Non-production Film Studies classes explore historic, aesthetic and sociological values in Film History, Homosexuality in Film, and Black Cinema. These courses offer Humanities credits for students of all majors.

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**Announcement of Curricula**

**Degree Curriculum**

**Admission.** Enrollment is open to students seriously interested in pursuing a career in film production. In their first semester students may enroll concurrently in the following courses: FILM 20A/B, 24, 25, 30, 60, and 136.

**Associate in Science Degree and Award of Achievement.** The program is designed so that students may satisfy the requirements for graduation from the College. Students who satisfy these requirements receive the Award of Achievement in Film Production if they complete the program of study with a final grade-point average of 2.75 (B minus) or higher. Students who complete the full curriculum in accordance with the regulations of the department will receive the Award of Achievement in Film Production.

**Courses Required for the Award of Achievement in Film Production.**

**First Semester**

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
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<tbody>
<tr>
<td>FILM 20A/B Film History</td>
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<td>FILM 24 Basic Film Prod</td>
<td>3</td>
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<td>FILM 25 Beg Film Editing</td>
<td>3</td>
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<td>FILM 60 Sound for Motion Pictures</td>
<td>3</td>
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<td>FILM 100 Production Lab</td>
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<td>Additional graduation requirements</td>
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**Second Semester**

<table>
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<tr>
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<tr>
<td>FILM 30 Pre-Production Plan</td>
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<td>FILM 55 Adv Film Editing</td>
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<tr>
<td>FILM 54 Cinematography and Lighting</td>
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<td>FILM 100 Production Lab</td>
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**Third Semester**

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<tr>
<td>FILM 75 Screenwriting</td>
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<td>FILM 100 Production Lab</td>
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<tr>
<td>FILM 124A Film Production Wkshop</td>
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<tr>
<td>FILM 131 Directing Motion Pictures or FILM 136 Special Effects</td>
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<tr>
<td>FILM 100 Production Lab</td>
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<tr>
<td>FILM 124B Film Production Wkshop</td>
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<tr>
<td>FILM 131 Directing Motion Pictures or FILM 126 Documentary Filmmaking</td>
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