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. Course work 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.

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**Earth Sciences**

**Announcement of Courses**

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**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 interlinked 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-5, 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 beauties, 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

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**Geology**

**GEOL 5. General Geology (4)**

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

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
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
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
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
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
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
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 Macroeconomics (3)
Lec-3
An introduction to the general principles, terminology, and methods of economics, with emphasis on macroeconomics. 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 Microeconomics (3)
Lec-3
Prereq.: ECON 1
A continuation of the introduction to the general principles and terminology of economics, with emphasis on microeconomics. 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
Prereq.: MATH 860 or placement in MATH 90
No credit for this course if another statistics has been completed.
Introduction to statistical method, 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. Meets American Cultures requirement at UC, Berkeley. 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

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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).

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.

Waiver. If the courses required at your chosen transfer institution differ from those required of the award of achievement, consult with the advisor for a waiver and substitution of other courses.

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 Engg 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:

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENGN 20 &amp; 20L Circuit Analysis &amp; Lab</td>
<td>4</td>
</tr>
<tr>
<td>ENGN 36 Engrg Mechanics: Statics</td>
<td>3</td>
</tr>
<tr>
<td>ENGN 38 Intro to Comp for Engrs</td>
<td>3</td>
</tr>
<tr>
<td>ENGN 45 Materials Sci</td>
<td>3</td>
</tr>
<tr>
<td>MATH 110B Calc II</td>
<td>4</td>
</tr>
<tr>
<td>MATH 110C Calc III</td>
<td>4</td>
</tr>
<tr>
<td>MATH 125 Diff Eq.</td>
<td>3</td>
</tr>
<tr>
<td>PHYC 4A &amp; 4AL Mech and Relativity</td>
<td>4</td>
</tr>
<tr>
<td>PHYC 4B &amp; 4BL Elect &amp; Magnetism</td>
<td>4</td>
</tr>
<tr>
<td>PHYC 4C &amp; 4CL Waves, Optics, &amp; Thermo</td>
<td>4</td>
</tr>
<tr>
<td>Technical Elective*</td>
<td>3</td>
</tr>
<tr>
<td>Additional GE Requirements†</td>
<td>12</td>
</tr>
</tbody>
</table>

* 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: 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.
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: CAD operator, 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."

Common Core. All Electronic and Mechanical Engineering Technology students initially enroll in the following common core courses:

First Semester
Course                                         Units
ENGN 48 The Engrg Profession..................... 1
ET 50 Technical Math or equivalent math........ 4
ET 104 Intro. to Engineering Drawing & Manuf.   3
ET 60 Electronics I-DC/AC Circuit Analysis..... 4
PHYC 2A/2AL Intro Physics......................... 4

Second Semester
ET 54 Microcomp Setup, Maint & Repair........... 2
ET 63 Intro to Digital Circuits & Techniques... 3
Technical Electives................................... 4
PHYC 2B/2BL Intro Physics......................... 4
BSEN 74 Bus Corresp or ENGL 94 Inter Reading & Comp........ 3

Third Semester
ET 51 Adv Technical Math or equivalent math.... 4
Technical Electives................................... 4
Additional requirement (General Ed)................ 10

Fourth Semester
TQM 101 Total Quality Mgmt: Princ & Elem..... 3
Technical Electives................................... 6
SPCH 12 Fundamentals of Oral Communication.... 3
Additional Requirement (General Ed)............... 3

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 course work 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.

Course | Units
--- | ---
ET 54 Microcomputer Setup, Maint & Repair | 2-6
ET 55 Advanced Microcomputer Repair | 2-6
ET 65 Electronics II-Linear Active Circuits | 4
ET 163 Nonsinusoidal Circuits | 3
ET 164 Analog and Comm. Electronics | 4
ET 165 PCM/FM Communication Systems | 3
ET 151 Assembly Lang & Microproc Arch | 3
ET 152 Microcomp Interfacing & Troubleshoot | 3
TQM 103 Total Quality Management: Implement | 3

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 programs 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, electronic 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 CAM</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 186 Intro to Geog Info Systems (GIS)</td>
<td>2</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 Quality Mgmt: 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 Engr'd. Plumbing Systems</td>
<td>3</td>
</tr>
</tbody>
</table>

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.)

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>ET 60 Electronics I-DC/AC Circuit Analysis</td>
<td>4</td>
</tr>
<tr>
<td>ET 65 Electronics II-Linear Active Devices</td>
<td>4</td>
</tr>
<tr>
<td>ET 163 Non-sinusoidal Circuits</td>
<td>3</td>
</tr>
<tr>
<td>ET 164 Analog &amp; Commun Electro</td>
<td>4</td>
</tr>
<tr>
<td>ET 165 PCM/FM Commn System</td>
<td>3</td>
</tr>
</tbody>
</table>

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.

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>ET 60 Electronics I-DC/AC Circuit Analysis</td>
<td>4</td>
</tr>
<tr>
<td>ET 63 Intro to Digital Circuits &amp; Techniques</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>
</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>
</tr>
<tr>
<td>ET 182 CAD II</td>
<td>3</td>
</tr>
</tbody>
</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.)

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>ET 139A Engineered Plumbing Systems</td>
<td>3</td>
</tr>
<tr>
<td>ET 139B Engineered Plumbing Systems</td>
<td>3</td>
</tr>
<tr>
<td>ET 139C Engineered Plumbing Systems</td>
<td>3</td>
</tr>
</tbody>
</table>
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.

<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 55 Adv Microcomp Repair</td>
<td>2</td>
</tr>
<tr>
<td>CIS 104 Microcomputer Hardware</td>
<td>3</td>
</tr>
<tr>
<td>CIS 104A Microcomputer Hardware Adv</td>
<td>3</td>
</tr>
</tbody>
</table>

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.)

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>TQM 101 TQM: Principles and Elements</td>
<td>3</td>
</tr>
<tr>
<td>TQM 103 TQM: The Implementation Process</td>
<td>3</td>
</tr>
</tbody>
</table>

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, inner shield and oxyacetylene welding techniques.

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

<table>
<thead>
<tr>
<th>Core Course</th>
<th>Hours/Weeks</th>
</tr>
</thead>
<tbody>
<tr>
<td>TIWE 9676 Combi Weld (4 sect of 270 hr.)</td>
<td>15/18</td>
</tr>
<tr>
<td>SECY 9356 Bus Math (as needed)</td>
<td>5/18</td>
</tr>
<tr>
<td>SECY 9346 Effective Bus Comm (as needed)</td>
<td>5/18</td>
</tr>
</tbody>
</table>

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 20
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 (CADD) 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.: Completion/concurrent enrollment in MATH 110A; or ET 51 or MATH 109A
*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

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

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**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 circuitry 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 53. Computers in Engineering Technology (2)**
Lec-1, lab-3
An introduction to DOS and Windows operating systems, and to their use in running application programs. This course will also cover some computer architecture and programming and is a useful lead-in to computer hardware troubleshooting. CSU

**ET 54. Microcomputer Setup, Maintenance, and Repair (2)**
Lec-1, lab-3
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. 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.: Completion/concurrent enrollment in ET 50
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, photoelectric 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. Includes processes used to describe product geometry in computer terms, modern practices in tolerancing, HVAC and piping. 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 (total hrs), lab-9 (total hrs), 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 (total hrs), lab-12 (total hrs), 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.]
Introduction to the basic concepts of air-conditioning and refrigeration. Emphasis on practical engineering problems. The psychrometrics of air and water-vapor mixtures, basic elements of air-conditioning, and psychometric processes. Use of psychrometric 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 standpipe, 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). Oxygen-acetylene 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, oxy-acetylene 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 demonstration of ET 63 exit skills
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.: Completion/concurrent enrollment in ET 63 and 65
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 demonstration of ET 65 exit skills
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 multiplexers. 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 demonstration of ET 181 exit skills
(equivalent course work or 100 hrs of Autocad industrial work experience)
Industrial application of AutoCAD drawing editor on large scale projects including blocks, attributes and extraction of "non-graphic" data stored within 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 183A. Advanced Computer-Aided Drafting - CAD III: Customizing AutoCAD (2)
Lec-1, lab-3
Prereq.: ET 181 or demonstration of ET 181 exit skills
(Equivalent course work or 100 hrs of Autocad industrial work experience)
An introduction and application of AutoCAD's generic drawing editor in any specific discipline through customizing. Making sample menus; creating macros and the design of screen, tablet, icon, and pull-down menus. Basic setup and configuring of hardware with AutoCAD software. Configuring a digitizer for a tablet overlay symbol library and the development of a symbol ("block") library. CSU

ET 183B. Advanced Computer-Aided Drafting - CAD IV - AutoLISP (2)
Lec-1, lab-3
Prereq.: ET 181 or demonstration of ET 181 exit skills
(Equivalent course work or 100 hrs of Autocad industrial work experience)
An introduction to programming in AutoLISP for use with AutoCAD. Instruction in the use of AutoLISP programs. Development of new programs to improve drawing productivity by enhancing capabilities of AutoCAD. CSU

ET 183C. Advanced Computer-Aided Drafting - 3D Modeling (2)
Lec-1, lab-3
Prereq.: ET 181 or demonstration of ET 181 exit skills
(Equivalent course work or 100 hrs of Autocad industrial work experience)
Introduction to three-dimensional (3D) modeling, application of computer-aided drafting software for the creation of wireframe, surface, and solid modeling. CSU

ET 183D. Advanced Computer-Aided Drafting - Rendering and Animation (2)
Lec-1, lab-3
Prereq.: ET 181 or demonstration of ET 181 exit skills
(Equivalent course work or 100 HRS of Autocad industrial work experience)
Introduction to computer generated rendered images and animation. CSU
ET 184. Structural CAD Drafting (2)
Lec-1, lab-3
Prereq.: ET 181 or demonstration of ET 181 exit skills
(Equivalent course work or 100 hrs of Autocad industrial
work experience)
Structural design theory. Use of CAD to generate steel and
cement 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
Advises: TQM 101
The study of General Systems Theory; process and analysis
using the techniques of process flow diagramming and essen-
tial structure analysis; emphasis on statistical process control
(SPC) charts for data collection and analysis; application of
Total Quality Management in service organizations; develop-
ment 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
Advises: ABE 2074
Lab/lecture course designed to prepare students for entry into
the trade as combination welders. Emphasizes safety, certifica-
tion 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, in-
nershield, 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, hori-
zontal, vertical, and overhead positions. Five major welding pro-
cesses 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)
Advises: ESLN 3800; ABE 2074
Interpretation of blueprints, welding symbols and material
specifications. Students will be able to read blueprint format
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 II (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 gradu-
ation 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 ESL (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 Chair 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 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 L 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 W. Writing with a Computer (1)
Lab-20 (total hrs) CR/NC avail.
Advis: Typing experience
No previous computer experience required.
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.

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. GSU

ENGL 1A. University-Parallel Reading and Composition (3)
Lec-3
Prereq.: ENGL 96 or placement in ENGL 1A; or a 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 CR/NC avail.
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.
Advis: 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. GSU

ENGL 1A4A. 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
Coreq.: ENGL 14A
Repeat: max. 4 units
Practical experience in editing and supervising production of a literary publication. CSU

ENGL 16. Academic Writing Workshop (3)
Lec-3
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
Advise: Completion/concurrent enrollment in ENGL 94 or bigger
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
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

ENGL 26. Intensive Study and Use of English Grammar (3)
Lec-3
Advise: Completion/concurrent enrollment in ENGL 90 or bigger, or ESL 72 or bigger
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 study of the rules of English grammar to improve understanding and use of English. CSU

ENGL 30. Introduction to American Literature (3)
Lec-3
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
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
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
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
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
Prereq.: ENGL 96 or placement in ENGL 1A
No part of the ENGL 35 series is prerequisite to any other part.
ENGL 35A-35B. Practice in writing, with special emphasis on the short story. CSU/UC; 35A: CAN
ENGL 35C-35D. Practice in writing, with special emphasis on poetry. CSU/UC
ENGL 35E-35F. Practice in writing, with special emphasis on the novel and plays. CSU/UC
ENGL 35G-35H. Practice in writing, with special emphasis on autobiography. CSU

ENGL 36. African American Literature–A Survey (3)
Lec-3
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
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
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 49A. James Joyce. CSU
ENGL 49B. Detective Fiction. CSU
ENGL 49C. Science Fiction and Fantasy. CSU
ENGL 49D. George Eliot/Marianne Evans. CSU
ENGL 49E. Virginia Woolf and Her World. CSU
ENGL 49F. Work and Influence of Mark Twain. CSU
ENGL 49G. The Story of English. CSU
ENGL 49H. Voices and Visions. CSU
ENGL 49J. Transformations of Myth Through Time. CSU
ENGL 49K. The Bible as Literature. CSU
ENGL 49L. The Mystery: East and West. CSU
ENGL 49M. The Literature of Consciousness. CSU
ENGL 49N. 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

ENGL 59. Advanced Literary Analysis (3)
Lec-3, field trips CR/NC avail.
Advanced instruction in close reading, critical contextualization, and literary analysis for future upper division literature students. CSU

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, 48 or 46.

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 for NC in ESL 46 cannot progress to ESL 56.

ESL 48. Elementary Grammar/Reading/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 CR/NC avail.
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).
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 62 or 68.

ESL 58. Intermediate Grammar/Reading/Writing (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 and 54; or 58
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 (2)
Lec-2, lab-1 CR/NC only
Prereq.: Placement in ESL 62 or higher or completion of ESL 52 or 58 or higher
Repeat: max. 4 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 (ESL 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</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>ESL 3804 VESL Clerical Procedures</td>
<td>180</td>
</tr>
<tr>
<td>ESL 3801 Voc English-as-a-Second Language OR ESL 3819 Social Communication AND ESL 3829 Computer Voc. ESL</td>
<td>180</td>
</tr>
<tr>
<td>SECY 9374 Keyboarding-All Levels or SECY 9375 Clerical Keyboarding OR ESLB 3822 ESL Lang. Skills Keyboard</td>
<td>180</td>
</tr>
<tr>
<td>SECY 9354 Business Machines/10-Key or SECY 9341 Bus Math with Spreadsheets</td>
<td>90</td>
</tr>
<tr>
<td>ESLB 3821 Introduction to Micro or COMP 9857 Microcomp Bus Appl</td>
<td>90</td>
</tr>
<tr>
<td>Electives (Selected from below)</td>
<td>90</td>
</tr>
</tbody>
</table>

Elective Courses:  
COMP 9857 Microcomp Bus Appl (if ESLB 3821 before)  
COMP 9901 Databases-Beginning  
ESL 3823 Practical Engl on the Job II  
WOPR 9486 Word Processing-Beginning  

Optional. Students may take additional ESL 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 wpm; 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 561-1875; 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 Workshp” are now offered for credit.  

ESL, Academic  
ESLA 3012. Test of English as a Foreign Language (TOEFL) Preparation (25 hrs)  
Advise: Completion of ESLN 3600 or equivalent language ability; 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)
ESLB 4821. Introduction to Microcomputers for ESL (45 hrs)
Advise: Completion of ESLN 3400 or equivalent language ability, 20 wpm keyboarding speed
Introduction to computer skills in an 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/Keyboarding (180 hrs)
ESLB 4822. ESL Language Skills/Keyboarding (90 hrs)
Advise: Completion of ESLN 3100 or equivalent language ability
An introduction to keyboarding skills with materials and lessons especially adapted for ESL students. Development of keyboarding techniques for centering, tabulating, speed and accuracy. Application of typing skills to writing at an appropriate ESL level.

ESL, Citizenship
ESLC 3030. ESL/Citizenship Literacy (90 hrs)
Advise: Native language literacy and completion of ESLN 3100 or equivalent language ability
Preparation for the U.S. Citizenship test given by the Department of Immigration and Naturalization Services. Speaking, listening, reading and writing skills at the basic literacy level applied to answering test questions on personal information, U.S. history, government and the Constitution.

ESLC 3031. ESL/Citizenship (90 hrs)
Advise: Completion of ESLN 3100 or equivalent language ability
Preparation for the 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 U.S. history, government and the Constitution.

ESLC 3032. ESL Citizenship Multi-Level 1-4 (90 hrs)
ESLC 4032. ESL Citizenship Multi-Level 1-4 (45 hrs)
Advise: Native language literacy and completion of ESLN 3100 or ESLC 3030, or equivalent language ability
Preparation for the 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.

ESLF, Focus
ESLF 3000. Native Language Literacy (180 hrs)
Advise: 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)
Advise: Completion of 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)
Advise: Completion of 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)
Advise: Completion of 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)
Advise: 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)
Advise: Completion of 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)
ESLF 4006. Computer Assisted ESL (90 hrs)
ESLF 5006. Computer Assisted ESL (45 hrs)
Advise: Completion of 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 3007. Computer Assisted ESL - Beginning Low (90 hrs)
ESLF 4007. Computer Assisted ESL - Beginning Low (45 hrs)
Advise: Completion of ESLN 3010 or equivalent and desire to acquire language at an accelerated rate
Basic language skills expanded and developed through group computer projects and interactive class environment. Aural development, oral readiness and reading readiness stressed.
ESLF 3008. Computer Assisted ESL Beginning High (90 hrs)
ESLF 4008. Computer Assisted ESL Beginning High (45 hrs)
Advising: Completion of ESLN 3200 or equivalent; ability and desire to acquire language at an accelerated rate
Aural and oral skills expanded and practiced through computer projects and interactive classroom work. Reinforcement of oral/aural skills and development of reading and writing skills.

ESLF 3011. English Through Song Lyrics (90 hrs)
Advising: Completion of ESLN 3300
Using English-language music to learn listening, reading, writing, and conversational skills and grammar, and to develop awareness of American culture.

ESLF 3126. Listening - Beginning Low (90 hrs)
Advising: Completion of ESLN 3010 or equivalent language ability
Beginning listening comprehension developed. Emphasis placed on listening in real life situations.

ESLF 3127. Speaking - Beginning Low (90 hrs)
Advising: Completion of ESLN 3010 or equivalent language 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)
Advising: Completion of ESLN 3010 or equivalent language ability
Basic reading skills practiced, including phonics, recognition of basic sight words, and vocabulary building.

ESLF 3129. Writing - Beginning Low (90 hrs)
Advising: Completion of ESLN 3010 or equivalent language ability
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.

ESLF 3144. Pronunciation - Beginning (90 hrs)
Advising: Completion of ESLN 3010 or equivalent language ability
Development of basic pronunciation skills through understanding of English sounds. Rhythm, stress, and intonation introduced.

ESLF 3346. Listening - Beginning High (90 hrs)
Advising: Completion of ESLN 3200 or equivalent language ability
Listening comprehension skills developed and expanded. Emphasis placed on listening in real life situations, including school and vocational settings.

ESLF 3347. Speaking - Beginning High (90 hrs)
ESLF 4347. Speaking - Beginning High (45 hrs)
Advising: Completion of ESLN 3200 or equivalent language ability
Speaking skills practiced and further expanded in communicative situations relevant to daily needs and personal vocational interests. Informal student talks given.

ESLF 3348. Reading - Beginning High (90 hrs)
Advising: Completion of ESLN 3200 or equivalent language ability
Basic reading skills practiced and developed, including interpreting vocabulary in context, reading simplified forms, and using various reading strategies to comprehend written materials.

ESLF 3349. Writing - Beginning High (90 hrs)
Advising: Completion of ESLN 3200 or equivalent language 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.

ESLF 3566. Listening - Intermediate Low (90 hrs)
ESLF 3567. Speaking - Intermediate Low (90 hrs)
ESLF 4567. Speaking - Intermediate Low (45 hrs)
Advising: Completion of ESLN 3400 or equivalent language ability
Fluency and accuracy in speaking developed. Oral student reports, presentations and demonstrations given. Job interviews role played.

ESLF 3568. Reading - Intermediate Low (90 hrs)
Advising: Completion of ESLN 3400 or equivalent language ability
Intermediate skills practiced including interpreting and analyzing authentic articles, utilizing reference materials, and increasing speed in reading.

ESLF 3569. Writing - Intermediate Low (90 hrs)
ESLF 4569. Writing - Intermediate Low (45 hrs)
Advising: Completion of ESLN 3400 or equivalent language 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.

ESLF 3584. Pronunciation - Intermediate (90 hrs)
Advising: Completion of ESLN 3400 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.

ESLF 3786. Listening - Intermediate High (90 hrs)
Advising: Completion of ESLN 3600 or equivalent language ability
Intermediate listening skills reinforced and applied to authentic listening material.

ESLF 3787. Speaking - Intermediate High (90 hrs)
Advising: Completion of ESLN 3600 or equivalent language 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.

ESLF 3788. Reading - Intermediate High (90 hrs)
Advising: Completion of ESLN 3600 or equivalent language ability
Intermediate reading skills practiced and expanded, including interpreting narrative and descriptive passages, and using reference materials and library conventions.

ESLF 3789. Writing - Intermediate High (90 hrs)
Advising: Completion of ESLN 3600 or equivalent language
Compositions produced as response to a variety of authentic sources including movies, TV and news stories. Emphasis on development, organization and style.
ESL, Noncredit General

ESL 3010. ESL Literacy-A (180 hrs)
Adviser: Pre-literate, non-literate or semi-literate in native language with little or no English language skills
Orientation to the classroom and development of ESL 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)
ESL 4015. ESL Literacy A-5 (45 hrs)
Orientation to classroom procedures and development of ESL literacy skills. Emphasis on oral English and development of pre-reading and pre-writing skills for survival.

ESL 3020. ESL Literacy B (180 hrs)
Adviser: Completion of ESL 3010 or semi-literate in native language or literate in non-Roman alphabet with limited English skills
Development of ESL 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)
ESL 4105. Beginning Low 1 (45 hrs)
Adviser: Completion of ESL 3010 or equivalent language ability
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)
ESL 3145. Beginning 1-4 Multi-level (90 hrs)
ESL 4145. Beginning 1-4 Multi-level (45 hrs)
Adviser: Completion of ESL 3010 or equivalent language ability
Designed to meet the needs of students with various levels of beginning English proficiency.

ESL 3150. Beginning Low 1-2 Intensive (180 hrs)
ESL 4150. Beginning Low 1-2 Intensive (90 hrs)
Adviser: Completion of ESL 3010 or equivalent language ability
Accelerated course. Basic language skills designed to meet daily needs. Aural development, oral readiness, and reading readiness stressed.

ESL 3200. Beginning Low 2 (180 hrs)
ESL 3205. Beginning Low 2 (90 hrs)
ESL 4205. Beginning Low 2 (45 hrs)
Adviser: Completion of ESL 3100 or equivalent language ability
Builds on basic language skills from Beginning Low 1. Aural development, oral readiness, and reading readiness are developed further.

ESL 3300. Beginning High 3 (180 hrs)
ESL 3305. Beginning High 3 (90 hrs)
ESL 4305. Beginning High 3 (45 hrs)
Adviser: Completion of ESL 3200 or equivalent language ability
Aural and oral skills expanded and practiced in communicative situations. Reading and writing skills are further developed.

ESL 3350. Beginning High 3-4 Intensive (180 hrs)
Adviser: Completion of ESL 3200 or equivalent language 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.

ESL 3400. Beginning High 4 (180 hrs)
ESL 3405. Beginning High 4 (90 hrs)
Adviser: Completion of ESL 3300 or equivalent language ability
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.

ESL 3500. Intermediate Low 5 (180 hrs)
ESL 3505. Intermediate Low 5 (90 hrs)
Adviser: Completion of ESL 3400 or equivalent language ability
Intermediate grammatical structures introduced. Fluency and communication stressed. Balance between listening/speaking skills and reading/writing skills emphasized.

ESL 3550. Intermediate Low 5-6 Intensive (180 hrs)
Adviser: Completion of ESL 3400 or equivalent language 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 communicative skills necessary for real life situations, including classroom and vocational settings.

ESL 3580. Intermediate 5-8 Multi-level (180 hrs)
Adviser: Completion of ESL 3400 or equivalent language ability
Designed to meet the needs of students with various levels of intermediate English proficiency.

ESL 3600. Intermediate Low 6 (180 hrs)
ESL 3605. Intermediate Low 6 (90 hrs)
Adviser: Completion of ESL 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.

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

ESL 3750. Intermediate High 7-8 Intensive (180 hrs)
Adviser: Completion of ESL 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.

ESL 3785. Intermediate High 7-8 (90 hrs)
Adviser: Completion of ESL 3600 or equivalent language ability
High intermediate language skills designed to meet daily needs in familiar situations, with emphasis on fluency and communication.
ESLI 3800. Intermediate High B (180 hrs)
Advisory: Completion of ESLI 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.

ESLI 3900. Advanced Low B (180 hrs)
Advisory: Completion of ESLI 3800 or equivalent language ability
Advanced low language skills designed to meet daily needs in familiar and unfamiliar situations, with emphasis on fluency and communication in the four language skills.

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

ESLI 3010. Immigrant Workers' Rights (180 hrs)
Advisory: Completion of ESLI 3500 or equivalent language ability
Overview of immigrant workers' rights. Topics include: U.S. immigration and labor history, comparison of native country and U.S. work experience, U.S. labor law, workplace diversity, problem solving and community resources. Intermediate language skills to discuss and understand the rights of immigrant and other workers in the U.S. workplace.
ESLI 3010 = LAIR 9807

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

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

ESLI 3804. VESL for Clerical Procedures (180 hrs)
Advisory: Completion of ESLI 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.

ESLI 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.

ESLI 3808. Cooking Terminology (90 hrs)
Advisory: Completion of ESLI 3300 or equivalent language ability
Verbal communication skills for the culinary worker. English terminology for cooking utensils, supplies, common tasks, and safety in culinary occupations.

ESLI 3813. ESL/ABE for Automotive Technology (270 hrs)
Advisory: Completion of ESLI 3500 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.

ESLI 3814. VESL for Chinese Cooks (90 hrs)
Advisory: Completion of ESLI 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.

ESLI 3816. Practical English on the Job (Janitorial) (180 hrs)
ESLI 4816. Practical English on the Job (Janitorial) (90 hrs)
Advisory: Completion of ESLI 3300 or equivalent language ability
Verbal communication skills for the job and English terminology of equipment, supplies, common tasks, and safety in janitorial work.

ESLI 3819. Social Communication (90 hrs)
Advisory: Completion of Beginning High B (ESLI 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.

ESLI 3822. Practical English on the Job I (90 hrs)
Advisory: Completion of Intermediate Low B (ESLI 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.

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

ESLI 3824. Food Service/Hospitality VESL (180 hrs)
Advisory: Completion of ESLI 3300 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.

ESLI 3825. VESL and Career Exploration I (45 hrs)
Advisory: Completion of ESLI 3200 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 (ESLI 3826).

ESLI 3826. VESL and Career Exploration II (45 hrs)
Advisory: Completion of ESLI 3200 or equivalent language ability
Communication skills and vocabulary related to the areas of getting a job, personal skills evaluation, career evaluation and resume writing.

ESLI 3827. VESL for Hotel/Service Workers (90 hrs)
Advisory: Completion of ESLI 3300 or equivalent language ability
Verbal communication skills for the job, and English terminology of equipment, supplies, common tasks, and safety in hotel service work.
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 environmental 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. 311, 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.

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**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 environmental 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.

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**Courses Required for the Award of Achievement in Commercial Cut-Flower and Greenhouse Production**

<table>
<thead>
<tr>
<th>First Semester</th>
<th>Course</th>
<th>Units</th>
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</thead>
<tbody>
<tr>
<td>O H 50 Intro to Horticulture</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>O H 56 Horticulture Machines</td>
<td>3</td>
<td></td>
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<tr>
<td>O H 76 Fall &amp; Winter Plant Ident</td>
<td>4</td>
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Additional graduation requirements

<table>
<thead>
<tr>
<th>Second Semester</th>
<th>Course</th>
<th>Units</th>
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<tbody>
<tr>
<td>O H 58 Comm Cut-Flower &amp; Greenhouse Prod</td>
<td>3</td>
<td></td>
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<tr>
<td>O H 77 Spring &amp; Summer Plant Ident</td>
<td>4</td>
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<tr>
<td>R F 81 Flower &amp; Foliage I.D. &amp; Care</td>
<td>2</td>
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Additional graduation requirements

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<thead>
<tr>
<th>Third Semester</th>
<th>Course</th>
<th>Units</th>
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<tbody>
<tr>
<td>O H 63 Soils</td>
<td>3</td>
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<tr>
<td>O H 65 Reprod of Ornamental Plants</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>SPCH 11 Intro to Public Speaking</td>
<td>3</td>
<td></td>
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<tr>
<td>R F 82 Indoor Plant I.D. &amp; Care</td>
<td>2</td>
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Additional graduation requirements

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<thead>
<tr>
<th>Fourth Semester</th>
<th>Course</th>
<th>Units</th>
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<tbody>
<tr>
<td>O H 60 Bus Practices in Environ Horticulture</td>
<td>3</td>
<td></td>
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<tr>
<td>O H 75 Pest Control</td>
<td>3</td>
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<tr>
<td>O H 97 Wk Exper</td>
<td>3</td>
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</tr>
<tr>
<td>O H 70A Landscaping Design or O H 71A Landscape Construction</td>
<td>3 or 4</td>
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</tbody>
</table>

Additional graduation requirements

**Recommended electives:** ACCT 50, SMBS 135

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**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.

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**Courses Required for the Award of Achievement in Landscape Gardening and Landscape Contracting**

<table>
<thead>
<tr>
<th>First Semester</th>
<th>Course</th>
<th>Units</th>
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</thead>
<tbody>
<tr>
<td>O H 50 Intro to Ornamental Horticulture</td>
<td>3</td>
<td></td>
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<tr>
<td>O H 56 Horticulture Machines</td>
<td>3</td>
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<tr>
<td>O H 76 Fall and Winter Plant Ident</td>
<td>4</td>
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<tr>
<td>SPCH 11 Intro to Publ Speak</td>
<td>3</td>
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Additional graduation requirements

<table>
<thead>
<tr>
<th>Second Semester</th>
<th>Course</th>
<th>Units</th>
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</thead>
<tbody>
<tr>
<td>O H 53A Landscape Horticulture</td>
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<tr>
<td>O H 63 Soils</td>
<td>3</td>
<td></td>
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<tr>
<td>O H 75 Pest Control</td>
<td>3</td>
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<tr>
<td>O H 77 Spring and Summer Plant Ident</td>
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Additional graduation requirements

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<thead>
<tr>
<th>Third Semester</th>
<th>Course</th>
<th>Units</th>
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</thead>
<tbody>
<tr>
<td>O H 53B Landscape Horticulture</td>
<td>3</td>
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<tr>
<td>O H 70A Prin of Landscaping Design</td>
<td>3</td>
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<tr>
<td>O H 71A Prin of Landscaping Construct</td>
<td>4</td>
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Additional graduation requirements

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<thead>
<tr>
<th>Fourth Semester</th>
<th>Course</th>
<th>Units</th>
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</thead>
<tbody>
<tr>
<td>O H 60 Bus Practices in Environ Horticulture</td>
<td>3</td>
<td></td>
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<tr>
<td>O H 70B Adv Landscape Design</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>O H 71B Prin of Landscaping Construct</td>
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<tr>
<td>O H 97 Wk Exper</td>
<td>3</td>
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</tbody>
</table>

Additional graduation requirements

**Recommended electives:** ACCT 50, SMBS 135
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 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

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
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</thead>
<tbody>
<tr>
<td>O H 50 Intro to Ornamental Horticulture</td>
<td>3</td>
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<tr>
<td>O H 56 Horticulture Machines</td>
<td>3</td>
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<tr>
<td>O H 76 Fall and Winter Plant Ident</td>
<td>4</td>
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</tbody>
</table>

Additional graduation requirements

Second Semester

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
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</thead>
<tbody>
<tr>
<td>O H 63 Soils</td>
<td>3</td>
</tr>
<tr>
<td>O H 75 Pest Control</td>
<td>3</td>
</tr>
<tr>
<td>O H 77 Spring and Summer Plant Ident</td>
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Additional graduation requirements

Third Semester

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
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<tbody>
<tr>
<td>O H 57A Wholesale Nursery Operations</td>
<td>3</td>
</tr>
<tr>
<td>O H 65 Reprod of Ornamental Plants</td>
<td>3</td>
</tr>
<tr>
<td>SPCH 11 Intro to Public Speak</td>
<td>3</td>
</tr>
<tr>
<td>O H 70A Landscaping Design</td>
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Additional graduation requirements

Fourth Semester

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
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</thead>
<tbody>
<tr>
<td>O H 57B Retail Nursery Management</td>
<td>3</td>
</tr>
<tr>
<td>O H 60 Bus Practices in Environ Horticulture</td>
<td>3</td>
</tr>
<tr>
<td>O H 97 Work Experience</td>
<td>3</td>
</tr>
<tr>
<td>O H 71A Landscaping Construct</td>
<td>4</td>
</tr>
</tbody>
</table>

Additional graduation requirements

Recommended electives: ACCT 50, SMBS 135

Admission. Enrollment is open to all interested students. Employment. A number of entry-level positions are open to those who complete training in any of the preceding fields. For example, 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 horticultural production.

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. This is accomplished by completing each of the following courses with a final grade of C or higher:

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>O H 50 Intro to Environmental Horticulture</td>
<td>3</td>
</tr>
<tr>
<td>O H 56 Horticulture Machines</td>
<td>3</td>
</tr>
<tr>
<td>O H 60 Bus Practices in Environ Horticulture</td>
<td>3</td>
</tr>
<tr>
<td>O H 63 Soils</td>
<td>3</td>
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<tr>
<td>O H 75 Pest Control</td>
<td>3</td>
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<tr>
<td>O H 76 Fall and Winter Plant Ident</td>
<td>4</td>
</tr>
<tr>
<td>O H 77 Spring and Summer Plant Ident</td>
<td>4</td>
</tr>
<tr>
<td>SPCH 11 Intro to Public Speak</td>
<td>3</td>
</tr>
</tbody>
</table>

To earn the Certificate of Completion, select one of the areas of specialization:

Landscape Maintenance

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>O H 53A and 53B Landscape Horticulture</td>
<td>6</td>
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</tbody>
</table>

Nursery Operations

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>O H 57A Wholesale Nursery Operations</td>
<td>6</td>
</tr>
<tr>
<td>O H 57B Retail Nursery Operations</td>
<td>6</td>
</tr>
</tbody>
</table>

Commercial Cut-Flower Greenhouse Production

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
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</thead>
<tbody>
<tr>
<td>O H 58 Greenhouse Operations</td>
<td>6</td>
</tr>
<tr>
<td>O H 65 Plant Propagation</td>
<td>6</td>
</tr>
</tbody>
</table>

Landscape Design

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>O H 70A Principles of Landscaping Design</td>
<td>6</td>
</tr>
<tr>
<td>O H 70B Adv Prin of Landscape Design</td>
<td>6</td>
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</tbody>
</table>

Landscape Construction

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>O H 71A and 71B Landscape Construction</td>
<td>8</td>
</tr>
</tbody>
</table>

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

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.

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 designers and salespersons in the retail-floral industry.

The course of study includes instruction in the following: beginning, intermediate and advanced floral design, flower shop procedures, "hands-on" floral work experience, flower shop management, merchandising, marketing, basic business arithmetic, and record keeping.

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

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>BSMA J* Basic Business Arithmetic</td>
<td>2</td>
</tr>
<tr>
<td>R F 80A Flower Shop Proc &amp; Basic Design</td>
<td>5</td>
</tr>
<tr>
<td>R F 81 Flower and Foliage Identification</td>
<td>2</td>
</tr>
<tr>
<td>R F 85 Introduction to Flower Arranging</td>
<td>2</td>
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</table>

Additional graduation requirements

Second Semester

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACCT 50 (or equivalent) Intro to Account</td>
<td>4</td>
</tr>
<tr>
<td>R F 80B Intermediate Floral Design</td>
<td>5</td>
</tr>
<tr>
<td>R F 82 Interior Plant Identification</td>
<td>2</td>
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</table>

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

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
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<tbody>
<tr>
<td>R F 80C Advanced Floral Designs</td>
<td>3</td>
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<tr>
<td>R F 86 Oriental Style Floral Arranging</td>
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</tr>
<tr>
<td>R F 98 Work Experience</td>
<td>3</td>
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Additional graduation requirements

Fourth Semester

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<tr>
<th>Course</th>
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<tr>
<td>MRKT 140 Marketing</td>
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<td>R F 84 Flower-Shop Oper</td>
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<td>R F 98 Work Experience</td>
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Additional graduation requirements

Recommended electives: ART 130; BSEN 74, 76; CLW 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, planting and transplanting, irrigation, landscape and turf maintenance, pruning, pest control, tree care. Hands-on practice of plant propagation, planting and transplanting; pruning, preparation of growing media and other horticultural skills. CSU

O H 53A-53B. Landscape Horticulture (3-3)
Lec-2, lab-4, field trips
Advised: O H 53A: O H 50 and 56, and completion/concurrent enrollment in O H 76 or 77
Principles of garden planting and practical laboratory experiences on the college campus. Care and maintenance of established gardens including, but not limited to irrigation and sprinkler systems, drainage and erosion control, xeriscape and mulches, monthly maintenance, maintenance estimates, and proposals and agreements. CSU

O H 54. Turfgrass Management (1.5)
Lec-1, lab-2, field trips
Advised: 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, irrigation, 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 operation of irrigation and maintenance equipment. CSU

O H 55. Tree Care (3 sp)
Lec-2, lab-3, field trips CR/NC avail.
Advised: O H 50, 76 or 77, or completion/concurrent enrollment in O H 51A 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 professional 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 and shop practice in the operation of horticultural equipment 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 Tecumse. 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 operations 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 organization, 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 experience
Overview of the retail trade. Preparation for the California Association of Nurserymen's certification exam, 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 businesses, small and large chain stores, and "high end" specialty shops. CSU

O H 58. Greenhouse Operations (3) fa
Lec-2, lab-3, field trips
Advisory: 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,
Practical business practices 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
Advisory: 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
Advisory: 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
Advisory: 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 hydrozones, 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. Advanced Principles of Landscape Design (3)
Lec-2, lab-3, field trips
Advisory: 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 or significant field experience
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-3, 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
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 experience and a smooth transition into commercial practice. Students acquire job experience in their chosen field of horticulture. Preparation of job applications and resumes. Interview and 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 principle 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
Advise: O H 50
Investigation in depth of selected topics in horticulture. Consideration 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 Designs (5)
Lec-3, lab-6, field trips
Beginning floral design and arrangement techniques commonly used by professional flower artists. Practical application in identifying and constructing numerous floral designs, including arrangements for home interiors, parties, hospital, sympathy, and other decorative and special occasions. Includes 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, coordinating, 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 arrangements. 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 commercial 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, advertising, 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.: R F 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

Ethnic Studies

(See “African American Studies,” “Asian American Studies,” “Chinese Studies,” “Latin American Studies,” or “Philippine Studies.”)

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, video and digital 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 classes explore historic, aesthetic and sociological values in Film History and Film Studies, and link to other departments exploring Homosexuality in Film, Black Cinema, Chicano Film, and the cinema of other countries. These courses offer Humanities credits for students of all majors.
Announcement of Curricula
Degree Curriculum

Admission. Enrollment is open to students seriously inter-
ested 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 Achieve-
ment. 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
Course
FILM 20A/B Film History .......................... 3
FILM 24 Basic Film Prod .......................... 3
FILM 25 Beg Film Editing .......................... 3
FILM 60 Sound for Motion Pictures .......... 3
FILM 100 Production Lab ......................... 0

Additional graduation requirements

Second Semester
FILM 30 Pre-Production Planning ............... 3
FILM 55 Adv Film Editing .......................... 3
FILM 54 Cinematography and Lighting .......... 3
FILM 100 Production Lab ......................... 0

Additional graduation requirements

Third Semester
FILM 75 Screenwriting ............................. 3
FILM 100 Production Lab .......................... 0
FILM 124A Film Production Wkshop .. 3
FILM 131 Directing Motion Pictures
or FILM 136 Special Effects ................. 3

Additional graduation requirements

Fourth Semester
FILM 100 Production Lab .......................... 0
FILM 124B Film Production Wkshop .......... 3
FILM 131 Directing Motion Pictures
or FILM 126 Documentary Filmmaking ....... 3

Additional graduation requirements

Film
Announcement of Courses

CREDIT, DEGREE APPLICABLE COURSES:

FILM 18. American Cinema (3)
Lec-3, field trips CR/NC avail.
An introductory course in film studies, bringing Hollywood
filmmaking into clear focus as an art form, as an economic
force, and as a system of representation and communication.
Explores how Hollywood films work technically, artistically,
and culturally to reinforce and challenge America’s national
self image. CSU

FILM 20A. Film History: Evolution of Film Expression
(3) Lec-2, lab-2 CR/NC avail.
Repeat: max. 6 units
History of cinema as a unique expressive medium, from 19th
century origins to mid-20th century. Aesthetics of silent and
sound films, relation of film techniques to content, films in
social/historical context and in relation to other arts and
popular culture. Screenings in class for study and analysis.
CSU/UC

FILM 20B. Film History: Contemporary Film
Expression (3) Lec-2, lab-2 CR/NC avail.
Repeat: max. 6 units
Similar approaches as in FILM 20A, emphasizing film history
from the mid-20th century to the present. The post-WWII film
renaissance; movements, genres and changing technologies;
the expansion of filmmaking to newly represented people,
places and ideas; contemporary documentary approaches;
cinemas in the age of international media. CSU/UC

FILM 21. Introduction to Film Studies (3)
Lec-3, lab-2 CR/NC avail.
Survey of critical and academic approaches to cinema, includ-
ing aesthetic (film as art), sociological (film and society), psy-
chological (spectator and response), ideological (multicultural,
feminist, gay/lesbian). Readings in film criticism and theory;
in-class screenings. CSU/UC

FILM 22. The Documentary Tradition (3)
Lec-3
Repeat: max. 6 units
History and analysis of non-fiction films; screenings in class
considering approaches, forms and issues: objectivity and
point of view, aesthetics, ethics and principles, the real and
the re-enacted. Documentary films as journalism, anthropol-
yogy, biography, historical restoration and personal statement.
CSU/UC

FILM 24. Basic Film Production (3) Lec-3, lab-3 CR/NC avail.
Repeat: max. 6 units
Super 8mm and 16mm motion picture production, including
concept, principles, basic editing, projection and use of non-
synchronous sound. Evaluation and critique of students’ films.
Each student required to complete three films. CSU/UC
FILM 25. Beginning Film Editing (3)
Lec-3, lab-3, field trips
Prereq.: Completion/concurrent enrollment in FILM 24
Basic motion picture editing. Discussion and demonstration of narrative and non-narrative editing techniques and aesthetics. Emphasis on shooting for the edit. Formats include 8mm and 16mm and video. CSU

FILM 30. Pre-Production Planning (3)
Lec-3, field trips
Repeat: max: 6 units
Lectures on all details of planning the production of a media project. From conception to execution, this course examines the great attention to detail that every type of production needs to be completed. Students are taught the skills to calculate and negotiate all costs, legal concerns, insurance issues, permits, and pitfalls. They are then shown how they might follow through with projects such as short narratives, music videos or commercials, documentaries, CD Roms, and narrative feature films. CSU

FILM 54. Cinematography and Lighting (3)
Lec-3, lab-3, field trips
Prereq.: FILM 24 and 25
Development and execution of short, single-camera styled projects focusing on the skills of cinematography and lighting: script visualization, camera operation, lighting setups, lens selection and emphasis on safety awareness. CSU

FILM 55. Advanced Film Editing (3)
Lec-3, lab-1, field trips
Prereq.: FILM 25
Advanced motion picture editing. Discussion and demonstration of film and digital editing techniques from rough cut to answer print using 16mm sync and non-sync formats. CSU

FILM 56. Introduction to Digital Film Editing (3)
Lec-3, lab-3, field trips
Prereq.: FILM 24, 25 and IDST 120 or BCST 119 or demonstration of their exit skills
Introduction to film editing techniques using current digital nonlinear film editing systems within the cinematic discipline. CSU

FILM 60. Sound for Motion Pictures (3)
Lec-3, lab-3, field trips
Prereq.: Completion/concurrent enrollment in FILM 24 and 25
Films, field trips, lectures, and work projects covering all stages of creation of a motion picture soundtrack. Demonstrations of recording techniques and equipment, transferring, editing, and mixing. Sync sound location recording. Computer-based audio editing programs. CSU

FILM 75. Screenwriting (3)
Lec-3, field trips
An intensive course in motion picture screenwriting for documentary, educational, industrial, and feature films. Lectures, films, weekly assignments and evaluation designed to enhance individual skills in professional screen writing. Students write scripts that can be produced in advanced filmmaking courses. CSU

FILM 76. Advanced Digital Film Editing (3)
Lec-3, lab-3, field trips
Prereq.: FILM 24, 25, and 56 or BCST 144
Advanced film editing techniques using current digital nonlinear film editing systems within the cinematic discipline. CSU

FILM 100. Film Production Laboratory (0)
Lab-8
Coreq.: FILM 24, 25, 54, 55, 60, 124, 126, 131, or 175
Supervised production facilities and equipment use for completion of production assignments in FILM classes. CSU

FILM 124A. Film Production Workshop (3)
Lec-2, conf-1, lab-4, field trips
Prereq.: FILM 55 and 60
Repeat: max: 6 units
Practical experience in actual film production with emphasis on use of professional film production techniques through production of personal and/or group projects. Single-camera styled, sync-sound projects will focus on the skills of cinematography and lighting: script visualization, camera operation, lighting setups, lens selection and emphasis on safety awareness. CSU/UC

FILM 124B. Film Production Workshop (3)
Lec-2, conf-1, lab-4, field trips
Prereq.: FILM 124A
Repeat: max: 6 units
Additional practical experience in two principal areas of film production, at least one of which will generate some synchronized sound; complete a self-generated film or digital video project, or working as part of a production unit, with an emphasis on professional production methodology and quality. CSU/UC

FILM 126. Documentary Filmmaking (3)
Lec-3, field trips
Advis.: FILM 24
Basic production skills for a short 16mm or video documentary film, from writing a proposal to making a successful answer print, including the use of sync sound. Screenings of films and discussions explore the nature, limits, aesthetics, and ethics of documentary filmmaking. CSU

FILM 131. Directing Motion Pictures (3)
Lec-3, field trips
Prereq.: FILM 24 and 25
Repeat: max: 6 units
Function of the film director from script to screen through development and execution of single-camera style projects focusing on the demands of directing. Emphasis on script planning and blocking, crew management and working with actors. CSU
FILM 136. Special Effects (3)
Lec-3, lab-3, field trips
Repeat: max. 6 units
A survey of the history, evolution of traditional motion picture special effects from the beginning to the present. Hands-on training in the optical printer, animation stand and rotoscope. Hands-on training in digital special effects creation including bluescreen cinematography, applying digital effects and multi-layer image compositing. Discussion of CGI (computer generated imagery), 3-D animation techniques and pertinent multimedia issues. CSU

FILM 170. Film/Video Work Experience (2)
Conf-1, work-10
Prereq.: FILM 55 and 60; FILM 30, 54, 124 or 126
Coreq.: Enrollment in a minimum of 5 units and consent of instructor
Repeat: max. 8 units
Supervised, paid or unpaid work in the film/video industry or related projects. Jobs usually arranged by the student, subject to faculty approval. Jobs experiences at CSF, e.g., issuing film equipment or projecting for film history classes, are within the scope of this learning experience. A student may not receive work experience credit and lab or work-study funds for the same job. CSU

FILM 175A. Film/Video Independent Study (2)
Ind st-5
CR/NC avail.
Prereq.: FILM 55 and 60; FILM 30, 75, 124, or 126
Individual film/video projects or participation in group productions including personal filmmaking, scriptwriting, serving as crew on other students’ films, and similar situations, subject to faculty approval. Work progress supervised by faculty. CSU

FILM 175B. Film/Video Independent Study (2)
Ind st-5
CR/NC avail.
Prereq.: FILM 175A
Repeat: max. 4 units
Continuation of projects-in-progress from FILM 175A or begin new film/video projects. CSU

Foreign Languages
Announcement of Courses

(See specific course entries for American Sign Language, Chinese, French, German, Italian, Japanese, Pilippino, Russian and Spanish.)

In foreign language courses, the course numbers and letters follow in sequence. A student who has completed a course with a grade of A, B, C, or CR may not re-register for the same course (unless repetition is specifically permitted), nor may he/she register for a course with a lower number or letter unless otherwise indicated.

For foreign language studies abroad, contact the International Education Coordinator, 239-3778. For short term noncredit foreign language classes and workshops, contact the Continuing Education Coordinator, 561-1860.

French
Announcement of Courses

Students of beginning French are directed to consider French courses numbered 1, 1A, 10A.

CREDIT, DEGREE APPLICABLE COURSES:

FREN 1. Elementary French (5)
Lec-5, lab-2
Advise: ENGL 94 or higher or ESL 82 or higher or any City College or university foreign language course. Beginner’s course. Grammar, composition, and reading. Practice in speaking and understanding French. CSU/UC/CAN

FREN 1A-1B. Elementary French (3-3)
Lec-3, lab-2
CR/NC avail.
Prereq.: For FREN 1B: FREN 1A
Advise: FREN 1A: ENGL 94 or higher or ESL 82 or higher or any City College or university foreign language course
Grammar, composition, and reading. Practice in speaking and understanding French. CSU/UC/CAN
FREN 1A-1B = FREN 1

FREN 2. Continuation of Elementary French (5)
Lec-5, lab-2
CR/NC avail.
Prereq.: FREN 1 or 1B
Second semester course. Continuation of elementary grammar, composition and reading. Continued practice in speaking and understanding French. CSU/UC/CAN

FREN 2A-2B. Continuation of Elementary French (3-3)
Lec-3, lab-2
CR/NC avail.
Prereq.: For FREN 2A: FREN 1 or 1B
Prereq.: For FREN 2B: FREN 2A
Continuation of elementary grammar, composition and reading. Continued practice in speaking and understanding French. CSU/UC/CAN
FREN 2A-2B = FREN 2

FREN 3. Intermediate French (5)
Lec-5, lab-1
CR/NC avail.
Prereq.: FREN 2 or 2B
Third semester course. Review of grammar and composition, reading of cultural materials. Constant practice in the use and comprehension of the spoken language. Conducted in French. CSU/UC/CAN

FREN 3A-3B. Intermediate French (3-3)
Lec-3, lab-1
CR/NC avail.
Prereq.: FREN 2 or 2B
Non-sequential
Review of grammar and composition; reading of cultural materials. Constant practice in the use and comprehension of the spoken language. Conducted in French. CSU/UC/CAN
FREN 3A-3B = FREN 3

FREN 4. Continuation of Intermediate French (3)
Lec-3, lab-1
CR/NC avail.
Prereq.: FREN 3 or 3B
Fourth semester course. Reading of representative literary works; review of grammar and composition. Increased emphasis on speaking. Conducted in French. CSU/UC/CAN
The 12 unit sequence of French 10A-10B-10C-10D permits three repeats for a total of 21 units. It is the student’s prerogative to choose which courses will be repeated.

**FREN 10A. Beginning Conversational French (3)**
Lec-3, lab-2 CR/NC avail.
Open to all beginning students. Recommended for students enrolled in FREN 1 or 1A. Not open to native speakers of French. Beginner’s course. Extensive oral training in French. Emphasis on practical vocabulary and idiom rather than formal grammar and literature. CSU

**FREN 10B. Continuation of Beginning Conversational French (3)**
Lec-3, lab-2 CR/NC avail.
Prereq.: FREN 10A or demonstration of FREN 10A exit skills
Not open to native speakers of French. Recommended for students enrolled in FREN 2 or 2A.
Second semester course. Continuation of extensive oral training in French. Emphasis on practical vocabulary and idiom rather than formal grammar and literature. CSU

**FREN 10C. Intermediate Conversational French (3)**
Lec-3, lab-2 CR/NC avail.
Prereq.: FREN 10B or demonstration of FREN 10B exit skills
Not open to native speakers of French. Recommended for students enrolled in FREN 2 or 2A.
Continuation of extensive oral training in French. Designed for students who wish to continue acquiring more advanced skills of the spoken language with a minimum of formal grammar. CSU

**FREN 10D. Continuation of Intermediate Conversational French (3)**
Lec-3, lab-2 CR/NC avail.
Prereq.: FREN 10C or demonstration of FREN 10C exit skills
Not open to native speakers of French. Recommended for students enrolled in FREN 2B or 3A.
Continuation of extensive oral training in French for students who wish to continue acquiring more advanced skills of the spoken language with a minimum of formal grammar. CSU

**FREN 10E. Continuation of Intermediate Conversational French (3)**
Lec-3, lab-2 CR/NC avail.
Prereq.: FREN 10D or demonstration of FREN 10D exit skills
Not open to native speakers of French. Recommended for students enrolled in FREN 3 or 3B.
Continuation of extensive oral training in French for students who wish to continue acquiring more advanced skills of the spoken language with a minimum of formal grammar. CSU

**FREN 11A-11B. Advanced Conversational French (3-3)**
Lec-3, lab-2 CR/NC avail.
Prereq.: FREN 10E or eligible for FREN 4
Non-sequential
Extensive oral training in French for students who wish to continue acquiring more advanced skills of the spoken language with a minimum of formal grammar. CSU/UC

**FREN 20. Independent Studies in French (1)**
Lec-1 CR/NC avail.
Prereq.: FREN 3A, 3B, or 4 or demonstration of FREN 3A/3B/4 exit skills
May not be offered every semester.
Repeat: max. 3 units
An individualized study program for improving reading and writing skills in the French language. CSU/UC

**FREN 21. French for Business (3)**
Lec-3 CR/NC avail.
Prereq.: FREN 2 or 2B or demonstration of FREN 2/2B exit skills
May not be offered every semester.
Intermediate course in basics of financial and business vocabulary, business correspondence skills and French business practices. CSU

**FREN 22. Grammar Review and Composition (3)**
Lec-3, lab-2 CR/NC avail.
Prereq.: FREN 4 or demonstration of FREN 4 exit skills
May not be offered every semester.
Advanced review of grammar and composition with attention to style, vocabulary development, and more advanced grammatical structure, taught entirely in French. CSU/UC

**FREN 23. French Phonetics (2)**
Lec-2, lab-1 CR/NC avail.
Prereq.: FREN 10C or 2A
May not be offered every semester.
Introduction to the French phonological system with attention given to spoken French and its differences with written French. Emphasis on skills of pronunciation, oral expression and comprehension rather than on conversation or discussion. CSU

**FREN 39A-39B-39C. French Literature in Translation (3-3-3)**
Lec-3 CR/NC avail.
Advising: Eligible for ENGL 1A
Non-sequential
No knowledge of French required.
Reading of representative works in English translation. CSU/UC
39A. French literature of the 19th century.
39B. French literature of the 20th century.
39C. French literature of the 17th and 18th centuries.

**FREN 41. Culture and Civilization of France (3)**
Lec-3 CR/NC avail.
Advising: Eligible for ENGL 1A
No knowledge of French required.
May not be offered every semester.
The history, geography, social institutions, literature, art, architecture, and music of France from their beginnings to the First World War. CSU/UC
FREN 42. Contemporary French Culture and Civilization (3)
Lec-3
Advis: Eligible for ENGL 1A
No knowledge of French required.
May not be offered every semester.
Aspects of French culture and civilization from the entre-deux-guerres period to the present. Insights into the historical and traditional forces which have contributed to the current and emerging conditions of France. CSU/UC

Gay, Lesbian and Bisexual Studies Announcement of Courses

CREDIT, DEGREE APPLICABLE COURSES:

GLST 5. Introduction to Lesbian, Bisexual, Gay and Transgender Studies (3)
Lec-3, field trips
This introductory course examines a broad range of contemporary gay, lesbian, bisexual and transgender issues in various contexts including bio-medical, sociological, political, racial and sexual. Additionally, students have the opportunity to develop critical thinking skills and practical academic skills vital for further progress in the program. Students leave the course with practice in essay writing, exam preparation, literature analysis and become familiar with academic resources available to them through local archives, libraries and the Internet. CSU/UC

GLST 10. Lesbian and Gay Culture and Society (3)
Lec-3
Distinct styles in dress, manner, and taste have played a central role in the development of lesbian and gay community, identity and culture. This course examines significant styles from leather to lipstick and from drag to disco and assesses the evolution of sensibility and identity in various lesbian and gay cultures and communities. CSU

GLST 11. History of Homosexuality in Film (3)
Lec-3
Surveys significant trends in the representation of queer sexualities in mainstream commercial cinema, as well as underground and independent films from the silent era to the present. Identifies prominent theoretical approaches to the study of queer cinema intended to develop analytical skills for interpreting homophobic subtexts in mainstream films, as well as issues in creating alternative representations. Emphasizes the way social attitudes shape cultural representation, and interrogates the relationship between audience interpretation and filmmakers’ intentions. CSU/UC
Formerly FILM 21A

GLST 12. Homosexuality in Recent Cinema (3)
Lec-3
CR/NC avail.
Examines significant issues in the contemporary cinematic representation of queer sexualities inside and outside of commercial cinema. Defines narrative expressed in each form. Films screened progress from multimillion dollar Hollywood representations of queerness which reflect social prejudices to alternative productions made outside of commercial constraint. The language of film theory and recent writings from a queer studies perspective aid in developing a language for discussing the way cinema both challenges and reinforces societal values. CSU/UC
Formerly FILM 21B

GLST 20. Lesbians and Gays in Modern American Culture: The Homosexualization of American Art (3)
Lec-3
CR/NC avail.
Lesbian and gay American artists of the late 19th and 20th centuries and their influences on modern art. This course analyzes the contribution of lesbian and gay artists-and the poets, dancers and writers with whom they associated-on the development of American art. It seeks to restore the specifically lesbian or gay voices of some of the most talked about figures in American cultural history from Thomas Eakins to Jasper Johns against the background of the lesbian and gay movement. CSU/UC

GLST 21. Issues in Lesbian Relationships (3)
Lec-3
CR/NC avail.
An exploration of the historical, cultural, and psychological forces that impact lesbian relationships. Examination of the stages relationships go through with an emphasis on the issues of intimacy, commitment, and the sociological repercussions of homophobia and minority status on the lesbian dyad. The complexity of legal, political, and multicultural influences and ramifications will also be explored. CSU

GLST 24. Gay Male Relationships (3)
Lec-3
CR/NC avail.
Examines the dynamics of gay male relationships. Provides historical and theoretical perspectives on the impact of homophobia on gay relationships. Provides students with practice in clear communication and conflict resolution in male dating, bonding, and developing lasting relationships. CSU

GLST 25. The Lesbian and Gay Avant-Garde of the Fifties: Hot Art/Cold War (3)
Lec-3
CR/NC avail.
This course examines major works of art, music, dance, photography, poetry, and film from the Fifties and early Sixties. In considering the work of artists as diverse as John Cage, Louise Nevelson, and Andy Warhol, it analyzes the importance of lesbian and gay figures within the avant-garde and the significance of their contributions to American culture during this repressive period. CSU/UC

GLST 30. Issues in the Lesbian Community (3)
Lec-3
CR/NC avail.
Historical analysis and examination of issues central to the development of lesbian identity, culture, and relationships. Exploration and debate of current controversial issues in the political, social, and personal realms of lesbian experience. CSU/UC