College of San Mateo

1991-1992

Catalog

COLLEGE OF SAN MATEO

Catalog 1991–92

College of San Mateo is fully accredited by
the Western Association of Schools and Colleges,
the recognized local agency which is affiliated with
the Federation of Regional Accrediting Commissions
of Higher Education.

Accuracy Statement
College of San Mateo and the San Mateo County Community College District have made every reasonable effort to determine that everything stated in this catalog is accurate. Courses and programs offered, together with other information contained herein, are subject to change without notice by the administration of College of San Mateo for reasons related to student enrollment, level of financial support, or for any other reason, at the discretion of the College. At the time of publication the fees described in this catalog are accurate. However, at any time local or State mandated fees may be imposed or increased. The College and the District further reserve the right to add, amend or repeal any of their rules, regulations, policies and procedures, consistent with applicable laws.

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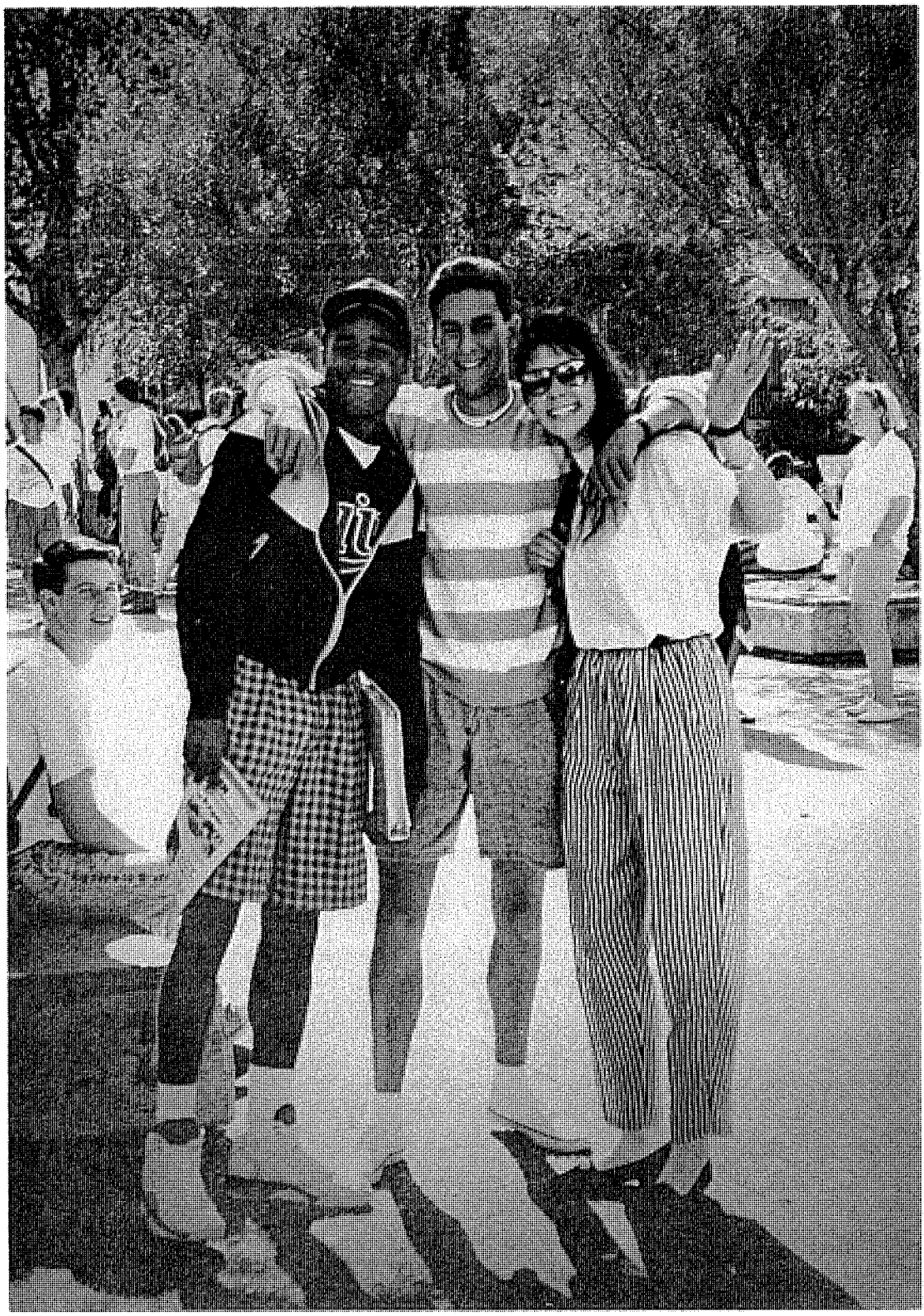


Calendar of Important Dates

Summer Intersession 1991

Placement Tests See Schedule of Classes for dates, times, and places

Registration See Schedule of Classes

June 24 Classes begin

July 4 Independence Day Holiday

July 5 Last day to petition for Summer AA/AS degree or certificate

August 2 Summer Intersession six-week classes close

August 16 Summer Intersession eight-week classes close

Fall Semester 1991

April 29 Applications available

Placement Tests for Fall Semester 1991 See Schedule of Classes for dates, times, and places

Counseling/Registration, new and returning students See Schedule of Classes for dates, times, and places

September 2 Labor Day Holiday

September 4 Day and evening classes begin

September 17 Last day to add semester-length classes

September 17 Last day to drop classes with eligibility for enrollment fee refund

September 27 Last day to drop classes without appearing on student record

October 11 Last day to declare CR/NC option for designated courses

October 11 Last day to apply for Fall AA/AS degree or certificate

November 9 Declared recess

November 11 Veterans' Day Holiday

November 27 Evening classes recess

November 28-30 Thanksgiving recess

Registration for continuing students See Schedule of Classes for dates, times, and places

December 6 Last day to drop a semester-length class in which a student is failing without possible "F" grade

December 19-January 4 Winter recess

January 13-18 Final examinations (Evening classes)

January 17-24 Final examinations (Day classes)

January 20 Martin Luther King Day Holiday

Janauary 27-February 1 Inter-Semester recess

Spring Semester 1992

November 4 Applications available

Placement Tests for Spring Semester 1992 See Schedule of Classes for dates, times, and places

Counseling/Registration, new and returning students See Schedule of Classes for dates, times, and places

February 3 Day and evening classes begin

February 14 Lincoln Day Holiday

February 15 Declared recess

February 17 Washington Day Holiday

February 18 Last day to add semester-length classes

February 18 Last day to drop classes with eligibility for enrollment fee refund

February 28 Last day to drop classes with-out appearing on student record

March 13 Last day to declare CR/NC option for designated courses

March 13 Last day to apply for AA/AS degree or certificate

April 13-18 Spring recess

May 15 Last day to drop a semester-length class in which a student is failing without possible "F" grade

Placement Tests for Fall Semester 1992 See Schedule of Classes for dates, times, and places

Registration for continuing students See Schedule of Classes for dates, times, and places

May 25 Memorial Day Holiday

June 2-8 Final examinations (Evening classes)

June 6-12 Final Examinations (Day classes)

June 12 Commencement

Summer Intersession 1992

Placement Tests See Schedule of Classes for dates, times, and places

Registration See Schedule of Classes

June 22 Classes begin

July 3 Independence Day Holiday

July 6 Last day to petition for Summer AA/AS degree or certificate

July 31 Summer Intersession six-week classes close

August 14 Summer Intersession eight-week classes close

General Information

The District

Starting with just 35 students when it first opened its doors at the Baldwin campus in downtown San Mateo in 1922, San Mateo County Community College District has grown to a complex of three modern campuses serving more than 28,000 day and evening students from throughout San Mateo County.

In early years, the District consisted only of the area within the San Mateo Union High School District. In 1937, the Jefferson Union and Half Moon Bay high school districts were included. Sequoia Union High School and South San Francisco Unified School Districts became part of the College District in the 1960s; La Honda-Pescadero Unified School District joined in 1976.

First classes were held in a building shared with San Mateo High School in downtown San Mateo. In 1923, the College moved to a large house on the Kohl Estate, in what is now San Mateo's Central Park. Four years later, the high school occupied a new campus and the College moved back to the Baldwin campus.

In 1939, a new CSM campus went into operation at North Delaware Street and Peninsula Avenue, San Mateo, but because of World War II, development of the site was curtailed. When the war ended, the College leased the Merchant Marine Cadet School at Coyote Point, San Mateo, and added those facilities to the classrooms at the Baldwin and Delaware campuses, conducting classes simultaneously at three separate locations.

In 1957, the Board of Trustees developed a 25-year District master plan based on the recommendations of a citizens' advisory committee, and the same year submitted a $5.9 million bond issue to voters that was approved by a three-to-one margin.

The bond issue victory cleared the way for prompt acquisition of the present College of San Mateo campus and also provided funds for purchase of a 111-acre site west of Skyline Boulevard and south of Sharp Park Road in San Bruno. A third site, of 131 acres west of the Farm Hill subdivision on the Redwood City-Woodside line, was purchased in 1962.

The current College of San Mateo campus was opened in 1963, followed by Cañada College, Redwood City, in 1968, and Skyline College, San Bruno, in 1969. Construction of Cañada and Skyline was made possible in large part from proceeds from a second bond issue of $12.8 million approved by District voters in 1964.

District Master Plan

Mission

San Mateo County Community College District, recognizing each individual's right to education, is committed to leadership in providing quality education in partnership with its community to:

- identify and respond to the educational needs of the community;
- provide an environment which enables students to understand their individual potential;
- encourage the pursuit of lifelong learning in a changing world; and maintain a climate of academic freedom in which a variety of viewpoints may be shared.

Goals

To fulfill its Mission, San Mateo County Community College District has established the following goals. In pursuit of these goals, the overriding concern of the District will be maintenance of quality even at the expense of scope of service.

San Mateo County Community College District shall:

1. provide varied general educational opportunities which acquaint students with the broad outlines of human knowledge and experience;
2. provide lower-division transfer programs which prepare students for continued education in four-year colleges and universities;
3. offer occupational education and training programs directed toward career development, in cooperation with business, industry, labor, and public service agencies;
4. offer developmental/remedial education to enable students to develop those basic skills essential to successful completion of college goals;
5. identify and meet community needs not otherwise served by college credit courses by offering self-supporting Community Service classes and activities;
6. provide a program of student services to assist students in attaining their educational and career goals; and
7. actively support a program of affirmative action for underrepresented groups in recruitment and personnel employment.

In order to fulfill its educational mission and to attain the goals described herein, San Mateo County Community College District commits itself to effective analysis and evaluation of programs, services, and performance of personnel. It shall plan, organize, and manage its resources to achieve maximum effectiveness, efficiency, and accountability. Participation by the College community in these endeavors is desirable and appropriate.

The College

College of San Mateo, the oldest of the three colleges in San Mateo County Community College District, is located on a 153-acre site that provides a panoramic view of the north Bay Area.

Completed at a cost of almost $19.5 million, the campus opened in 1963 and currently serves more than 14,000 day and evening students. It enrolls students from the entire District, although its chief service area is central San Mateo County.

The College's main educational structures are built along a north-south axis provided by the main pedestrian mall. A second mall, running east and west, connects the Fine Arts Center with the Library. In addition to three main lecture halls, the College has a three-building science center, an engineering building, a planetarium, a complex which houses dental assisting, cosmetology, nursing, and one which houses electronics and aeronautics. A separate area houses the horticulture programs, Extended Opportunities Programs and Services and the Multicultural Center.

To assist students in profiting from their education, the College helps them explore their interests and abilities, choose their life work, and plan an educational program which will prepare them for that work. It offers this assistance through a formal program of guidance and counseling, and through informal student-teacher relationships which are among the most distinctive and valuable of its services. The Col-

lege recognizes the educational value of organized student activities and encourages students and faculty participation in these activities.

Situated close to San Francisco and several fine colleges and universities, College of San Mateo is part of a colorful community which enjoys many cultural advantages. Many College of San Mateo graduates transfer to the University of California, California State Universities, and other major public and private colleges and universities. Because the needs of these students who transfer for upper division work are carefully provided for in the curriculum, the College enjoys a fine reputation among the universities of the State. CSM graduates have consistently had a pattern of success in transfer educational institutions. Many College of San Mateo students, having temporarily completed their formal education with the Associate in Arts or the Associate in Science degree, find employment in business and industry.

Accreditation

College of San Mateo is fully accredited by the Western Association of Schools and Colleges, the recognized local agency which is affiliated with the Federation of Regional Accrediting Commissions of Higher Education.

Revision of Regulations

Any regulation adopted by the administration of College of San Mateo will be considered an official ruling and will supersede regulations on the same subject which appear in this Catalog and other official publications, provided that the new regulation has been officially announced and posted.

Veterans and Veterans' Dependents

College of San Mateo is listed by the Veterans Administration as qualified to certify students who are working toward an AA/AS degree program for benefits under Chapter 34 (Veterans), Chapter 35 (Veterans' Dependents) and Chapter 31 (Vocational Rehabilitation). All students, except those under Chapter 31, buy their own books and supplies. Those interested in attending College of San Mateo under any of these chapters should contact the Office of Admissions and Records in the Administration Building to determine eligibility for benefits.

For academic credit purposes, a veteran is defined as an honorably discharged member of the United States Armed Forces who was on active duty for one year or longer. Upon presentation of separation or discharge papers, veterans are exempted from the Health Science and Physical Education requirements for the AA/AS degree. They are also granted six units of elective credit toward the AA/AS degree.

In addition, veterans who qualify may receive credit for military service schools toward the Associate in Arts/Science degree upon presentation of proof to the Office of Admissions and Records. They must have completed a minimum of 12 units with a grade-point average of 2.0 at College of San Mateo. Units of credit for military service (6 units) and military service schools will be recorded and so annotated on the student's academic record.

High School Diplomas

The College does not issue high school diplomas. Students who wish to complete requirements for the diploma should consult the high school they last attended to determine graduation requirements. College courses used to satisfy a high school diploma requirement may not be used toward a college degree and cannot be repeated for college credit. Students who are unable to make arrangements with their previous high schools can contact the office of the high school district in which they now reside. Counseling/advising services for high school diplomas may be obtained by residents of the San Mateo Union High School District by telephoning the SMUHSD Adult Education Counselor at (415) 347-9871.

Transcripts

Official transcripts of a student's academic record at College of San Mateo will be sent to employers, colleges and other institutions upon written request by the student. Only courses taken at College of San Mateo will appear on the transcript. Transcripts from high school and other colleges will not be forwarded. Students may also request "issued to student" copies to be sent to themselves.

A fee (currently $3 per transcript) is charged if the student has previously requested two or more transcripts. Transcript request forms are available from and submitted with appropriate payment to the Office of Admissions and Records. Telephone 574-6593.

An unofficial computer printout of a student's record reflecting courses taken during or after the Spring 1981 semester may be purchased by a student at the counter of the Office of Admissions and Records. Photo identification is required; the current charge is $1 per copy.

Policy of Nondiscrimination

College of San Mateo is committed to equal opportunity regardless of sex, marital status, physical handicap, race, color, religion or national origin, for admission to the College, enrollment in classes, student services, financial aid, and employment in accordance with provisions of Title VI of the 1964 Civil Rights Act, Title IX of the Educational Amendments of 1972 (45 CRF 86) and Section 504, Rehabilitation Act of 1973 (P.L. 93-112).

It is important that students, staff, and all others associated with the College understand the importance of reporting concerns about possible violations of this policy. The College's commitment to equal opportunity demands full investigation of possible violations and an opportunity for a fair and impartial hearing on any matter relating to these laws and policies.

Any person seeking information concerning these laws and policies or claiming grievance because of alleged violations of Title VI of the 1964 Civil Rights Act and Sec. 504 of the Rehabilitation Act of 1973 should contact the Dean of Special Programs and Services, Administration Building, Room 215, telephone 574-6434.

All grievances will be reviewed in terms of Title VI and Title IX law, and persons involved will be advised of the provisions of the law and their legal rights. If normal channels are not available or fail to meet legal requirements, the necessary action will be initiated. The office will maintain a record of all Title VI and Title IX grievances, and will report to the Affirmative Action Committee the general nature of such grievances and progress toward their resolution.

Policy on Sexual Harassment

It is the policy of the San Mateo County Community College District and College of San Mateo to prohibit, in any and all forms, the sexual harassment of its students and staff. Sexual harassment of students by other students or staff, and/or the harassment of staff by students is considered intolerable behavior that will be investigated and acted upon immediately.

Persons seeking further information concerning this policy or claiming grievance because of alleged violations of this policy should contact the Dean of Special Programs and Services, Building 1, Room 215 (574-6434).

Policy on Drug-Free Campus

The San Mateo County Community College District and College of San Mateo, in compliance with the Federal Drug-Free Schools and Communities Act Amendments of 1989, prohibits the use, possession, sale or distribution of alcohol, narcotics, dangerous or illegal drugs or other controlled substances, on District or College property or at any function sponsored by the District or Colleges.

Students found to be in violation of the drug-free campus policy on any District property will be subject to disciplinary measures up to and including possible cancellation of registration.

Persons seeking further information concerning this policy or the health risks and effects associated with alcohol and narcotics or other dangerous or illegal drugs should contact the Health Center, Building 1, Room 226 (574-6396).

Privacy Rights of Students

The Family Educational Rights and Privacy Act (Sec. 438, P.L. 93-380, as amended) requires educational institutions to provide: access to official educational records directly related to the student; an opportunity for a hearing to challenge such records on the grounds that they are inaccurate, misleading, or otherwise inappropriate; that the College must obtain the written consent of the student before releasing personally identifiable information from records to other than a specified list of persons and agencies; and that these rights extend to present and former students of the College.

The Act provides that the College may release certain types of "Directory Information" unless the student submits a request in writing to the Records Officer that certain or all such information not be released without his/her consent. "Directory Information" at this College includes: (1) student's name and city of residence; (2) participation in recognized activities and sports; (3) dates of enrollment; (4) degrees and awards received; (5) the most recent previous educational agency or institution attended; and (6) height and weight of members of athletic teams.

A copy of the College Policy, the Family Educational Rights and Privacy Act (Sec. 438, P.L. 93-380) and other pertinent information and forms are available in the Office of Admissions & Records, Administration Building, Room 210, during normal business hours.

Other Educational Opportunities at San Mateo County Community Colleges

San Mateo County Community College District also operates Cañada College in Redwood City and Skyline College in San Bruno which offer a number of special programs not available at College of San Mateo:

Cañada College

Programs
Drama
Early Childhood Education
English Institute
Health Care Interior Design
Home Economics/Fashion Design
Italian
Microcomputer Technician
Ophthalmic Dispensing
Paralegal
Radiologic Technology
Tourism

Athletics
Men's Basketball
Men's Golf
Men's Soccer
Men's Tennis
Women's Soccer

Cañada College
4200 Farm Hill Blvd.,
Redwood City, CA 94061
(415) 306-3100 or
(415) 364-1212

Skyline College

Programs
Automotive Mechanic Technology
Automotive Apprenticeship
Convention and Meeting Management
Cosmetician/Esthetician (Eve. & Sat.)
Emergency Medical Technician
Fashion Merchandising
Fiber Optics
Gallery Management
General Studies
Home Economics
Hotel/Restaurant Operations
Image Consulting
Italian
Manicuring (Evening)
Medical Transcribing
Paralegal
Public Transit Management
Recreation Education
Respiratory Therapy
Telecommunications Technology
Toyota Technical Education Network

Athletics
Men's Basketball
Men's Soccer
Men's Wrestling
Women's Volleyball

Skyline College
3300 College Drive,
San Bruno, CA 94066
(415) 355-7000 (day)
(415) 738-4251 (evening)

Fees

Enrollment Fee

An enrollment fee of $5 per unit is payable by all students at the time of registration, with a maximum of $50 per semester. The enrollment fee is calculated each term based upon the student's combined enrollments at College of San Mateo, Cañada College, and Skyline College.

The Board of Governors of the California Community Colleges has established a grant program to help low income students pay the enrollment fee. Information on eligibility requirements and application deadlines, as well as application forms, are available in the Financial Aid Office.

In addition to other costs, students classified as non-residents of the State of California must pay a tuition fee. See details under Non-Resident Tuition Fee.

NOTICE
We have been notified that the $5 per unit enrollment fee for California Community Colleges may be increased to $6 per unit. The effective date had not been determined at the time of publication.

Health Fee

All students, except those registering only for telecourses, off-campus classes or weekend classes, and except high school students enrolling through the Concurrent Enrollment Program, are required to pay a non-refundable $7.50 health fee each semester at the time of registration for day or evening classes. The summer session health fee is $5.00. In addition to campus health services, the fee provides emergency sickness and accident insurance coverage which is in effect when the student is on campus or attending a College-sponsored event.

Parking Fee

All persons driving motor vehicles onto campus and utilizing the parking facilities during regular class hours, including final examinations, are required to pay a parking fee. Student parking permits are available for $20 per semester ($10.00 for summer session). One-day parking permits (75 cents) for all student lots are available at the Security Office.

Permits may be purchased during the registration process. Parking fees are not refundable unless an action of the College (e.g., cancellation of the class) prevents a student from attending class. Parking is on a first-come, first-served basis. A permit is not a guarantee of a parking space. The College and the San Mateo County Community College District accept no liability for vandalism, theft or accidents. Use of parking facilities is at the user's risk. Parking and traffic regulations are enforced by the Campus Security Office staff, and violators are cited to the Municipal Court. The College reserves the right to change parking requirements for special events.

For further information, contact the Campus Security Office, which is open Monday through Friday from 7:45 a.m. to 8:00 p.m. and on Fridays from 7:45 a.m. to 3:00 p.m. when classes are in session. The Security Office is located in the Student Center Building; telephone 574-6415.

Student Body Card (optional)

The fee for a student body card is $5 per semester. This card is also known as the Student Express Card. The Express Card is good for special student discounts at events sponsored by the Associated Students, movie theaters, restaurants, and at more than three hundred other community businesses. The funds collected through the sale of student body cards help support a wide range of student activities, services and scholarships.

Non-Resident Tuition Fee

No tuition is charged to legal residents of California. Students who have not been residents of California (as defined in the Education Code) for one year or longer prior to the beginning of a term are required to pay a non-resident tuition fee of $102 per unit (in 1991-92) at the time of registration. Residency status is determined by the Office of Admissions and Records.

In general, an unmarried minor (a person under 18 years of age) derives legal residence from his/her father (or his/her mother if the father is deceased), or, if the case of permanent separation of the parents, from the parent with whom the minor maintains his/her abode. The residence of a minor cannot be changed by act of the minor or that of the minor's guardian while the minor's parents are living.

An adult must take steps to establish legal residency in California at least one year prior to the beginning of the term in order to be classified as a resident student for that term. Information concerning acceptable documentation of intent to establish and maintain California residency is available in the Office of Admissions and Records.

Other Expenses

Students must purchase their own textbooks and supplies. A considerable saving is possible through the purchase of used texts from the on-campus College of San Mateo Bookstore. Excluding living and transportation costs, the total of all expenses for a full-time student should not exceed $500 per semester for California residents. Special equipment is needed for certain programs such as Electronics, Drafting, Nursing, Cosmetology, Engineering, Art and Architecture, involving an additional initial outlay ranging from $100 to $450. Please refer to course descriptions for special costs.

Fee Refund Policy

Enrollment Fee

A student who cancels registration prior to the beginning of classes or officially withdraws from all classes on or before the last day to add semester-long classes is entitled to a full refund less a $10 processing fee.

A student enrolled in summer session or exclusively in less than semester-long classes and who cancels registration prior to the beginning of classes or officially withdraws from all classes within the first two weeks of instruction in those classes is entitled to a full refund less a $10 processing fee.

A student who officially completes a change of program within the prescribed period and, as a result, reduces the number of units in which he/she is enrolled is entitled to a refund (with no proces-sing fee) if the change places the student in a different enrollment fee category.

A processing fee will be charged only once each semester or session. If a student pays an enrollment fee of less than $10, and cancels registration or withdraws from all classes before the deadline, the processing fee is equal to the enrollment fee.

An eligible student may elect to have a credit in lieu of a refund of fees due, and may thereby avoid payment of a processing fee. This credit will be carried by the District for a maximum of two semesters beyond the semester in which the refund was due. After that time, the student will not be eligible for the credit or the refund.

The enrollment fee will be fully refunded if an action of the College (e.g., class cancellation) prevents the student from attending class.

Health and Parking Fees

Not refundable unless an action of the College (e.g., class cancellation) prevents the student from attending class.

Student Body Card

Payment for the optional Student Body Card is non-refundable unless an action of the College (e.g., class cancellation) prevents the student from attending the College.

Non-Resident Tuition Fee

A student is entitled to a full refund if tuition has been collected in error.

A student who cancels his/her registration prior to the beginning of classes, or who officially withdraws from the College prior to Friday of the fourth week of the semester, is eligible for a full refund less a $50 processing fee.

A student who officially reduces his/her program prior to Friday of the fourth week of the semester is eligible to receive a full refund for the units dropped.

A student who officially withdraws or reduces his/her program on or after Friday of the fourth week is not eligible for a refund.

Honors

Scholarship Honors

College of San Mateo is affiliated with the California Community College Honor Scholarship Society, Alpha Gamma Sigma. The local chapter is the Eta Chapter. Students carrying 12 units or more of graded classes in a semester and who achieve a GPA of 3.30 or higher in their semester course work will be recognized at end of the semester by inclusion on the Dean's List of Honor Students. Permanent membership in Alpha Gamma Sigma is awarded upon graduation if the student has maintained a cumulative GPA of 3.5 or higher for all recognized college work.

Honors at Graduation

Honors are awarded at graduation based upon cumulative GPA as follows:

3.30 - 3.49 Graduation with Honors
3.50 - 4.00 Graduation with High Honors

Instructional Resources

Library

The CSM Library is one of the largest community college libraries in the United States. Its collections, designed to meet the varied learning needs of students, reflect over 50 years of careful selection. With its panoramic view of the Bay Area, the three-story Library is an inviting place in which both students and faculty may study and browse. The main floor offers reading and conference rooms, reference materials, reserve books, periodical and microfilm collections, and copiers and rental typewriters. The balcony houses the open-stack general book collections and individual study carrels. (Non-print media are located on the lower floor in the Media Center.)

The Library owns over 100,000 volumes of books, more than 450 current magazines and newspapers, and 6500 reels of microfilm. The card catalogs provide access to both print and non-print materials, and assistance is always available from the library staff. The Library is open Monday through Friday and on many Saturdays when classes are in session. Specific hours for the daily schedule and for holidays are posted in the Library and are published in the Schedule of Classes.

Of special interest is the Library's U.S. Government Documents collection. Following its designation as a Federal Depository Library in 1987, the Library is assembling a broadly-based, well-rounded collection of important government materials.

Media Center

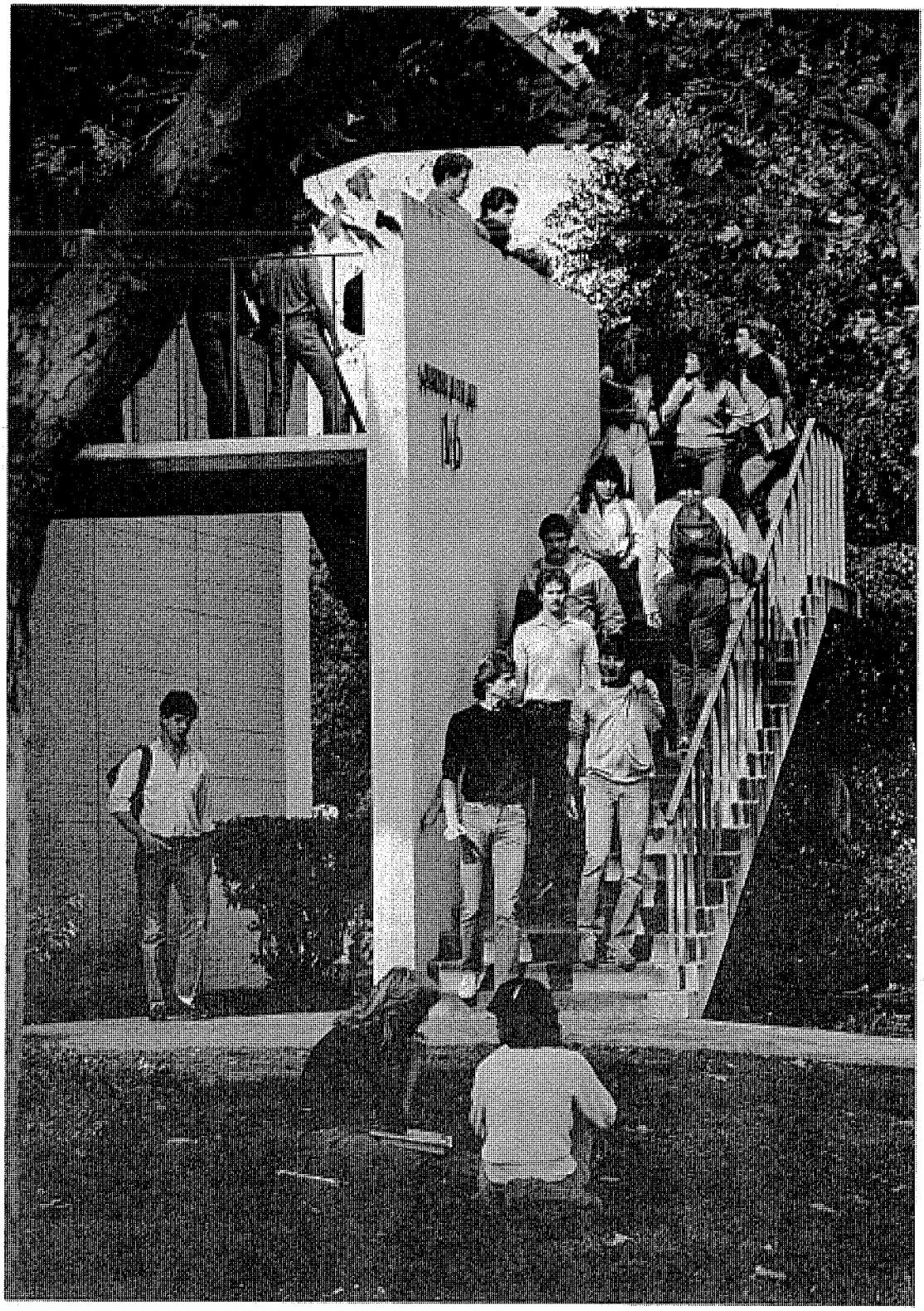
The Media Center is located on the lower floor of the Library, offering many listening/viewing stations for CSM students. There are two language labs available for student use, as well as faculty recording studios, preview rooms, video viewing classrooms, a media production center, and a media equipment storage, repair and distribution area.

The Media Center staff oversees this area and provides faculty with expertise in media and instructional design. The non-print collection contains 8,000 disc records, 8,000 tape and cassette recordings, 600 films, and thousands of slides and filmstrips.

KCSM TV and FM

KCSM TV and FM are public broadcasting stations licensed to the college district and operated by College of San Mateo. KCSM TV is a full-color broadcast station affiliated with PBS. It broadcasts to San Mateo County and throughout the Bay Area via its 1.5 million watt transmitter located on Mt. San Bruno. KCSM FM is a 24-hour public radio station affiliated with NPR. Its broadcast signal also covers the County and most of the Bay Area. Its transmitter and tower are located on the CSM campus. KCSM TV broadcasts on UHF Channel 60 and KCSM radio broadcasts on 91.1 on the FM band. Both stations carry a wide variety of programming to meet the educational, cultural and informational needs of the students and of the community.

Studios for both KCSM TV and FM are located adjacent to the Media Center on the lower floor of the Library building. The facilities of the station are made available through the Broadcasting Arts department for the training of students in radio and television broadcast skills. Both radio and television are also used to broadcast credit courses for the convenience of those students who are unable to come to campus. These telecourses allow students to essentially attend their lecture classes by watching them at home on television or listening to them on radio. Usually three campus sessions are included as part of a telecourse. Telecourses carry full credit.



Special Programs

Athletics

College of San Mateo participates as a member of the Golden Gate Conference in the following intercollegiate sports: Baseball, Women's Basketball, Men's and Women's Cross-Country, Women's Tennis, Football, Women's Softball, and Men's and Women's Track and Field.

In order to be eligible a student must adhere to the California State Athletic Code and Golden Gate Conference eligibility rules and regulations.

The following principles pertain to all matters of eligibility:

1. In order to be eligible, a student-athlete must be actively enrolled in a minimum of 12 units during the season of sport. Such eligibility is required for non-conference, conference, and postconference participation.
2. To be eligible for the second season of competition, the student-athlete must complete and pass 24 semester units with a cumulative 2.0 grade point average. These units must be completed prior to the beginning of the semester of the second season of competition. All units must be completed and passed at a regionally accredited post-secondary institution.
3. A student transferring for academic or athletic participation, who has previously participated in intercollegiate athletics at another California Community College, must complete 12 units in residence prior to the beginning of the semester of competition.
4. In order to continue athletic participation in any sport, the student-athlete must maintain a cumulative 2.0 grade point average in accredited post-secondary coursework computed since the start of the semester of first participation.
5. The 12-unit residency rule for previous participants will be waived for a student-athlete who has not competed at a post-secondary institution in the past five years.
6. In meeting the unit requirements, courses in which grades of D, F, or NC were received may be repeated. Under special circumstances, courses that have been completed with a grade of "C" or better may be repeated; however, the units will not be counted.

Student/athletes who plan to transfer prior to receiving an AA degree should meet with their counselor/advisor and verify eligibility status for transfer based on past work and test scores from high school.

Those students who wish to seek financial assistance (athletic scholarship) and be eligible for competition must meet minimum requirements based on Bylaws, Article 5 in the NCAA manual.

Questions regarding eligibility should be addressed to the Dean of Physical Education/Athletics. Telephone: 574-6461.

Cooperative Admissions Program (CAP)

The University of California, Berkeley, and College of San Mateo have entered into a Cooperative Admissions Program with the College of Letters and Science, the School of Environmental Design, Electrical Engineering and Computer Science for students who were not admitted to UCB because of space limitation, but were eligible for admission.

This program requires the student to spend the first two years at College of San Mateo completing specific requirements for his/her major and for admission to the College of Letters and Science. The student will be guaranteed admission as a junior, after completing 56 minimum semester units, for the specific majors and in a non-impacted major in the College of Letters and Science. For more information, contact the Dean of Special Programs and Services at 574-6434.

Emeritus Institute

Emeritus Institute is a program designed to encourage older adults to participate in college classes and student activities. Classes include poetry, music appreciation, California and San Mateo County history, and an introduction to microcomputers. Among student activities planned are a travel club, attendance at cultural events, and social activities in the CSM Student Center. Emeritus classes are offered on campus and in six off-campus locations. For more information, call the Emeritus Institute Coordinator at 574-6199.

Foreign Study Program

The San Mateo County Community Colleges, in cooperation with the American Institute for Foreign Study, offer students of all ages the opportunity to study and live abroad, earning up to 15 units toward an AA/AS degree which are transferable for Bachelor's degree credit. Current offerings include a London Semester in the fall and a Semester in Paris or Florence in the spring. Students applying to participate must have completed at least 12 college units with a minimum g.p.a. of 2.0.

Costs, including flights and living accommodations, are reasonable and financial aid is available. Early planning is advisable. For further information, contact the Office of Admissions and Records, Building 1, Room 218, telephone 574-6595.

Honors Program

The CSM Honors Program was established with one goal in mind: to seek out students of exceptional ability and purpose, and to provide these students with the education they merit. The program is open to all students regardless of major, age, or background, and leads to the Associate of Arts/Science degree and/or transfer to the University of California or California State University systems in the junior year.

Affiliation may be at one of three levels:

1. President's Scholar – completes the full Honors Program curriculum before graduation and/or transfer
2. Associate – takes a minimum of one Honors Program course per semester
3. Member – takes a minimum of one Honors Program course in any semester.

Entry requirements vary with level of affiliation, but generally include a grade point average of 3.3 and eligibility for English 100, or other achievements which indicate ability to benefit from honors courses. President's Scholars will complete approximately 18 units in the program, made up of selected general education breadth courses and a Capstone Thesis in their major. Additional units will be needed to satisfy degree requirements, and will be taken outside the program. Students interested in applying should talk with their counselor/advisor and the Honors Program Coordinator, Building 13-103, or call 574-6268.

Instructional Television

College transfer classes are offered by College of San Mateo on television. Telecourses present college-level instructional material for students who wish to gain academic credit for a degree, a certificate or for personal enrichment. The credits earned may be applied to College of San Mateo programs or transferred to most colleges and universities. See the Schedule of Classes for information on course offerings.

Matriculation

Matriculation is the process which brings the College and a student who enrolls for credit into an agreement for the purpose of developing and realizing the student's educational objective. The agreement acknowledges responsibilities of both parties to enable students to attain their objectives efficiently through the College's established programs, policies and requirements. All students, except those exempted on the basis of locally established criteria (e.g., holders of A.A./A.S. or higher degrees), must complete matriculation requirements.

The College provides matriculation services organized in several interrelated components:

1. **Admissions:** Collects and analyzes information on each applicant, identifies students needing special services, and assists students to enroll in a program of courses to attain their educational goals.
2. **Skills Assessment and Placement Testing:** Measures students' abilities in English, reading, mathematics, learning and study skills, and assesses students' interests and values related to the world of work. In addition to helping students with course selection, assessment results are used to determine honors eligibility and for referral to specialized support services.
3. **Orientation:** Acquaints students with College facilities, special programs, services, as well as academic expectations and procedures.
4. **Advisement/Counseling and Course Selection:** A process in which students meet with a counselor/advisor to develop an individual educational plan, choose specific courses, and update their plans periodically.
5. **Student Follow-up:** Ensures that the academic progress of each student is regularly monitored, with special efforts made to assist students who have not determined an educational goal, who are enrolled in pre-collegiate basic skills courses, and/or who have been placed on academic probation.

Each matriculated student is expected to:

1. Express at least a broad educational intent at entrance and be willing to declare a specific educational goal following the completion of 15 semester units of degree applicable credit coursework.
2. Attend classes regularly and complete assigned coursework.
3. Cooperate in the development of a student educational plan within 90 days after declaring a specific educational goal, and subsequently abide by the terms of this plan or approved revision thereof, making continued progress toward the defined educational goal.

Note: The College may withhold matriculation services from students failing to cooperate in meeting the above expectations.

Each matriculated student is entitled to:

1. Participate in the process of developing his/her student educational plan. A student who believes the College has not afforded him/her the opportunity to develop or implement this plan may file a complaint in the Office of the Vice President for Student Services.
2. Be given equal opportunity to engage in the educational process regardless of sex, marital status, physical handicap, race, color, religion or national origin. A student who alleges he/she has been subject to unlawful discrimination may file a grievance in the Office of the Dean of Special Programs and Services.
3. Challenge any prerequisite, filing a petition in the Office of the Vice President for Instruction, on one or more of the following grounds:
   a. the prerequisite is not valid because it is not necessary for success in the course for which it is required;
   b. the student has the knowledge or ability to succeed in the course despite not meeting the prerequisite; or
   c. the prerequisite is discriminatory or is being applied in a discriminatory manner.
4. Obtain a waiver from the appropriate instructional division dean of any prerequisite or corequisite course for a particular term because the course is not available during that term.
5. Review the matriculation regulations of the California Community Colleges and exemption criteria developed by this District and file a complaint when he/she believes the College has engaged in any practice prohibited by these regulations. The regulations are available and complaints may be filed in the Office of the Vice President for Student Services.

Re-Entry Program

The Re-Entry Program is designed for individuals whose education has been postponed or interrupted. A special Re-Entry class offers the opportunity to evaluate one's interests and abilities through vocational tests and heightened self-awareness. Instruction is provided in basic skills such as text reading, test taking, and math review, along with an introduction to campus facilities. Tutorial assistance and child care are available. Support through small group discussions, individual counseling and reading materials is offered in the Career Development Center. Phone 574-6571 for further information.

Summer Intersession

A balanced offering of day and evening summer session classes enables students to accelerate their programs and satisfy course or curriculum requirements. The summer session also affords opportunity to exceptionally able high school students, after completing the sophomore year, to take selected college courses. Further information may be obtained by calling the Office of Admissions and Records, 574-6165.

Admission

Students must be admitted to College of San Mateo before they are permitted to register. The first step is to file a written application for admission on a form supplied by the College.

Prospective students should obtain high school and college transcripts from all institutions they have attended and bring these transcripts with them when they come to the campus for counseling and registration. High school transcripts are not required if the applicant has not attended high school within the past five years.

New students, except those specifically exempted from Matriculation requirements, are required to take the CSM Placement Tests (English, Reading, Mathematics) before meeting with a counselor/advisor for program planning. Placement testing times and locations are published in the Schedule of Classes each semester.

Students planning to enroll in the Cosmetology, Dental Assisting or Nursing program must file a separate application in addition to the application for admission to the College. To obtain the appropriate application form, telephone 574-6363 (Cosmetology), 574-6211 (Dental Assisting), or 574-6213 (Nursing). Students planning to enroll in an advanced foreign language course are required to take the appropriate foreign language placement test.

Transfer Credits

Credit will be allowed for lower-division work done at other accredited colleges and universities.

Credit will not be allowed for units awarded at other colleges or universities in the following categories: credit by examination, military schooling credit, military service credit, Advanced Placement credit, College Level Examination Program (CLEP), or credit by other equivalency examinations.

All work presented by submission of official transcripts will be evaluated by the Office of Admissions and Records. Such transcripts must be sent directly by the issuing institution to College of San Mateo.

High School Graduates

Normally, graduation from high school or successful completion of the California High School Proficiency Examination or the General Education Development Examination (GED), with an overall average of 55 and no score below 50, is a prerequisite for admission. Persons over 18 years of age may also be admitted even if they are not high school graduates.

High School Students

Students attending high school as juniors or seniors may register concurrently for CSM classes with the approval of the Dean of Admissions and Records. Interested students must submit a Concurrent Enrollment Application (available from high school counselors), together with the required recommendation and high school transcript.

A high school grade point average of 2.0 (C) is required for participation in this program. Residency requirements as detailed on this page apply to high school students. Concurrently enrolled high school students are exempted from payment of the enrollment fee and health fee.

Because of enrollment limitations, high school students may not be permitted to enroll in classes in certain impacted programs.

In special cases, with the high school principal's recommendation, freshman and sophomore high school students may be considered for admission under the procedure outlined above.

California Residency

It is not necessary to be a legal resident of California (as defined in the Education Code) in order to attend College of San Mateo. Students who have not been California residents for a full year before the opening day of a given term must pay a non-resident tuition fee in addition to the fees paid by California residents. See the Index (Residence Requirements) for further details.

Former Students of College of San Mateo

Former students of College of San Mateo are normally eligible to return. However, if they have less than a 2.0 grade point average in courses taken at College of San Mateo, they will be readmitted according to provisions of the current academic standards policy of the College (see Index: "Academic Policy"). Prior to being readmitted, former students must clear any holds on their records due to unpaid fees, fines, etc.

International Students

College of San Mateo is authorized under Federal law to enroll non-immigrant international students. In order to be admitted to the program, an international student must:

1. complete the equivalent of an American high school education with satisfactory grades (normally a "B" or 3.0 average),
2. demonstrate sufficient command of English to profit from instruction at the College. A minimum score of 480 on TOEFL is required.
3. present evidence of sufficient funds to cover tuition fees and living expenses while attending College of San Mateo. The tuition fee for the 1991-92 academic year is $102 per unit of credit.
4. provide proof, before registration, of medical and health insurance coverage or enroll in a health insurance plan provided for foreign students by San Mateo County Community College District.

International students are required to complete 12 units of class work each semester to maintain their status. Tuition covering the first semester must be paid in full prior to the issuance of the Form I-20 for visa purposes.

Under certain circumstances of unforeseen financial hardship, continuing international students may petition for a waiver of the tuition fee.

A special international student application is available from the International Student Center. Applications for the Fall 1991 semester must be filed by May 15, 1991. Applications for the Spring 1992 semester must be filed by November 15, 1991.

Choice of College

Residents of the District may elect to attend College of San Mateo, Cañada College or Skyline College. In the event the capacity of one college is reached, students may be diverted to one of the other colleges. Academic major and date of application will be taken into consideration if such diversion becomes necessary.


COLLEGE OF SAN MATEO

Registration

Counseling/Advising Appointments

Upon completion of admission requirements, new and returning students will be given an opportunity for counseling/advising prior to registration and the opening of each semester. (See Calendar on page 1.) Most students enrolling in classes must obtain program approval from a counselor/ advisor before they register.

Registration Deadlines

Students must complete registration in semester-length classes within the first two weeks of instruction. Students in evening classes which meet once a week must be in attendance at the second class meeting. Evening classes meeting twice a week require attendance at the third class meeting in order to register.

Unit Load Limitations

A normal class load for a full-time student is 15 units. No student will be permitted to take more than 19 units without special approval of the counselor/ advisor and the Coordinator of Counseling Services. Students working full time should limit their program to six or fewer units. Combinations of work and college study should be carefully discussed with the counselor/ advisor.

A program of 12 units or more is considered a full-time load for athletic eligibility, financial aid, foreign students (F-1 visa), veterans benefits, Social Security benefits, and most other benefits which are dependent upon student enrollment status.

Audit Policy

Students are allowed to register as auditors in a limited number of classes to which the course repetition policy applies if they have previously enrolled for credit for the maximum number of times allowed for the particular course.

Students should register for these classes in the normal manner; they will be notified if they have reached the course repetition limit and given the opportunity to register as auditors if space is available.

An auditing fee of $15 per unit is payable at the time of enrollment as an auditor. Auditors are not charged the regular enrollment fee which is paid for credit enrollment. The non-resident tuition fee does not apply to auditors. Students enrolled in ten or more units for credit are not charged a fee for auditing up to three units.

No student auditing a course will be permitted to change enrollment status in that course to receive credit. See the current Schedule of Classes for courses (denoted by an asterisk) that may be audited.

Program Changes

Students wishing to add and/or drop classes must follow the prescribed procedure as outlined in the Schedule of Classes. A student who stops attending a class is not automatically dropped from the roll, and may receive a penalty grade. It is the student's responsibility to withdraw officially from one or more classes, or from all classes, following prescribed timelines and procedures.

Withdrawal from Classes

Students wishing to withdraw from a class must obtain a Petition to Change Program (add/drop form) from their counselor/advisor or the Office of Admissions and Records, Building 1, Second Floor. Official withdrawal is the responsibitlity of the student. A student who does not withdraw in accordance with established procedures may receive a grade of "F."

A student may withdraw from a semester-length class during the first four weeks of instruction and no notation will be made on the student's academic record. In courses of less than a regular semester's duration, a student may withdraw prior to the completion of 30 percent of the period of instruction and no notation will be made on the student's academic record.

After the fourth week of instruction, a student may withdraw from a semester-length class, whether passing or failing, at any time through the last day of the fourteenth week of instruction; a "W" grade will be recorded on the student's academic record. In courses of less than a regular semester's duration, a student may withdraw prior to the completion of 75 percent of the period of instruction; a "W" grade will be recorded on the student's academic record.

A student who must withdraw for verifiable extenuating circumstances after the deadline may petition the Academic Standards Committee for an exception to this policy.

The academic record of a student who remains in class beyond the time periods set forth above must reflect an authorized symbol other than "W" (see Index: "Grades, Grade Points").

A student failing to follow established withdrawal procedures may be assigned an "F" grade by the instructor.

Veterans' Benefits

Eligible veterans of the armed forces have ten years from their date of separation from active duty to take advantage of their educational benefits.

To initiate Veterans Administration benefits, veterans should report to the Veterans Clerk in the Office of Admissions and Records (Administration Building, second floor) and bring: (1) two copies of their DD214 (separation papers); (2) one copy of their marriage/divorce certificate; and (3) copies of birth certificates of children. Copies of all documents must be certified by the issuing agency. Notarized photocopies are not acceptable.

Veterans who have previously attended college must file official copies of college transcripts with the Veterans Clerk in the Office of Admissions and Records. For further information, contact the Office of Admissions and Records, 574-6165.

Grades and Scholarship

Units of Work and Credit

A "unit" of college credit normally represents one hour each week of lecture or three hours of laboratory, or similar scheduled activity, during one full semester.

Grades, Grade Point Average and Academic Record Symbols

Grades from a grading scale are averaged on the basis of their point equivalencies to determine a student's grade point average. The highest grade (A) receives four points, and the lowest grade (F) receives 0 points, using only the following evaluative symbols.

Symbol	*Definition*	*Grade Points*
A	Excellent	4
B	Good	3
C	Satisfactory	2
D	Passing, less than satisfactory	1
F	Failing	0
*CR	Credit (at least satisfactory; units awarded not counted in GPA)	
*NC	No Credit (less than satisfactory or failing; units not counted in GPA)	
I	Incomplete	0
IP	In Progress	0
RD	Report Delayed	0
W	Withdrawal	0

*Used in courses in which grades of "Credit" or "No Credit" are given. The units earned with a grade of "Credit" count as units completed. "No Credit" means the student is not charged with units attempted and is not credited with units completed.

I - Incomplete

This symbol is used in case of incomplete academic work for unforeseeable, emergency and justifiable reasons. Conditions for removal are set forth by the instructor in a written record which also indicates the grade to be assigned in the event that the student fails to meet the stated conditions. The student will receive a copy of this record, and a copy will be filed by the Dean of Admissions and Records. A final grade will be assigned by the instructor when the stipulated work has been completed and evaluated. In the event that the work is not completed within the prescribed time period, the grade previously determined by the instructor will be entered in the permanent record by the Dean of Admissions and Records.

An "Incomplete" must be made up no later than one year following the end of the term in which it was assigned. Established College procedures may be utilized to request a time extension in cases involving unusual circumstances. The "I" shall not be used in the computation of grade point average.

IP - In Progress

This symbol is used in the student's permanent record to confirm enrollment and to indicate that the class extends beyond the normal end of the term. It indicates that work is "in progress" and that unit credit and a grade will be assigned when the course is completed.

The "IP" is not be used in the computation of grade point average.

RD - Report Delayed

This symbol is used only by the Dean of Admissions and Records for the purpose of indicating that there has been a delay in reporting the grade due to circumstances beyond the student's control. It is replaced by a permanent symbol as soon as possible.

The "RD" is not be used in the computation of grade point average.

W - Withdrawal

See Index: "Withdrawal from Classes."

Credit/No Credit Options

Each division of the College may designate courses in which a student may elect to receive a letter grade or be graded on a "Credit/No Credit" basis.

Grade option courses allow students to explore various fields of study and to broaden their knowledge, particularly outside their major field, without jeopardizing their grade point average. Courses in which such option exists will be so designated by the Division Dean in consultation with appropriate members of the division faculty.

Students electing a "Credit/No Credit" option must submit the appropriate form to the Office of Admissions and Records within the first 30% of the term. Changes will not be permitted after this time.

The utilization of courses graded on a "Credit/No Credit" basis to satisfy major or certificate requirements must be approved by the Division Dean in consultation with appropriate members of the division faculty. A maximum of 12 units toward an Associate degree or 6 units toward a certificate may be applied from courses in which the student has elected a "Credit/No Credit" option. Additionally, each division of the College may determine certain courses in which all students are evaluated on a "Credit/No Credit" basis only. These courses will be so identified in the class schedule and are exempt from the above 12/6 unit limitation.

Four-year colleges and universities vary widely in the number of units of "Credit/No Credit" courses they accept. Students should consult the catalog of the college to which they may transfer for its regulations in this regard.

Final Examinations

Final examinations are required and will be given in accordance with the final examination schedule. The final examination schedule is printed in the class schedule so that students may plan their programs to avoid conflicts or an excessive load.

Grade Reports

A student is held responsible for his/her own academic progress. Grade reports are mailed to each student at mid-semester. Following final examinations at the end of the semester, the student is sent the report of his/her final grades which serves as the basis for computing the student's standing.

Student Responsibilities

Conduct

The principle of personal honor is the basis for student conduct. The honor system rests on the sincere belief that College of San Mateo students are mature and self-respecting, and can be relied upon to act as responsible and ethical members of society. Each individual has the obligation to observe the College code of rules and regulations.

Social or other functions using the name of the College are thereby identified as College functions and become subject to the same standards of conduct and of supervision, whether conducted on or off the campus.

Social or other functions for which no College staff member is listed as a sponsor are not considered College functions. Further, no off-campus organizations may use the name or imply College sponsorship in any publicity or other information.

Any student may be subject to disciplinary action, including suspension and/or expulsion, if his/her actions on campus are disruptive or are in violation of College rules and regulations. In cases involving disciplinary action, the student will have access to established appeals procedures.

Student Grievances and Appeals

Students are encouraged to pursue their academic studies and become involved in other sponsored activities that promote their intellectual growth and personal development. The College is committed to the concept that, in the pursuit of these ends, the student should be free of unfair and improper actions on the part of any member of the academic community. If, at any time, a student feels that he/she has been subject to unjust actions, or denied his/her rights, redress can be sought through the filing of an appeal or grievance. Detailed information is provided in the Student Handbook, which is available at the Student Activities Office. For further information concerning any aspect of student grievances or rights of appeal, students should contact the Office of the Vice President, Student Services.

Fines

Fines are assessed for failure to comply promptly with library regulations, and students are also required to pay for careless or unnecessary damage to College property. Students who are delinquent in their financial obligations to the College may not receive grade reports or other records of their work until such delinquencies have been adjusted to the satisfaction of the College authorities. Future admission/registration may be denied until these delinquencies are removed.

Secret Organizations

Sororities and fraternities and other secret organizations are banned on community college campuses under the Education Code of the State of California.

Extended Absence

Students who will be absent from any class or classes for one week or longer for any health reason should request notification to instructors by the Student Health Center. Telephone: 574-6396.

Students who will be absent from any class or classes for one week or longer for other personal emergencies should request notification to instructors by the Dean of Counseling, Advising and Matriculation (see Index: "Attendance Regulations").

If a medical or personal emergency requires absence of more than one week, the student should consult with his/her instructors and counselor/advisor regarding the advisability of continuing in classes.

Withdrawal from Individual Classes

There are established procedures for withdrawing from a portion of your college program (see Index: "Program Changes").

Withdrawal from College

Students who must withdraw from all their classes after registration may obtain a Petition to Withdraw from All Classes from their assigned counselor/advisor. Students not assigned to a counselor/advisor may obtain this petition from the Counseling Center, Building 1, Room 130. The completed form is to be returned within five college days to the Office of Counseling Services, Building 1-207. Failure to withdraw officially may result in grades of "F" (see Index: "Program Changes").

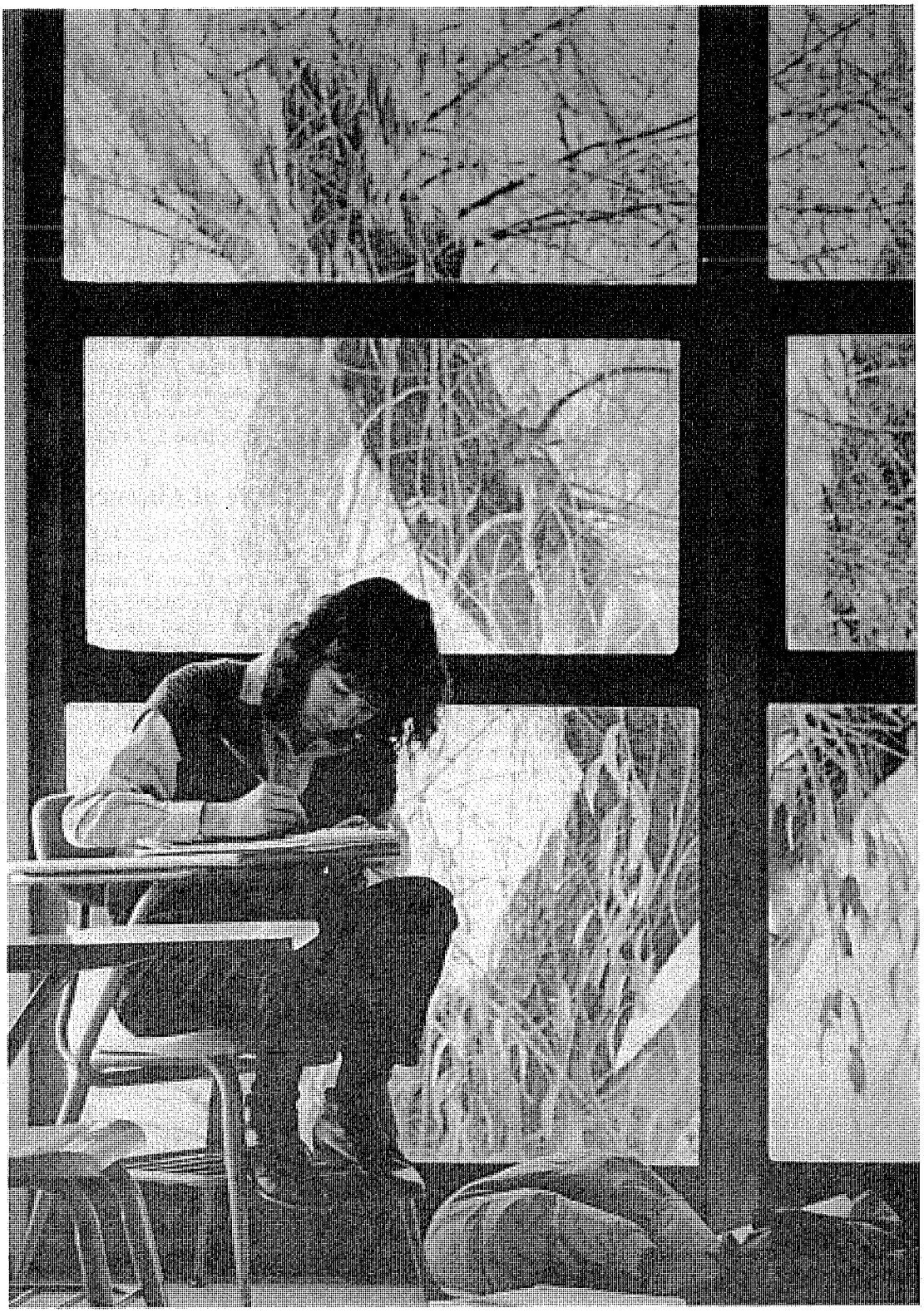
Evening class withdrawal forms are available in the Office of Admissions and Records. Failure to withdraw officially may result in penalty grades of "F."

If a student stops attending without withdrawing officially and is not dropped by the instructors for non-attendance by the deadline date, the instructors will be required to issue a letter grade - NOT a "W." Under extenuating circumstances a student may petition for a "W" after the deadline date. Petition forms are available from and submitted to the Office of Special Programs and Services (Building 1, Room 215, telephone 574-6434).

Leave of Absence

College policy permits the granting of a leave of absence to students who must withdraw from all their classes in cases involving extenuating circumstances, defined as verified cases of accident, illness, or other extraordinary circumstances beyond the control of the student.

A semester for which a student is granted a leave of absence is not included in the determination of academic progress. Satisfactory academic progress must be maintained in order to avoid probation or dismissal under the CSM Academic Standards Policy.



Academic Policies

Academic Standards Policy

The Academic Standards Policy of College of San Mateo is based on a cumulative grade point average of "C" (2.0), the minimum standard required for graduation or transfer. A grade point average of less than 2.0 is considered deficient.

Grade point average (GPA) is determined by dividing the total number of grade points earned by the total number of units attempted.

Probation

A student is placed on academic probation under the following criteria:

1. Academic Probation based on grade point average: A student who has attempted at least 12 semester units, as shown by official records, is placed on academic probation if the student has earned a cumulative grade point average below 2.0.
2. Academic probation based on failure to maintain satisfactory progress: A student who has enrolled in a total of at least 12 semester units, as shown by official records, is placed on academic probation when the percentage of all units in which a student has enrolled for which entries of "W," "I" and "NC" are recorded reaches or exceeds 50 percent. (See Calendar for deadline dates for withdrawal.)

The two probationary criteria described above are applied in such a manner that a student may be placed on probation under either or both systems and subsequently may be dismissed under either or both systems.

A probationary student may petition the Academic Standards Committee, in accordance with College procedures, for removal from probationary status if that status has resulted from unusual circumstances beyond the student's control.

Removal From Probation

A student on academic probation on the basis of grade point average is removed from probation when his/her cumulative grade point average is 2.0 or higher.

A student on academic probation on the basis of failure to maintain satisfactory progress is removed from probation when the percentage of units in this category no longer equals or exceeds 50 percent.

Dismissal

A student on probationary status is subject to dismissal if in any two subsequent semesters either or both of the following criteria are applicable:

1. The student's cumulative grade point average is less than 1.75 in all units attempted.
2. The cumulative total of units in which the student has been enrolled for which entries of "W," "I" and "NC" have been recorded reaches or exceeds 50 percent. (See "Withdrawal from Classes.") Normally, a dismissed student must remain out of day and evening classes for one semester before petitioning the Academic Standards Committee for reinstatement.

A dismissed student may present a written appeal to the Academic Standards Committee requesting immediate reinstatement if dismissal has resulted from unusual circumstances. A registered student making such an appeal should remain in classes until the decision of the Academic Standards Committee is made.

Academic Renewal Policy

A maximum of two semesters and one summer session of work which is substandard (i.e., less than a 2.0 grade point average) and not reflective of the student's present scholastic level of performance may be alleviated and disregarded in the computation of grade point average under the following conditions:

1. The academic renewal policy will be applied only when alleviation of prior work is necessary to qualify a student for admission to a program, for transfer to another institution, or for graduation from or completion of a certificate program at College of San Mateo. It is the responsibility of the student to establish that this condition is met.
2. A period of at least three years must have elapsed since the work to be alleviated was completed.
3. A semester is defined as all work done during a single academic term. The terms need not be consecutive. Only full semesters of substandard work can be alleviated; the policy cannot be applied to single courses.
4. A student seeking alleviation must have completed 9 units of work with a 3.5 cumulative grade point average, or 15 units with a 3.0 cumulative grade point average, or 21 units with a 2.5 cumulative grade point average, or 24 units with a 2.0 cumulative grade point average since the work to be alleviated was completed.
5. The substandard work to be alleviated may have been completed at any college or university; however, the work upon which the application for alleviation is based must be completed at one of the San Mateo County Community Colleges.

Determination of the applicability of this policy will be made only following formal application to the Office of Admissions and Records. When academic work is alleviated, the permanent record is appropriately annotated in a manner to ensure that all entries are legible and that a true and complete record is maintained.

Attendance Regulations

Regular attendance in class and laboratory sessions is an obligation assumed by every student at the time of registration. By being absent from class, the student misses both the content of the particular session and the continuity of the course as developed in a single period of work. When a student's failure to attend class places his/her success in jeopardy, the instructor may drop the student from class.

In all cases it is the instructor's prerogative to determine when absences are excessive. An instructor has the right to drop a student from class when such absences jeopardize the student's opportunity to successfully complete the class work or to benefit from the instruction. A guideline used by many instructors is that excessive absence is represented by twice the number of hours the class meets in one week for semester-long classes and one-ninth of scheduled meetings in classes which meet for less than a full semester.

Absence means non-attendance and includes non-attendance for illness or personal emergency. Absences due to a student's participation in a school-sponsored activity are to be considered as ex-

cused absences, but it is the student's responsibility to notify the instructor in advance of the absence, and the student is responsible for all work missed. It is noted again that it is the instructor's prerogative to determine when such absences are excessive.

Any student dropped from a class because of this regulation may appeal in writing to the Attendance Commitee within five academic calendar days of the drop if there are extenuating circumstances. A student making such an appeal may, with the permission of the instructor, remain in class until the decision of the Attendance Committee is reached. The Attendance Committee will make a recommendation to the instructor after considering such an appeal.

Open Enrollment

Every course offered at College of San Mateo (unless specifically exempted by legal statute) is open for enrollment and participation by any person who has been admitted to the College and who meets the prerequisites of the course provided that space is available.

Credit by Examination

A regularly enrolled student may be permitted to obtain credit for designated courses, if he/she is especially qualified through previous training or instruction and can demonstrate such qualifications, by successfully completing an examination approved by the appropriate division. Credit will not be allowed for a course for which credit has been previously granted or for which credit has been earned in a more advanced course in the same sequence. A student may earn up to 12 units through credit by examination, which will be applied toward the A.A./A.S. degree. Units earned by examination will NOT be counted for financial aid purposes. Credit by examination may also be earned through certain Advanced Placement Examinations and completion of certain specialized certificate/license programs.

A student may challenge a course for credit by examination only one time. A challenge examination may not be used in order to improve a grade already received for a course.

Academic Review Committee

The Academic Review Committee considers requests for waivers and/or exceptions with respect to academic policies. Inquiries should be directed to the Office of Admissions and Records.

Course Repetition

A. Repeated for Credit

The Board of Trustees of San Mateo County Community College District has adopted a policy (District Rules and Regulations, Section 6.12) which permits a student to repeat certain courses for credit a maximum of 3 times (for a total of four class enrollments). These courses require increasing levels of student performance or provide significantly different course content each subsequent semester. Such courses are designated as "may be repeated for credit" in the College catalog. Courses which are not so designated may not be repeated under this policy. Further information on this policy is available from counselors/advisors.

B. Grade Alleviation

A student who has received a grade of D, F, or NC in a course taken at a college of the San Mateo County Community College District may repeat the course one time at College of San Mateo for the purpose of grade alleviation. Under unusual circumstances, a student may petition the Vice President, Student Services, for permission to repeat a course more than once. On petition to the Office of Admissions and Records, the student may have the grade of the repeated course used in computation of the grade-point average. The original grade will remain on the transcript, but will no longer affect the grade point average. Course repetition completed at any college of the San Mateo County Community College District will be honored; course repetition involving work completed at a non-district institution may be honored. Students may apply for such consideration to the Office of Admissions and Records. In no case will the unit value of a course be counted more than once. Courses in which the student has received grades other than those of D, F or NC are not subject to the provisions of this policy.

C. Special Circumstances

Under special educationally justifiable circumstances, repetition of credit courses other than those for which substandard work has been recorded may be permitted. The student must obtain prior written permission from a counselor/advisor before such course repetition will be authorized. Normally, a student may repeat such a course only once. Under unusual circumstances, a student may petition the Vice President, Student Services, for permission to repeat a course more than once. When evaluating a student's transcript for graduation, grades awarded for courses repeated under this provision are not considered in calculating the student's grade point average, and in no case is the unit value of the repeated course be counted more than once.

Student Services

Administration and Staff

Vice President, Student Services
Patricia L. Griffin

Supervisor of College Security
(to be announced)

Dean of Admissions and Records
John F. Mullen

Assistant Registrar
Norma Wyllie

International Student Advisor
Gerald J. Frassetti

Dean of Articulation and Research
John J. Sewart

Dean of Counseling/Advising and Matriculation
Steven N. Morehouse

Career Development Center
Elaine Burns

Counseling Center
Jacqueline Marks

Coordinator of Counseling Services
Marcia Mahood

Permanent Resident Student Advisor (Immigrant Students)
Modesta Garcia

Psychological Services
Noel W. Keys
Lawrence T. Stringari

Re-Entry Program
Elaine Burns

Transfer Center
Aisha Upshaw

Dean of Special Programs and Services
Arnett Caviel

College Specialist, Physically Handicapped Students
Jacqueline Rose

Coordinator, Child Development Center
Louise Piper

Coordinator, Multicultural Center
Adrian Orozco

Coordinator, Student Activities
Stephen Robison

Financial Aid Officer
Leatha E. Webster

Health Services
Jennie Halualani
Leah Tarleton

Learning Disabilities Specialist
Marie Papparelli

Program Director, Extended Opportunity Programs and Services (EOPS)
Adrian Orozco

Academic Advisors/ Counselors

Administration of Justice
Kern Richmond

Aeronautics
Steve Cooney
Joe Johnson

Architecture
Paul Zimmerman

Art
Grace Sonner

Broadcasting Arts
George Mangan

Business
Robert Bennett
John Cron
William Janssen
Jacqueline Marks
Rosemary Piserchio

Computer and Information Science
Douglas Crawford
John Cron
Jacqueline Marks

Concurrent Enrollment Program (High School Students)
Aisha Upshaw

Cosmetology
Agnes Williams

Dental Assisting
Elizabeth Witzel

Drafting/Technical Art and Graphics
Dean Chowenhill

Electronics Technology
Roy Brixen

Engineering
Douglas Crawford
Ernest Multhaup

EOPS
Ruth Turner

ESL (Non-native English Speakers)
Sylvia Aguirre
Bo Yoshimura

Fashion/Nutrition
Grace Sonner

Film
George Mangan

Fire Science
Kern Richmond

GAIN
Kathryn Brown

General Education (Liberal Arts, General Education, Social Science, No Major Program, Special Program, Undecided Major Program, Career Specialists)
Sylvia Aguirre
Kathryn Brown
Elaine Burns
John Fiedler
Anita Fisher
Modesta Garcia
Martha Gutierrez
Carolyn Ramsey
Kern Richmond
Caroline Silva
Bo Yoshimura

Horticulture
Michael DeGregorio
Grace Sonner

Immigrant (Permanent Resident) Students
Modesta Garcia

Interior Design
Grace Sonner

International Students
Gerald Frassetti

Language Arts (English, Foreign Languages, Journalism, Speech)
John Fiedler
Linda Scholer
Pat Tollefson

Life Science
Michael DeGregorio
William Glen

Mathematics
Douglas Crawford
Ernest Multhaup

Medical Assisting
Rosemary Piserchio

Multicultural Center
Sylvia Aguirre
Bo Yoshimura

Music
George Mangan

Nursing
Marlene Arnold
Ruth McCracken
Caroline Silva

Physical Education
Caroline Silva

Physical Science
William Glen

Real Estate
Robert Bennett
William Janssen

Social Science
Anita Fisher
Kern Richmond
Pat Tollefson

Transfer Center
Aisha Upshaw

Welding, Machine Tool, and Manufacturing Technology
Joseph Johnson

Academic Advising/ Counseling

Certain faculty members are officially designated as counselors/advisors. Each regular student who is enrolled in more than six day units is assigned a counselor/advisor who is a specialist in a field. Counselors/advisors are available by appointment during the registration period and throughout the academic year. Counselors/advisors assist students in planning programs of study; they must approve the final program for each semester and must be consulted about changes. However, each student is responsible for fulfilling his/her own graduation and/or transfer requirements.

The Office of Counseling Services will make appointments or interviews with counselors/advisors for the purpose of assisting students in the selection of educational goals and a course of study and to complete registration.

Personal counseling is available to all registered students through their counselors and/or through psychologists/counselors with specialized personal counseling skills. The staff will attempt to help students develop their full potential and obtain maximum benefit from their college experience. When appropriate, students may be referred to other offices for specialized assistance. Appointments for special services may be made in person, by telephone, through a counselor/advisor, or through the Student Health Center.

Career Development Center

The Career Development Center, located in the Student Center (Building 5), is a college resource designed to assist students in making decisions about their college major and/or career. It has current information about career opportunities and college transfer programs, as well as a library of college catalogs, career information, audiovisual materials and the Eureka computerized career information system.

The career clusters include current bulletins and career descriptions, as well as salary levels and the employment outlook for specific job types. Reference books include the Occupational Outlook Handbook and the Dictionary of Occupational Titles which give detailed descriptions of career opportunities.

The catalog section includes catalogs from virtually every college and university in California, popular out-of-state colleges and universities, and foreign study catalogs and programs. The microfiche catalog collection has the catalogs of all U.S. colleges as well as some in other countries.

In addition, a variety of short courses, open forums, individual and group career exploration activities and professional career counselors are offered to help students with academic, personal and career planning. Résumé writing assistance and instruction in job interviewing techniques are also available. Descriptions of individualized and group Career & Life Planning class offerings are found in the Description of Courses section of this catalog under the heading Career & Life Planning.

Students and members of the community are encouraged to visit the Career Development Center (Building 5, Room 128). The Center is open daily from 8 a.m. to 4:30 p.m., and in the evening from 5:30 to 9:30 p.m., Monday through Thursday. For information call 574-6571.

Child Development Center

The Mary Meta Lazarus Child Development Center, located at the east end of the campus overlooking the Bay, provides a comprehensive child development program as a service to assist students who have young children. Eligible children are those from 2½ through 5 years of age with a parent who is a student at a District College. For more information call 574-6279.

Disabled Student Services

Students entering college with physical disabilities who need assistance should contact staff for a pre-enrollment interview to determine support services needed. The **Enabler Center** provides tutoring, note taking, reader services, mobility assistance, special parking permits, assistance with classroom access, orientation to the campus, and referral to campus resources. (Enabler Center, Building 16, Room 151, 574-6438; College Specialist for the Physically Disabled, Building 17, Room 130, 574-6215.)

The **Learning Disabilities Assessment Center** offers students with possible learning disabilities individual educational assessment, support services, and assistance with educational planning. If you suspect or know you have a learning disability, contact the staff to schedule an appointment. Diagnostic testing may be administered to develop an educational plan for academic success. Support services may include tutoring, student skills, test-taking assistance, books on tape, and liaison with instructors and counselors. (Building 18, Room 193, 574-6433.)

The **High Tech Center for Disabled Students** offers specialized training in the use of hardware and software adaptations appropriate to a particular student's disability. Students served include those with learning disabilities, acquired brain injuries, orthopedic disabilities, visual and hearing impairments. Building 18, Room 193, 574-6432.)

Adapted Physical Education classes are designed to help improve a student's level of physical fitness. Based on an individual assessment, a program is developed to fit the student's special needs. (Gymnasium, Building 8, Room 109A, 574-6469.)

Drop-In Counseling/Advising

Drop-In counseling/advising services are available in the Counseling Center. The Center is located in Building 1, Room 130, and is available to part-time students and members of the community who wish assistance with program planning and counseling, daily from 9 a.m. to 3 p.m.

Evening drop-in counseling services are available in the Career Development Center (Building 5, Student Center, Room 128) on Monday through Thursday evenings from 6 p.m. until 9 p.m. Counseling/advising appointments are recommended between 7 p.m. and 9 p.m. Contact the Career Development Center (574-6571) for an appointment. Persons desiring academic advising should bring transcripts of previous work to the interview.

Employment Services

A student employment service provided by the Employment Development Department is located in the Career Development Center to assist students currently enrolled in good standing to secure employment. Telephone 574-6151 for more information.

Extended Opportunity Programs and Services (EOPS)

EOPS is a specialized student support program for educationally and economically disadvantaged students, which is jointly funded by the State of California and San Mateo County Community College District. Eligible students receive additional financial assistance, supplemental counseling and tutoring, as well as opportunities to participate in workshops and field trips not available to other students.

In order for a student to be considered for the EOPS program, the following criteria apply: (1) Full-time (12 units) enrollment, (2) qualification to receive a Board of Governors Grant (BOGG) based upon low income or receipt of public assistance, (3) completion of less than 70 college-level units, and (4) meeting the educational disadvantage definition, as determined by the EOPS guidelines.

Interested students who may possibly be eligible should make further inquiries to apply by visiting the EOPS Office, located in Building 20, Room 109, or by calling 574-6158.

Financial Aid

The financial aid program at College of San Mateo is dedicated to the concept that no individual should be denied an education solely for financial reasons. Any student applying for admission to the College who has a financial need for assistance is urged to apply for aid.

The Financial Aid Office administers a program of grants, loans, and work-study programs which are awarded to qualified students. The Financial Aid Office assists and encourages students to apply for grants (Cal Grant Programs A, B, and C) through the California Student Aid Commission. The annual deadline is March 2. Students must be enrolled in a minimum of 6 units to be eligible for consideration.

Financial aid can assist students in paying enrollment fees, for books, transportation, room and board, and other educational expenses. Students who need financial assistance to pay the enrollment fee are encouraged to apply for the Board of Governors Grant. There is no minimum unit requirement for this program.

All financial aid awards are based on need; the determination of need is based upon a careful analysis of family income and assets, liabilities, number of children, medical expenses, etc. While the determination of the student's financial need is geared mainly to the student's educational and vocational career plans, it is recognized that frequently the student may have personal considerations that play an important part in this determination. Each application is evaluated on an individual basis with special and extentuating circumstances taken into consideration. Students must meet certain academic progress eligibility criteria prior to receiving financial aid and must maintain financial aid satisfactory progress standards while receiving financial aid.

Students are advised that determination of eligibility takes a minimum of eight weeks from the time the application is determined complete. Students are strongly encouraged to observe application deadlines. Applications received after established deadlines will be considered subject to the availability of funds.

For information regarding specific assistance programs and financial aid satisfactory progress standards, students should visit the Financial Aid Office on the second floor of the Administration Building, Room 221. Applications for small emergency loans are available through the Office of the Coordinator of Counseling Services, also located on the second floor of the Administration Building.

Health Services

Health Center services include first aid, nursing assessment, health counseling, arrangement for emergency transportation, stress management, hearing and vision screening tests, blood pressure screening and tuberculosis skin tests.

Other services include nutrition, exercise and weight loss counseling, and referral to psychologists, physicians, clinics, or community agencies.

Absences in excess of five days for medical reasons should be reported to the Health Center by the student so that instructors can be notified.

An ill or injured person who is unable to communicate and whose family cannot be reached will be sent to the nearest hospital.

Insurance

The College provides limited accident and emergency illness insurance coverage to its students while they are on campus or at a College-sponsored event.

The College has endorsed a voluntary health insurance program which may be purchased by students who are not covered by their own or their parents' policies. The voluntary policy provides for 24 hours around-the-clock protection at an advantageous group rate. Detailed information is available in the Student Health Center.

Learning Skills Center

Located on the second floor of Building 18, the Learning Skills Center provides learning assistance for all CSM students. Unit credit is available. The following services are available:

The **Reading Center** offers diagnosis of reading skills, instruction in improving comprehension, vocabulary, and reading speed, and reinforcement of phonics and spelling skills. (Building 18, Room 192; 574-6437)

The **Writing Center** offers diagnosis in writing skills, tutorial instruction in grammar, sentence structure and essay composition, tutorial assistance in composing papers for a CSM class, and assistance in

completing assignments from any CSM English class. (Building 18, Room 187; 574-6436.)

The **Language Arts Computer Writing Facility** is used as an interactive classroom for certain English composition courses and as an open lab for students enrolled in any English course. Thirty Macintosh computers and six printers enable students to write and revise class assignments. (Building 18, Room 188; 574-6314.)

The **Learning Disabilities Assessment Center** offers students with possible learning disabilities individual educational assessment, support services and assistance with educational planning. If you suspect or know you have a learning disability, contact the staff to schedule an appointment. Diagnostic testing may be administered to develop an educational plan for academic success. Support services may include tutoring, student skills, test-taking assistance, books on tape, and liaison with instructors and counselors. (Building 18, Room 193; 574-6433.)

The **High Tech Center for Disabled Students** offers specialized training in the use of hardware and software adaptations appropriate to a particular student's disability. Students served include those with learning disabilities, acquired brain injuries, orthopedic disabilities, visual and hearing impairments. Referrals can be made by contacting the staff for an appointment. (Building 18, Room 193; 574-6432.)

Multicultural Center

The Multicultural Center is part of the general campus counseling program which is open to serve all students, regardless of background. The program's emphasis is the recruitment and sustained enrollment of students who seek to continue their educational opportunities while improving language skills and overcoming social and/or economic disadvantages. The staff is made up of full-time bicultural and/or bilingual certificated counselors and support personnel. To facilitate students' successful participation, the program offers academic advising and personal counseling, and other student services in a supportive and culturally enriching environment. The Center is located in Building 20, Rooms 107, 112, and 113. Phone 574-6154.

Psychological Services

Psychological Services offers confidential, individual consultation regarding personal concerns, as well as group counseling, seminars on various topics, classes in developing coping skills, and referral to other on- and off-campus resources. These services are available to all day and evening students. Appointments may be made through the Health Center, Building 1, Room 226, telephone 574-6396, or directly with Psychological Services staff.

Scholarships

The Foundation for San Mateo County Community College District is a nonprofit tax-exempt corporation which exists to broaden the educational opportunities of students. Established in 1967, The Foundation provides scholarships and short term loans to help students achieve their goals.

The Foundation awards approximately $100,000 in scholarships each year which assist hundreds of students at the District's three Colleges. In addition, a number of outside organizations award scholarships directly to College of San Mateo students, bringing the annual total of awards at this College to more than $100,000.

Contributions to The Foundation are received from many sources: individuals, businesses, civic groups, community organizations and other foundations. Some are memorials while others are endowments or given to establish specific scholarship funds.

Many gifts are intended for direct transmittal to student recipients. Some contributions specify who is to receive the assistance (field of study, based on merit or financial need, type of student – two-year transferring, re-entry, etc.); others specify the College at which the award is to be made. Some leave both the recipient and the College to the discretion of The Foundation, in which case funds are allocated to the Colleges in proportion to the number of full-time students. Awards are made at each College by a scholarship committee.

Scholarship applications and further information about the College of San Mateo Scholarship Program are available from the Office of the Dean of Special Programs and Services, Building 1, Room 215; telephone 574-6434.

Testing

Placement tests are designed to measure knowledge of English, reading, and mathematics. It is highly recommended that all students take the placement tests prior to enrolling at College of San Mateo. This is especially important for students who will be enrolled in English, reading or mathematics courses, as well as those preparing to earn an Associate in Arts or Science degree or transfer to a four-year college or university. Students are advised to discuss their placement results with a counselor/advisor prior to determining their academic program and prior to developing an educational plan. No fee is charged for the testing and pre-registration is not required. Students must bring their correct Social Security number and photo identification to the testing. Special English, reading and listening tests for non-native speakers of English are given at all scheduled testing sessions. All sessions are accessible to students in wheelchairs.

Students enrolling in an English composition class must fulfill the testing prerequisite for that class if the prerequisite course requirement has not been met. Under specific guidelines from the Language Arts Division, English and reading tests may be repeated only after three years.

The following tests and scores may be used in place of the SMCCCD Tests for English composition placement:

- SAT Verbal score of 500 or above together with TSWE score of 50 or above;
- score of 21 or above on the ACT English Usage Test;
- score of 150 or above on the CSU English Placement Test;
- score of 600 or above on the College Board Achievement Test in English with Essay;
- or score of 3, 4, or 5 on the AP Language and Composition or the Composition and Literature Tests.

Students enrolling in any mathematics courses must take the appropriate SMCCCD placement test in addition to fulfilling the course prerequisite if the prerequisite course was not taken at one of the SMCCCD colleges. Students may repeat the same level mathematics placement test one time only. CSM does not accept alternate test scores for mathematics placement.

Testing for placement in advanced Spanish, French and German classes is given in

the Media Center by the Foreign Language Department.

Special testing is also available to assess learning and study skills, and to access interest and values related to the identification of educational objectives and occupational choices. Further information may be obtained by calling the Testing Office, 574-6175.

Refer to the Schedule of Classes for placement testing dates and locations.

The Testing Center provides study skills assessment on a drop-in basis and individual placement testing by appointment.

The Career Development Center offers personal and vocational assessment service which is available to all students. Students receive assistance in establishing their educational and vocational goals, and in planning leisure activities.

Personal assessment is also available through a series of Career and Life Planning classes. Most of these classes are designed as 6- and 8-week courses. (See course descriptions.) Interpretations of self assessment tests given in these classes and explanations of placement test results help students appraise their interests, personal adjustment, and special abilities. These tests are useful to students to verify or make effective educational and vocational plans.

Transfer Center

Located with the Career Development Center in Bldg. 5, Room 128, the Transfer Center provides important services to assist students in planning for transfer to a four-year college or university. Information and workshops are offered on choosing a college, completing transfer application forms, essay writing, college costs and financial aid. CSM has special Transfer Admission Agreements with a number of four-year institutions which can guarantee transfer admission in a specific major. Interested students should visit the Transfer Center. Telephone: 574-6571.

Tutoring Center

The Tutoring Center assists students to achieve academic success by providing free one-to-one and small group tutoring. To schedule a tutoring session, sign up in the Center which is located on the lower floor of the Library, Building 9. If you wish to be a tutor, apply for an interview with the Coordinator. Phone 574-6329.

Associated Students

The Associated Students of the College of San Mateo (ASCSM) is the official representative student government organization at College of San Mateo. The Associated Students organization is charged with the responsibility of assessing and meeting student needs and of providing student input into the decision making process of the college. The activities of the organization are carried out by the Student Senate and major advisory committees in the areas of Finance and Administration, Public Relations, Programs, Services, Academic Affairs, Inter-Club Council and the Café International.

Major elected and appointed officers and representatives of the association are as follows:

- President
- Vice President (Senate Chairperson)
- Secretary
- Finance Director
- Senators (one for every thousand students enrolled)
- CSM Student Trustee Nominee to the Board of Trustees

In addition, students are selected by the Student Senate to serve on the following College and District Advisory Committees:

- College Instruction Committee (2)
- College Student Services Committee (2)
- College Accessibility Committee (2)
- College Library and Media Center Committee (2)
- College Master Plan Committee (1)
- District Academic Calendar Committee (1)
- District Food Services Committee (1)
- District Committee on Encouraging Greater Student Involvement in College Governance (1)

Senate

The Senate is responsible for the administrative affairs of the association including the monitoring of programs approved by the Senate and the representation of the association's viewpoint in college-wide matters.

The Senate is comprised of students elected at-large in an annual campus-wide election.

Finance and Administration Committee

The Finance and Administration Committee of the Senate is responsible for matters of budget, personnel, equipment purchase and maintenance, facilities use, election guidelines,constitutional amendments and by-law amendments sponsored by the Senate, and statewide legislative issues.

Public Relations Committee

The Public Relations Committee of the Senate is responsible for the publication of the "Monday Morning Blues" senate newsletter, press releases to the public media, advertising for student participation in student government, and marketing of student body express cards.

Programs Committee

The Programs Committee is responsible for providing social, cultural, recreational and educational programs for students. The Programs Committee is organized into sub-committees which have responsibility for program development in specific areas or for specific events. Sub-committees are formed as determined by the priorities and interests of students. Typical sub-committees are as follows:

- Contemporary Entertainment
- Speakers and Lectures
- Arts and Exhibits
- Film and Video
- Outdoor Recreation
- Multi-Cultural Programming

Programs developed or supported by the Programs Committee have included such events as: speeches by U.S. Presidential, Vice-Presidential and Congressional candidates; jazz performances, art shows, acoustic concerts, craft shows, spring festivals, film festivals, video shows, African-American history programs, Cinco de Mayo Festivals, singers, dancers, comedy shows, and a wide variety of lectures on such contemporary topics as nuclear energy, First Amendment freedoms, space technology, U.S. foreign policy, nuclear disarmament, and racism.

Services Committee

The Services Committee of the Senate is responsible for the coordination of copy machine services, games room services,

the book exchange service, the free swim and summer swim programs, instructor evaluation surveys, carpooling programs, the concessions at various campus events, and the merchant discount program.

Academic Affairs Committee

The Academic Affairs Committee is responsible for reviewing academically related issues and making recommendations to the Senate regarding such issues. Topics reviewed recently have included changes in the academic calendar, student evaluation of courses, and a review of current "college hour" policies. The committee is made up of student representatives who serve on college advisory committees and is open to all interested students.

Inter-Club Council

The Inter-Club Council is comprised of representatives from each student club on campus. Its purpose is to provide an information exchange between clubs, coordinate events sponsored by more than one club, and advise the Senate regarding support for club activities.

Café International Advisory Committee

The Café International coffee house was created in 1989 by the Associated Students to serve student needs by creating a comfortable study and conversation area for the campus. The Café International Advisory Committee is responsible for the ongoing review and major operating policy recommendations for the program. The Committee meets approximately once each month and is comprised of three student senators appointed by the Senate, the student General Manager of the Café International, the College Coordinator of Student Activities, and a member of the Business Division faculty.

Further information about the Associated Students can be obtained by contacting current student officers through the Student Activities Office or one of the following Associated Students advisors: Arnett Caviel, Director of Special Programs and Services, Bldg. 1-215; or Steve Robison, Coordinator of Student Activities, Bldg. 5-125. Meeting times for Associated Student groups are available through the Student Activities Office in the Student Center Building, 5-125.

Student Body Express Card and Student Body Fee

The Associated Students offers students an identification/ discount card which allows the holder to have free access to all campus events sponsored by the Associated Students. Special merchant discounts are also available from community businesses that offer discounts to card holders. All students are encouraged to obtain a Student Body Express Card during registration through payment of a $5 per semester student body fee. Revenues support a wide variety of student activities, services and programs which help make the College of San Mateo an exciting and enjoyable place to attend. Among the activities and services that have been supported by these fees are the Child Development Center, multicultural events, intramural sports, student scholarships and loans, the CSM parcourse, the guest speakers program, student lounge remodeling, copy machine services, game and recreational services, the merchant discount program, graphic arts services for student groups, Library lounge furniture and magazine subscriptions, the founding of the Café International coffee house, and student representation in college and statewide matters affecting students. Contact the Student Activities Office in the Student Center Building for further details and a complete list of card benefits.

Student Clubs and Organizations

In order to gain maximum benefit from college life, a student is encouraged to participate in one or more of the many student clubs and organizations on campus. The groups listed below offer opportunities to students for both social and educational contacts. Each group elects its officers and plans its own program for the semester. The activities of each group depend largely upon the enthusiasm of its membership. Students are encouraged to contact an advisor listed below for further details about the club or organizations in which they are interested. Additional information may be obtained by contacting the Student Activities Office located in the Student Center building.

Adapted Physical Education Students – John Hogan

Aeronautics – Steve Cooney

Alumni Association – Steve Robison

Amnesty International – Michael Kimball

Architecture (American Institute of Architects, CSM Chapter) – Paul Zimmerman

Asian Students Union – Gladys Chaw

Astronomy Club – Michael Chriss

Ballet Folklorico – Modesta Garcia

Baseball Club – John Noce

Beyond War – Don Porter

Broadcasting Students – George Mangan

Cheerleaders (see "Spirit Leaders Assocation")

Child Development Center Parents Advisory – Louise Piper

Christian Fellowship – Robert Anderson and Ken Brown

Computer Science Club – Martha Tilmann

Cosmetology – Nancy Stock

Dental Assisting (Epsilon Delta) – Elizabeth Witzel

Drafting and Design (American Design and Drafting Association) – Dennis Stack

Earth Preservation Committee – David Danielson and Steve Robison

Electronics Technology Club – Roy Brixen

Emeritus Institute, Students of (Seniors) – Eric Gattmann

Engineering (Union of Student Engineers) – Pat Durant

Ethnic Awareness, Students for – Sylvia Aguirre and Yoneo (Bo) Yoshimura

Ethnic Studies Society – Zelte Crawford

Fashion Merchandising and Consumer Arts (Eta Epsilon) – Grace Sonner

Filmmakers Association – Richard Williamson

Floral Design (American Institute of Floral Design, Alexander Graham Chapter) – Sally Clarke and Reiko Hayashi

French Club – John Allan

German Club – Diane Musgrave

Gospel Ensemble – Aisha Upshaw

Helping Hands Club – John Hogan and Carolyn Fiori

Honor Society (Alpha Gamma Sigma) – Al Acena

Honors Program Student Advisory Committee – Michael Chriss

Horticulture – Matt Leddy

Interior Design – Verne Goodrich

International Students Union – Zelte Crawford

Jazz Band – Fred Berry and Michael Galisatus

Just Sistas – Kathryn Brown

Latin American Student Organization – Modesta Garcia

Nursing Students Association – Ruth McCracken

Palestinian Students (General Union of Palestinian Students) – Zelte Crawford

Peace Action – Greg Davis

Ski Club – Cliff Denney and Pat Paoli

Softball Club – Michael DeGregorio

Spirit Leaders Association – Frank Besnyi

Track Club (Bulldog Track Club) – Bob Rush

Union of Student Engineers – Pat Durant-Papp

Unity Among Brothers – Zelte Crawford

Visual Arts Club – Judy Morley

Student Activities Office

The Student Activities Office is a drop-in information office located at the north end of the Student Center where students are welcome with questions regarding any aspect of the College.

Special services provided for students by the Student Activities Office include:

Student Activities Event Planning

The Coordinator of Student Activities is available to assist campus organizations in the development, planning and approval of special campus programs and events. College policy questions, facilities reservations, security planning, audio visual requests, insurance requirements, health and safety reviews, risk management planning, publicity and other considerations for special events are coordinated through this office.

Housing Assistance

Dormitories and other types of college-sponsored housing are not offered by College of San Mateo. However, the Student Activities Office maintains up-to-date listings of housing available in the community. The majority of listings are rooms in private homes, but apartments and houses are also available.

Student Government and Club Information

Information concerning any aspect of student government, student activities or clubs may be obtained in the Student Activities Office. This office also provides these groups with duplicating and publicity services.

Student Center Facilities Use

The Student Activities Office is responsible for the supervision of the Student Center Building, including the Recreation/Games area, the Student Center Lounge, and other Student Center facility use.

Referral Services

The Student Activities Office maintains current referral listings of services available through the College and other community agencies. It can assist students through referrals to the campus Health Center, Psychological Services, Tutorial Center, Child Development Center, and other community agencies for such services as legal assistance, family planning, and women's services.

Transportation Information

Bus discount tickets, bus schedules, train schedules, car-pool matching services, maps, and general transportation assistance are also available through the Student Activities Office.

Campus Posting Approval

All signs, flyers, or similar materials must be approved through the Activities Office as to time, place and manner of distribution prior to being posted or distributed on campus.

Copy Machine Cards

For the convenience of students, magnetic cards for campus copy machine use may be obtained in the Student Activities Office in denominations of 100 copies for $8, 500 copies for $30, and 1000 copies for $50.

For more information please visit the Student Activities Office in the Student Center (Bldg. 5, Room 125) or telephone 574-6141.

Vending Refunds

If campus vending machines are not vending properly, refunds are available through the Student Activities Office.

Campus Publications

The following publications are issued by College of San Mateo:

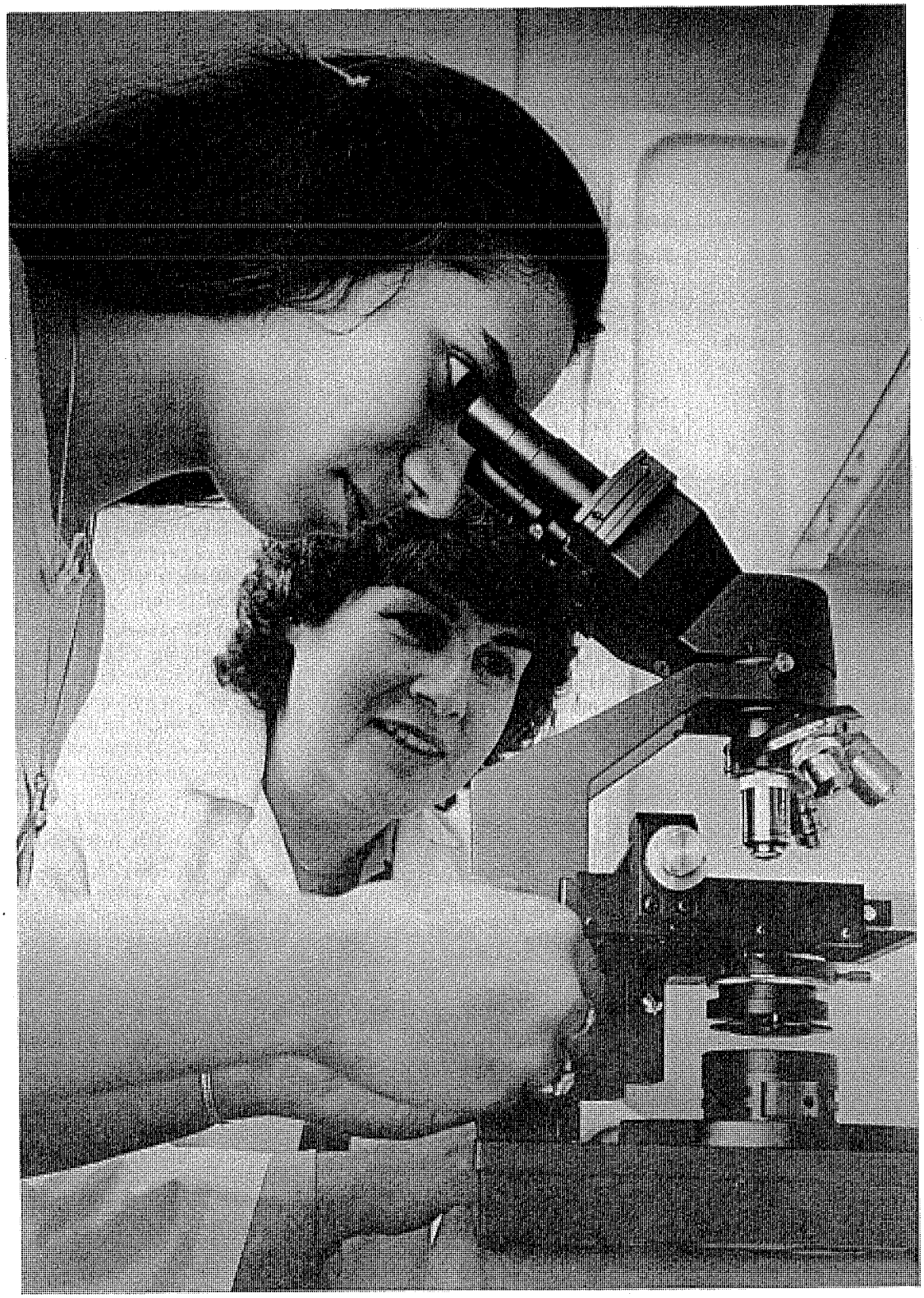
The San Matean – A student newspaper published weekly, serving a two-fold purpose of providing full coverage of activities on campus and of giving experience to journalism students.

The Monday Morning Blues – A weekly newsletter published by the Associated Students Senate as a way of informing students of events sponsored by the Associated Students and promoting school spirit and interest.

Student Handbook – A manual for students containing information about College of San Mateo, policies and procedures, staff, student organizations and services published by the Student Activities Office. This handbook is designed to assist new students with program planning, campus vocabulary and campus resources, and it includes recommendations to help students in registering for classes.

Campus Activities Announcements/Calendar – A publication prepared and distributed by the Student Activities Office on a monthly basis announcing activities, new events and items of interest to the faculty and students of the College. Submit items for publication to the Student Activities Office.

Career Information Series Guide – This guide lists services offered by the Career Development Center which provide an orientation to career and life planning. It includes a schedule of the weekly career seminars held in the Career Development Center.



A.A./A.S. Degree Requirements

Graduation from College of San Mateo with the Associate in Arts or Science degree is based upon the completion of 60 units of lower-division college-level work, including the requirements A through E listed below. An application for the degree must be filed in the Office of Admissions and Records during the last semester of attendance (refer to calendar for the college year for deadline).

Graduation requirements for an individual student are those listed in the College of San Mateo Catalog of the year in which the student begins studies at CSM. Those requirements may be followed throughout the student's course of study. However, if a break in attendance occurs before graduation, the graduation requirements shall become those listed in the College Catalog which is current at the time studies are resumed.

A. RESIDENCE

Either 48 units of the 60 units required or the last 12 units must be completed at College of San Mateo.

B. SCHOLARSHIP

A minimum grade point average of 2.0 in the last 60 units, and a minimum grade point average of 2.0 in courses taken at College of San Mateo and submitted as part of the 60 units.

C. COMPETENCY REQUIREMENTS

1. Math/Quantitative Reasoning

This competency requirement may be satisfied with any of the following:

a. Appropriate scores on ACT math, SAT math, or CSM Math Placement Test as follows:
ACT – standard score of 15 or above on math test;
SAT – quantitative score of 400 or above;
CSM Math Test 2 - 21 or above;
CSM Math Test 3 – 21 or above;
CSM Math Test 4 – 20 or above

b. Completion with a grade of C or higher of an elementary algebra or higher math course at College of San Mateo or other college or university;

c. Completion with a grade of C or higher of an intermediate algebra or higher math course in high school within four years prior to receiving the AA/AS degree;

d. Completion of any one of the following courses with a grade of C or higher:
Any course with Mathematics 110 or higher math prerequisite
Business 115
Computer and Information Science 210, 290
Chemistry 192
Economics 123
Electronics Technology 230 or 231 and 232
Manufacturing and Industrial Technology 101
Plumbing 702, 742
Psychology 121
Real Estate 131

2. English

This competency requirement may be satisfied by:

a. Completion with a grade of C or higher of one of the following courses: English 100, 800, 820, 825, or 835 or

b. In the case of non-native speakers, completion of English 400 with a grade of C or higher.

In addition, students who have not completed English 100 with a grade of C or higher must have:

a. scored 19 or above on the comprehension section of the Nelson-Denny Reading Placement Test or

b. completed Reading 802 with a grade of C or higher.

D. MAJOR

A minimum of 18 units, 15 of which must be taken at College of San Mateo, from a list of courses specified for the major by the division involved. A grade point average of 2.0 in the major is required. These 18 units are exclusive of any units offered in satisfaction of any other A.A. or A.S. degree requirement.

A division may require more than 18 units for a given major. The additional units may, if appropriate, be used to satisfy other A.A. or A.S. degree requirements.

E. GENERAL EDUCATION

General Education introduces the student to areas of study that develop breadth of outlook and contribute to a balanced educational development. The courses are complementary to, but different in emphasis from, the specialized training one receives for a job, a profession or a particular field of study.

1. American History and Institutions, California State and Local Government

This requirement may be satisfied in two different ways:

a. by completing either Political Science 200: National, State and Local Government (5 units), or, for foreign students, Political Science 205: American Society (5 units); or (Courses used to satisfy the American History and Institutions, California State and Local Government requirement may not be used to satisfy requirements listed under 5b, Social Sciences.)

b. by completing one of the options in each of the groups listed below.

GROUP 1: AMERICAN HISTORY AND INSTITUTIONS

a. History 201, 202 – United States History (6 units), or

b. Political Science 250, 260, 210, 220, 255 or 215 (3 units), or

c. History 100, 102 – Western Civilization (6 units), or

d. History 101, 102 – Western Civilization (6 units), or

e. History 201 or 202 – plus any one of the following 3-unit history courses:
242 The African-American in U.S. History (3)
260 Women in American History (3)
270 Civil War and Reconstruction (3)
350 The American West (3)
360 The South in American History (3)

f. History 810 – American History and Current World Affairs (3)

GROUP 2 – CALIFORNIA STATE AND LOCAL GOVERNMENT

a. Political Science 310 – California State and Local Government (2 units), or

b. History 315 – History of San Mateo County (3 units), or

c. History 310 – California History (3 units), or

d. Sociology 200 – Urban Sociology (3 units), or

e. Ethnic Studies 101 or 102 (3 units)

2. Language and Rationality

a. English, Literature, Speech
Two semester courses (6 units) are required. One of these shall be a composition course: English 800 or equivalent (820, 825, 835) or English *400 or English 100, and the other shall be selected from the following list. Courses marked with an asterisk (*) also satisfy the Communication and Analytical Thinking Requirement (2b). Credit for English 100 may be earned by those students who can demonstrate equivalent knowledge through examinations acceptable to the Language Arts Division and the Office of Instruction.

English: 100*, 110*, 120*, 130*, 140*, 161, 162, 163, 165*, 195, 210*, 400* (for non-native speakers), 680, 690
Literature: 101*, 105*, 111*, 113*, 115*, 143*, 151*, 201*, 202*, 231*, 232*, 251*, 301*, 302*, 430*, 680, 690
Speech: 100*, 111, 112, 120*, 130, 150 680, 690, 844 (for non-native speakers)

b. Communication and Analytical Thinking
This requirement may be satisfied by completing one of the following courses:

English, Literature and Speech: indicated by * in the above listing.
Business: 295, 401
Economics: 123
Math: 125, 130, 200, 222, 241, 251, 260
Computer and Information Science: 110, 115/116, 120, 130/131, 210/211, 216/217, 230/231, 240/241, 250/251, 270/271, 280/281, 290/291, 306/307, 320, 360/361, 370/371
Social Science: 111

3. Health Science
Two units of Health Science are required (Health Science 100 (2 units) or 120 (2 units) or two classes selected from Health Science 102-114. One unit of Consumer Arts & Science 310 may be used in lieu of Health Science 113. The requirement may be waived for veterans of the U.S. Armed Forces with one or more years active service and for nursing students who complete Nursing 211, 212, 221 and 222, or equivalent, with a grade of C or higher.

4. Physical Education
Students must complete two semester-long activity courses in Physical Education or Dance, unless excused, to complete the requirements for the Associate in Arts or Associate in Science degree. The two courses for this requirement may not be taken concurrently. Courses involving Varsity Athletics do not count for activity credit unless the number of units is at least one per semester.

In accordance with policy adopted by the Board of Trustees, this requirement may be waived for students in any of the following categories:

a. Graduates of accredited community colleges or other accredited colleges and universities.

b. Persons enrolled in Evening classes (i.e., those who complete in such classes at least 60% of the courses taken at this college in fulfillment of A.A./A.S. degree).

c. Veterans of the U.S. Armed Forces with one or more years of active service.

d. Persons excused for medical reasons. Approved medical waiver must be filed in the Office of Admissions & Records.

Students wishing to request a waiver of this requirement for any reason not specifically provided for above, may petition for consideration through regularly established college procedures. Inquiries should be directed to the Office of Admissions and Records.

5. Additional Requirements
Of the following four areas, a., b., c., d., 12 units are required. One area may be satisfied by the major. If so, the 12 units would be selected from the remaining three areas with at least 3 units from each. (Students majoring in Liberal Studies may elect to have area a., b., or c., satisfied provided they complete at least six units in the area in fulfilling their major.)

a. Natural Science (at least 3 units)

PHYSICAL SCIENCE
Astronomy 100, 101
Chemistry 100, 192, 210, 220, 224, 225, 231, 232, 250, 410, 420
Electronics Technology 100, 110
Fashion Merchandising 113
Geography 100
Geology 100, 101, 210
Humanities 127-128*
Manufacturing and Industrial Technology 100
Meteorology 100
Oceanography 100
Physical Science 100
Physics 100, 210, 220, 250, 260, 270

*When both HUM. 127 and 128 are taken, three units will be allowed to fulfill the Physical Science requirement and three units will be allowed toward the Humanities requirement.

LIFE SCIENCE
Biology 100, 102, 110, 111, 125, 130, 140, 145, 150, 160, 180, 184, 200, 210, 220, 230, 240, 250, 260, 265, 266
Consumer Arts and Science 310
Horticulture 311, 312, 320, 340
Paleontology 110

Majors fulfilling Area a.: Chemistry, Dental Assisting, Geology, Horticulture, Life Science, Nursing, Physical Science, Physics.

b. Social Science (at least 3 units)
Anthropology 110, 180
Business 101, 102
Consumer Arts and Science 412
Economics 100, 102
Ethnic Studies 101, 102, 150, 151, 152, 160, 261, 262, 290, 425, 430
Geography 110
History 100, 101, 102, 110, 201, 202, 242, 260, 270, 310, 315, 350, 360, 810
Political Science 100, 110, 130, 150, 170, 200, 205, 210, 215, 220, 250, 255, 260, 310, 520
Psychology 100, 105, 108, 110, 201, 300, 330, 410, 480
Social Science 220, 221
Sociology 100, 105, 110, 141, 200, 300, 340, 391

Majors fulfilling Area b.: Ethnic Studies, Fashion Merchandising, Social Science.

c. Humanities (at least 3 units)
Architecture 100
Art 101, 102, 103, 106, 108, 141, 142, 151, 152, 350
Chinese 111, 112, 121, 122, 131, 132
English 110, 120, 130, 140
Ethnic Studies 288, 350, 351, 585
Film 451, 452
French 110, 111, 112, 115, 116, 117, 120, 121, 122, 130, 131, 132, 140, 161, 162
German 110, 111, 112, 120, 121, 122, 130, 131, 132, 140
Humanities 101, 102, 111, 112, 113, 114, 125, 127, 128, 131, 133, 140

Japanese 110, 111, 112, 120, 121, 122
Latin 111, 112
Literature 101, 105, 111, 113, 115, 143, 151, 153, 201, 202, 231, 232, 251, 301, 302, 430
Music 100, 202, 275
Philosophy 100, 244, 320
Spanish 110, 111, 112, 120, 121, 122, 130, 131, 132, 133, 140, 161, 162, 251
Speech 111, 112

Majors fulfilling Area c.: Art, English, Foreign Language, French, German, Humanities, Music, Spanish, Speech.

d. Career Exploration and Self Development (at least 3 units)
Administration of Justice 100
Aeronautics 130
Architecture 666
Broadcasting Arts 110
Building Inspection 700
Business 100, 201, 300 series
Career and Life Planning 101, 102, 103, 112, 132, 137, 138, 140, 141, 401, 402, 404, 410, 430
Computer and Information Science 110
Cooperative Education 641, 645
Drafting Technology 120, 401
Education 100, 101
Engineering 666
Environmental Hazardous Materials Technology 100
Film 461
Fire Science 715
Horticulture 411
Journalism 110
Machine Tool Technology 750
Management 100
Manufacturing & Industrial Technology 200
Medical Assisting 100
Military Science 1a
Plumbing 701 or 741
Real Estate 100
Speech 100, 120, 150
Welding Technology 300

Majors fulfilling Area d.: Accounting, Administration of Justice, Aeronautics, Architecture, Broadcasting Arts, Building Inspection, Business, Business Information Processing, Computer & Information Science, Cosmetology, Drafting, Electronics, Engineering, Environmental Hazardous Materials Technology, Filmmaking, Fire Science, Journalism, Machine Tool Technology, Management, Mathematics, Medical Assisting, Merchandising, Plumbing and Pipe Fitting, Real Estate, Refrigeration and Air Conditioning Mechanics, Technical Art/ Graphics, Welding Technology.

e. Electives
All courses not included in the major requirements or specified above in the General Education requirements are considered electives, with the exception of those courses listed in this catalog with the notation "units do not apply toward AA/AS degree."

Two-Year Occupational Programs – AA or AS Degree

Most two-year programs lead to an Associate in Arts or Associate in Science degree. Many of the units earned in occupational programs are accepted by four-year colleges as meeting certain requirements.

Certificate Programs

Certificates are awarded upon successful completion of selected occupational programs. Some certificates require less than two years of full-time study. To be eligible for a certificate, a student must pass all required certificate courses with a grade of C or higher, unless specified otherwise (see specific program).

Certificate requirements for an individual student are those listed in the College of San Mateo Catalog of the year in which the student begins studies at CSM. Those requirements may be followed throughout the student's course of study. However, if a break in attendance occurs before the certificate is earned, the certificate requirements shall become those listed in the College Catalog which is current at the time studies are resumed.

Certificates may be earned through day or evening part-time or full-time enrollment.

Program Planning

Students enrolling at College of San Mateo should plan a program of studies which will meet their education goals. Their objective may be to transfer to a four-year college or university.

Depending on the program they follow, they may also receive an Associate in Arts or Associate in Science degree from College of San Mateo. On the other hand, their objective may be to enter an occupational field after becoming qualified through one of numerous Associate in Arts/Science degree programs or through one of several certificate programs.

If in the course of their enrollment at College of San Mateo students find it advisable to change their program of studies, they may do so, in conference with their counselor/advisor. However, students should be aware that any changes may result in extending the time necessary to fulfill all requirements.

Students have the responsibility for planning their programs.

Transfer Programs

The student who intends to transfer to a four-year college or university or to another educational institution should consult the catalog of that institution to ascertain requirements for graduation.

College catalogs and occupational information on file in the Career Development Center are accessible to the student. Students may write directly to the registrar or dean of admissions of the college of their choice to obtain catalogs, circulars of information and other data concerning required subjects.

Transfer of Credit

Students expecting to transfer to a four-year college or university can usually complete the first two years of work at College of San Mateo. Students must complete 60 transferable units to be classified as juniors upon entering a four-year college or university. In any event, it is important that they consult with their counselor/advisor in order to arrange a program which will meet the requirements for transfer to the institution of their choice.

The earlier students make a decision regarding a transfer institution, the better their chances are for meeting all requirements without delay. If they are unable to make this decision when they enter College of San Mateo, they may elect to follow a general education transfer pattern.

High school subject deficiencies may be made up at College of San Mateo in order to meet course prerequisites at college level. In some instances students may qualify for transfer to the college of their choice by maintaining an acceptable grade point average at College of San Mateo in a minimum of 56 units of appropriate transfer courses.

Transfer Majors

Students who intend to transfer and major in one of the following fields should plan their course at College of San Mateo to meet the general requirements for junior standing, as well as the lower division departmental requirements of the college or university to which they plan to transfer. This list indicates some majors available and is not intended to be all inclusive. Students should work closely with counselors in order to fulfill both major and lower division requirements for the college of their choice, including specific courses to be taken at College of San Mateo.

Accounting
Administration of Justice
Aeronautics
Agriculture (Vocational)
Anatomy
Anthropology
Archaeology
Architecture
Art
Astronomy
Bacteriology
Biochemistry
Biology
Biophysics
Botany
Broadcasting Arts
Business Administration
Business Information Processing
Chemistry
Computer and Information Science
Criminology
Dental Hygiene
Dentistry (Pre-Dental)
Dietetics
Drafting Technology
Ecology
Economics
Education
Electronics Technology
Engineering
Engineering Technology
English
Entomology
Ethnic Studies
Fashion Merchandising
Filmmaking
Fire Science Technology
Foreign Language
Forestry
French
Genetics
Geography
Geological Sciences
Geophysics
German
Health Science
History
Horticulture
Humanities
Industrial Arts
Interior Design
International Relations
Journalism
Law (Pre-legal)
Liberal Arts
Life Sciences
Machine Tool Technology
Management
Manufacturing and Industrial Technology
Marine Biology
Marketing
Mathematics
Medical Services
Meteorology
Microbiology
Music
Nursing
Nutrition
Optometry (Pre-Optometry)
Paleontology
Pharmacy
Philosophy
Photography
Physical Education
Physics
Physiology
Political Science
Psychology
Public Administration
Real Estate
Recreation
Small Business Management
Social Science
Sociology
Spanish
Speech
Technical Art/Graphics
Veterinary Medicine (Pre-Veterinary)
Welding Technology
Wildlife Conservation (Management)
Zoology

Other Colleges and Universities

Requirements for junior standing at universities and colleges other than those of the California State public systems can be obtained from the catalog of the institution to which a student may intend to transfer. Catalogs for accredited universities and colleges to which College of San Mateo students most often transfer are available in the CSM Library and in the Career Development Center.

Occupational Programs

Specialized occupational programs are offered in more than fifty occupational fields (see tabular listing on page 39) for students planning to prepare for gainful employment. All occupational programs are carefully developed by advisory committees composed of college staff and selected representatives from the business and industrial community.

These programs are designed to develop personal and technical competencies necessary for successful employment and job advancement.

General Education Requirements for California State Universities

48 units are required to complete the CSU General Education requirements. A maximum of 39 of these units may be taken at CSM; the remaining nine units must be taken at the CSU campus granting the baccalaureate degree. A course may not be used in more than one area or sub-area.

See pages 36-37 for information on the Intersegmental General Education Transfer Curriculum (IGETC), an alternative way to complete CSU General Education requirements as a community college student.

AREA A: Communications in the English Language and Critical Thinking.
Nine units required. Select at least one course from each area.

A1 – Oral Communications
Speech 100 (3), 120 (3), 150 (3)

A2 – Written Communications
English 100 (3), 110 (3), 120 (3), 130 (3), 140 (3), 165 (3), 400 (5)

A3 – Critical Thinking
English 165 (3)
Social Science 111 (3)

AREA B: Physical Universe and its Life Forms.
Ten units required. One course required from each group: B1, B2, and B4. Must include one lab course (B3) marked with * below.

B1 – Physical Science
Astronomy 100 (3), *101 (1)
Chemistry 100 (3), *210 (5), *224 (4), *410 (4)
Geography 100 (3)
Geology 100 (3), *101 (1), *210 (4)
Humanities 127 & 128 (6)
Meteorology 100 (3)
Oceanography 100 (3), *101 (1)
Physical Science 100 (3), 675 (1)
Physics 100 (3), *210 (4), *250 (4)

B2 – Life Science
Biology 100 (3), 102 (3), *110 (4), *111 (4), 125 (3), 130 (3), 140 (3), 145 (3), *150 (4), 184 (3), *200 (4), *210 (5), *220 (5), *230 (4), *250 (4), *265 (4), *266 (5), 675 (1)
Paleontology 110 (3)
Psychology 105 (3)

B4 – Math Concepts, Quantitative Reasoning and Application
Computer & Information Science 240/241 (4), 250/251 (4), 270/271 (4), 280/281 (4)
Economics 123 (4)
Mathematics 125 (3), 130 (3), 200 (4), 222 (5), 241 (5), 242 (3), 251 (5), 252 (5), 253 (5), 260 (4), 261 (4), 262 (4), 268 (4)
Psychology 121 (3)

AREA C: Arts, Literature, Philosophy, and Foreign Language.
Nine units required. Select one course from each of three different subject areas.
Anthropology 180 (3)
Architecture 100 (3)
Art 101 (3), 102 (3), 103 (3), 106 (3), 108 (3), 350 (3)
Chinese 111 (3), 112 (3), 121 (3), 122 (3), 131 (3), 132 (3)
English 110 (3), 120 (3), 130 (3), 140 (3), 161 (3), 162 (3), 163 (3)
Ethnic Studies 288 (3), 350 (3), 351 (3), 585 (3)
Film 451 (3), 452 (3), 461 (4), 462 (4), 463 (1), 464 (1), 465 (1)
French 110(5), 111 (3), 112 (3), 120 (5), 121 (3), 122 (3), 130 (5), 131 (3), 132 (3), 140 (3), 161 (3), 162 (3)
German 110 (5), 111(3), 112 (3), 120 (5), 121 (3), 122 (3), 130 (5), 131 (3), 132 (3), 140 (3)
Humanities 101 (3), 102 (3), 111 (3), 112 (3), 113 (3), 114 (3), 125 (3), 127 (3), 128 (3), 131 (3), 133 (3), 140 (3), 675 (1), 676 (1)
Japanese 110 (5), 111 (3), 112 (3), 120 (5), 121 (3), 122 (3)
Latin 111 (3), 112 (3)
Literature 101 (3), 105 (3), 111 (2), 113 (3), 115 (3), 143 (3), 151 (3), 201 (3), 202 (3), 231 (3), 232 (3), 251 (3), 301 (3), 302 (3), 430 (3)
Music 100 (3), 202 (3), 275 (3)
Philosophy 100 (3), 244 (3)
Spanish 110 (5), 111 (3), 112 (3), 120 (5), 121 (3), 122 (3), 130 (5), 131 (3), 132 (3), 133 (3), 140 (3), 161 (3), 162 (3), 201 (2), 202 (2), 251 (3)
Speech 111 (3), 112 (3)

AREA D: Social, Political, and Economic Institutions.
Nine units required. Select one course from each of three different subject areas.
Anthropology 110 (3), 180 (3)
Economics 100 (3), 102 (3)
Ethnic Studies 101 (3), 102 (3), 150 (3), 151 (3), 152 (3), 160 (3), 261 (3), 262 (3), 425 (3)
Geography 110 (3)
History 100 (3), 101 (3), 102 (3), 110 (3), 201 (3), 202 (3), 242 (3), 260 (3), 270 (3), 310 (3), 315 (3), 350 (3), 360 (3)
Humanities 125 (3)
Political Science 100 (3), 110 (3), 130 (3), 150 (3), 170 (3), 200 (5), 205 (5), 210 (3), 215 (3), 220 (3), 250 (3), 255 (3), 260 (3), 310 (2), 520 (3)
Psychology 100 (3), 105 (3), 108 (3), 110 (3), 201 (3), 300 (3), 330 (3), 410 (3), 675 (1)
Sociology 100 (3), 105 (3), 110 (3), 141 (3), 200 (3), 300 (3), 340 (3), 391 (3)

AREA E: Lifelong Understanding and Self Development.
Three units required.
Business 101 (3)
Career 132 (1), 137 (3), 138 (3), 140 (3), 141 (1), 401 (1), 402 (1), 404 (1), 410 (2), 430 (1)
Consumer Arts and Sciences 310 (3)
Ethnic Studies 151 (3), 160 (3)
Health Science 100 (2), 102 (1), 103 (1), 105 (1), 106 (1), 109 (1), 111 (1), 112 (1), 113 (1), 114 (1)
Psychology 100 (3), 108 (3), 110 (3), 300 (3), 330 (3)
Sociology 110 (3), 300 (3), 340 (3), 391 (3)
Speech 120 (3)

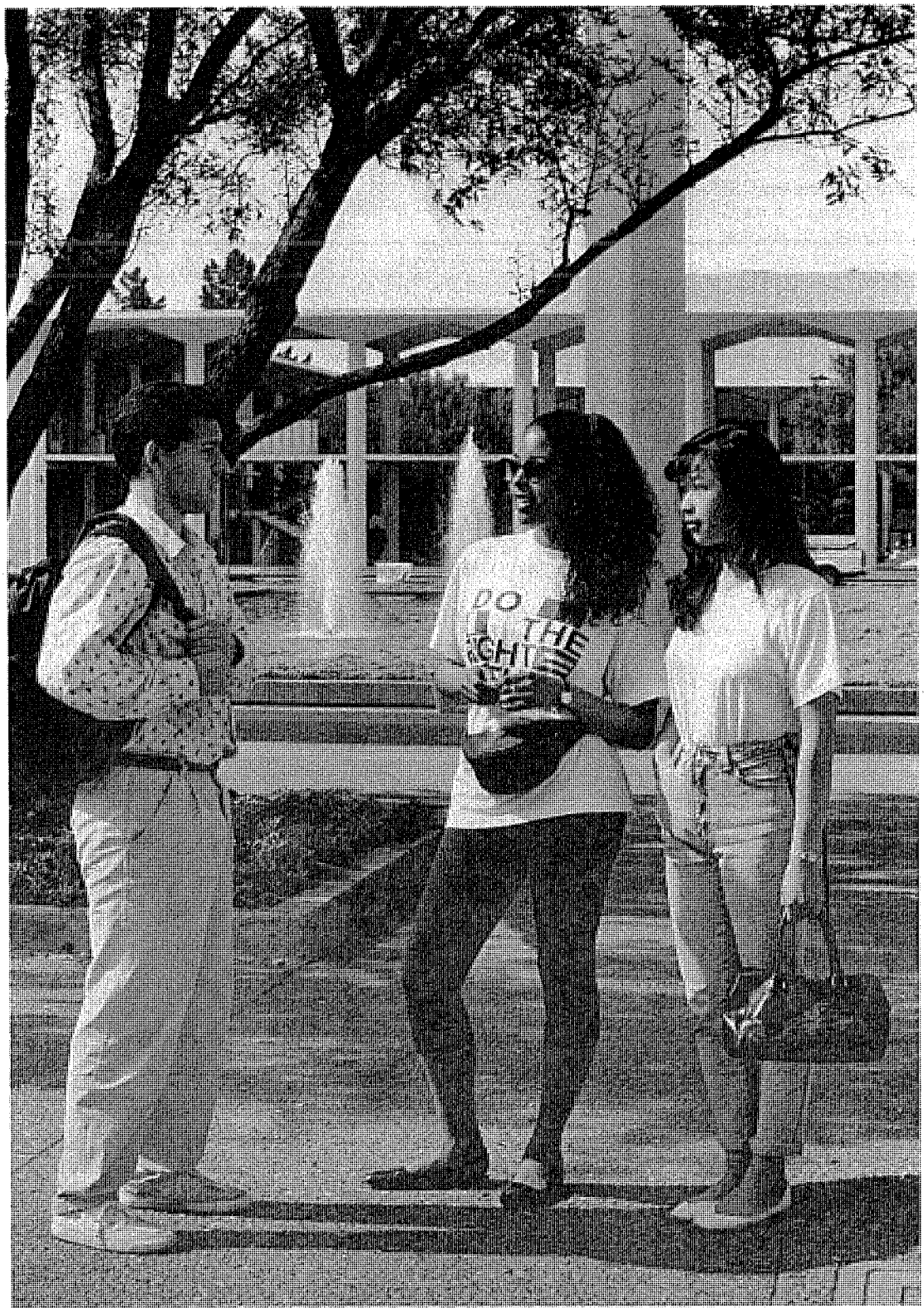
In addition to the G.E. requirements listed above, the California State University system requires all graduates to satisfy a requirement in U.S. History and American Ideals, U.S. Constitution, and California State and Local Government. California State University campuses vary as to whether these courses may also satisfy Area D requirements. Please refer to the catalog of the specific CSU campus for details.

The following CSM courses satisfy one or more of the above requirements:

U.S. History and American Ideals
History 102 (3), 201 (3), 202 (3), 242 (3), 260 (3), 350 (3), 360 (3)

U.S. Constitution
Political Science 200 (5), 205 (5), 210 (3), 215 (3), 220 (3), 250 (3), 255 (3), 260 (3)

California State and Local Government
Ethnic Studies 101 (3), 102 (3)
History 310 (3), 315 (3)
Political Science 200 (5), 205 (5), 310 (2)
Sociology 200 (3)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CSM Courses Transferable to CSU

The following courses are designated by CSM as appropriate for baccalaureate credit and are accepted by all California State Universities as applicable toward a baccalaureate degree:

Accounting 100, 121, 131, 142, 641, 680-689, 690

Administration of Justice 100, 102, 104, 106, 108, 120, 125, 153, 165, 641, 680-689, 690

Aeronautics 100, 101, 102, 104, 105, 106, 115, 126, 130, 300, 301, 310, 311, 320, 321, 330, 331, 340, 341, 350, 351, 360, 361, 370, 371, 641, 680-689, 690

Anthropology 110, 180, 680-689, 690

Architecture 100, 112, 120, 125, 130, 140, 145, 150, 160, 210, 220, 230, 240, 641, 666, 680-689, 690

Art 101, 102, 103, 106, 108, 141, 142, 145, 146, 147, 148, 149, 151, 152, 153, 155, 156, 157, 201, 202, 206, 207, 214, 220, 223, 224, 231, 232, 237, 238, 241, 242, 301, 305, 328, 350, 351, 352, 353, 354, 355, 405, 406, 411, 412, 641, 680-689, 690

Astronomy 100, 101, 680-689, 690

Biology 100, 102, 110, 111, 125, 130, 140, 145, 150, 160, 180, 184, 200, 210, 220, 230, 240, 250, 260, 265, 266, 641, 675, 680-689, 690

Broadcasting Arts 110, 115, 131, 132, 135, 192, 194, 195, 231, 232, 241, 242, 243, 244, 301, 302, 641, 680-689, 690

Business 100, 101, 102, 115, 129, 131, 150, 155, 156, 170, 175, 180, 201, 280, 281, 282, 283, 295, 300, 301, 302, 303, 304, 305, 306, 307, 311, 312, 313, 321, 322, 323, 325, 340, 344, 345, 350, 351, 360, 361, 365, 366, 368, 369, 370, 401, 641, 680-689, 690, 701, 702, 705, 720

Career and Life Planning 101, 102, 103, 112, 132, 137, 138, 140, 141, 401, 402, 404, 406, 410, 430, 680-689

Chemistry 100, 192, 210, 220, 224, 225, 231, 232, 250, 410, 420, 680-689, 690

Chinese 111, 112, 121, 122, 131, 132

Computer and Information Science 100, 110, 115/116, 120, 130/131, 150, 152, 160, 170, 171, 210/211, 216/217, 218/219, 230/231, 240/241, 250/251, 270/271, 272/273, 280/281, 282/283, 290/291, 302, 303, 306/307, 320, 350/351, 360/361, 370/371, 641, 680-689, 690

Consumer Arts and Science 310, 412, 641, 680-689, 690

Cooperative Education 641, 645, 647 with a maximum of 12 units.

Dance 121, 130, 132, 141, 143, 148, 411, 412, 641, 680-689, 690

Drafting Technology 100, 102, 120, 201, 202, 301, 302, 400, 401, 402, 641, 680-689, 690

Economics 100, 102, 123, 680-689, 690

Education 100, 101, 680-689

Electronics 100, 110, 200, 201, 202, 210, 215, 230, 231, 232, 240, 241, 242, 243, 244, 245, 246, 247, 250, 252, 260, 280, 300, 302, 310, 330, 340, 341, 342, 343, 344, 345, 350, 351, 360, 362, 386, 641, 680-689, 690, 710, 720, 730, 740, 760

Engineering 111, 210, 230, 260, 270, 641, 666, 680-689, 690

English 100, 110, 120, 130, 140, 161, 162, 163, 165, 195, 210, 400, 641, 680-689, 690

Ethnic Studies 101, 102, 150, 151, 152, 160, 261, 262, 288, 290, 350, 351, 425, 430, 585, 680-689, 690

Fashion Merchandising 113, 117, 118, 151, 154, 155, 157, 641, 680-689, 690

Film 451, 452, 461, 462, 463, 464, 465, 680-689, 690

Fire Science 641, 680-689, 690, 700, 705, 707, 708, 710, 712, 715, 716, 718, 720, 730, 755, 785

French 110, 111, 112, 115, 116, 117, 120, 121, 122, 130, 131, 132, 140, 161, 162, 680-689, 690

Geography 100, 110, 680-689, 690

Geology 100, 101, 210, 680-689, 690

German 110, 111, 112, 120, 121, 122, 130, 131, 132, 140, 680-689, 690

Health Science 100, 102, 103, 105, 106, 109, 111, 112, 113, 114, 120, 641, 680-689, 690

History 100, 101, 102, 110, 201, 202, 242, 260, 270, 310, 315, 350, 360, 680-689, 690

Horticulture 311, 312, 315, 320, 327, 330, 340, 341, 342, 411, 413, 414, 415, 416, 420, 641, 680-689, 690, 701, 702, 705, 706, 709, 711, 712, 721, 722, 731, 742, 771, 772, 773, 774, 775, 776

Humanities 101, 102, 111, 112, 113, 114, 125, 127, 128, 131, 133, 136, 140, 680-689, 690

Japanese 110, 111, 112, 120, 121, 122

Journalism 110, 120, 300, 641, 680-689, 690

Latin 111, 112

Library Studies 100

Literature 101, 105, 111, 113, 115, 143, 151, 153, 201, 202, 231, 232, 251, 301, 302, 430, 641, 680-689, 690

Machine Tool Technology 110, 111, 120, 121, 210, 211, 220, 221, 641, 680-689, 690, 701, 702, 703, 704, 705, 710, 720, 750, 755, 760

Management 100, 105, 110, 120, 215, 220, 235, 641, 680-689, 690

Manufacturing and Industrial Technology 100, 101, 102, 120, 200, 641, 680-689, 690

Mathematics 125, 130, 200, 222, 231, 241, 242, 251, 252, 253, 260, 261, 262, 263, 268, 270, 275, 680-689, 690

Medical Assisting 110, 140, 641, 680-689, 690

Meteorology 100, 680-689, 690

Military Science 1a-b, 12a-b

Music 100, 101, 102, 103, 104, 131, 132, 133, 134, 170, 202, 275, 301, 302, 303, 304, 320, 340, 360, 371, 372, 402, 403, 430, 451, 452, 453, 460, 470, 490, 641, 680-689, 690

Nursing 211, 212, 221, 222, 231, 232, 241, 242, 250, 641, 680-689, 690

Oceanography 100, 101, 680-689, 690

Paleontology 110, 680-689, 690

Philosophy 100, 244, 246, 320, 680-689, 690

Physical Education All classes in the following series: 100-199, 200-299, 300-399, 400-499, 600-699

Physical Science 100, 675, 680-689, 690

Physics 100, 210, 220, 250, 260, 270, 680-689, 690

Political Science 100, 110, 130, 150, 170, 200, 205, 210, 215, 220, 250, 255, 260, 310, 520, 680-689, 690

Psychology 100, 105, 108, 110, 121, 201, 300, 330, 410, 675, 680-689, 690

Reading 420

Real Estate 100, 105, 110, 121, 131, 141, 143, 145, 200, 210, 215, 220, 641

Social Science 111, 220, 221, 641, 680-689, 690

Sociology 100, 105, 110, 141, 200, 300, 340, 391, 680-689, 690

Spanish 110, 111, 112, 120, 121, 122, 130, 131, 132, 133, 140, 161, 162, 201, 202, 251, 680-689, 690

Speech 100, 111, 112, 120, 130, 150, 680-689, 690

Technical Art and Graphics 165, 166, 175, 201, 202, 210, 220, 230, 300, 310, 351, 352, 400, 641, 680-689, 690

Welding Technology 110, 111, 120, 121, 210, 211, 220, 221, 250, 300, 641, 680-689, 690

CSM Courses Transferable to All University of California Campuses

A student planning to transfer to one of the campuses of the University of California can usually complete the first two years of his or her work at College of San Mateo. In some cases, students may wish to make up high school course deficiencies or grade point average deficiencies. Using the general catalog of the University campus to which you plan to transfer, you should work with your counselor/advisor in planning your program. The current issue of the University publication *"Prerequisites and Recommended Subjects"* is a helpful planning guide. It lists the requirements for admission, breadth requirements and requirements for the major, all of which should be carefully considered in planning your program at College of San Mateo.

The following information is current at the time of publication of this catalog. College of San Mateo recommends strongly that you discuss the transferability of courses to the University of California with your counselor/advisor, who may have more recent information and who can assist with the interpretation of the course applicability to various major programs.

NOTE: Courses with asterisks (*) are transferable with limitation. See your counselor/advisor for details.

Accounting 121, 131

Administration of Justice 100*, 102*, 104, 108

Anthropology 110, 180

Architecture 100, 112*, 150*, 160*, 210, 220, 230, 240

Art 101, 102, 103, 106, 108, 201*, 202*, 206*, 207*, 214*, 223*, 224*, 231*, 232*, 237*, 238*, 241*, 242*, 301*, 305*, 351*, 352*, 353*, 405*, 406*, 411*, 412*

Astronomy 100, 101

Biology 100, 102, 110, 125, 130, 140, 145*, 150, 160, 180, 184, 200, 210, 220, 230, 240, 250*, 260*, 265*, 266*, 675*

Business 201*

Chemistry 100*, 192*, 210*, 220*, 224*, 225*, 231, 232, 250

Chinese 111, 112

Computer and Information Science 110, 115/116, 210/211, 230/231, 240/241, 250/251, 270/271, 272/273, 280/281, 282/283, 290/291, 350/351, 370/371.

Consumer Arts and Science 310

Dance 121*, 130*, 132*, 141*, 143*, 148*, 411*, 412*

Economics 100, 102, 123*

Engineering 111*, 210, 230, 260, 270, 666

English 100, 110, 120, 130, 140, 161*, 162*, 163*, 165, 210, 400

Ethnic Studies 101, 102, 150, 151*, 152, 160, 261, 262, 288, 290, 350, 351, 425, 585

Fashion Merchandising 113, 118

Film 451, 452, 461*, 462*

French 110, 111*, 112*, 120, 115*, 116*, 121*, 122*, 130, 131*, 132*, 140, 161, 162

Geography 100, 110

Geology 100*, 101*, 210*

German 110, 111*, 112*, 120, 121*, 122*, 130, 131*, 132*, 140

Health Science 100*, 102*, 103*, 105*, 109*, 111*, 112*

History 100, 101, 102*, 110, 201*, 202*, 242, 260, 270, 310, 350, 360

Horticulture: Environmental 311, 312, 320, 341

Humanities 101, 102, 111, 112, 113, 114, 125, 127, 128, 131, 133, 136, 675*, 676*

Japanese 110, 111*, 112*, 120, 121*, 122*

Journalism 110, 120*

Latin 111, 112

Library Studies 100

Literature 101, 105, 111, 113, 115, 143, 151, 153*, 201, 202, 231, 232, 251, 301, 302, 430

Mathematics 125, 200*, 222, 231, 241*, 242*, 251*, 252*, 253*, 260*, 261*, 262, 263, 268, 270, 275

Meteorology 100

Military Science 1-2, 1a-b

Music 100, 101, 102, 103, 104, 131, 132, 133, 134, 170*, 202, 275, 301*, 302*, 303*, 304*, 320*, 340*, 360*, 371*, 372*, 402*, 403*, 430*, 451*, 452*, 453*, 460*, 470*, 490*

Oceanography 100, 101

Paleontology 110

Philosophy 100, 244

Physical Education All classes in the following series: 100-199*, 200-299*, 300-399*, 400-499*

Physical Science 100*, 675*

Physics 100*, 210*, 220*, 250*, 260*, 270*

Political Science 100, 110, 130, 150, 170, 200*, 210*, 215, 220, 250, 255, 260, 310, 520

Psychology 100, 105, 110, 121*, 201, 300, 410, 675*

Social Science 111, 220, 221

Sociology 100, 105, 110, 141*, 200, 300, 340

Spanish 110, 111*, 112*, 120, 121*, 122*, 130, 131*, 132*, 133*, 140, 161, 162, 201, 202, 251

Speech 100, 111, 112, 120*, 150*

SPECIAL NOTE:

The following courses are also transferable, contingent upon a review of the course outline by a UC campus:

680 – 689 — Selected Topics

690 — Special Projects

Maximum credit allowed in selected topics and special projects is 3 units per term, with 6 units total in any or all subject areas combined.

Transfer Core Curriculum for University of California

Students who began their studies at College of San Mateo (or another community college) **before** Fall 1991 and who plan to transfer to any campus of the University of California **may** fulfill UC lower division breadth and general education requirements by completing the CSM-UC Transfer Core Curriculum. Students enrolling at a community college for the first time in Fall 1991 or thereafter are to follow the new Intersegmental General Education Transfer Curriculum (see pages 36-37), which is available to **all** students. Students also have the option of completing the specific lower division breadth and general education requirements of the UC school and campus to which they intend to transfer.

Students who do not complete the breadth and general education requirements by either means before transferring to UC will be subject to the regulations regarding breadth and general education requirements of the school and college of the campus to which they have been admitted. Because these requirements vary among schools, colleges and campuses of the University, the student can retain the greatest flexibility of transfer choice by completing the Transfer Core Curriculum or the Intersegmental General Education Transfer Curriculum (IGETC).

All courses taken as part of the Transfer Core Curriculum must be completed with a grade of C or higher. No course may be used toward meeting more than one requirement.

I. Foreign Language Proficiency

This requirement may be fulfilled by completion of two years of a foreign language in high school with a grade of C or better, or by performance on tests such as earning a minimum score of 550 on an appropriate College Board Achievement Test in a foreign language, or by completion of any one of the following CSM courses:

French 120, 122, 130, 131, 132, 140, 161, 162

German 120, 122, 130, 131, 132, 140

Japanese 120, 122

Spanish 120, 122, 130, 131, 132, 133, 140, 161, 162, 201, 202, 251, 620

II. English Composition

This requirement may be fulfilled by completion of English 100 and one of the following CSM courses:

English 110, 120, 130, 140, 165

III. Mathematics/Quantitative Reasoning

This requirement may be fulfilled by earning a minimum score of 600 on the Mathematics section of the Scholastic Aptitute Test (SAT), or 550 on the College Board Achievement Test in Mathematics (Level I or II), or by completion of any one of the following CSM courses:

Mathematics 125, 200, 222, 241, 242, 251, 252, 253, 260, 261, 262, 263, 268, 270, 275

IV. Arts and Humanities

This requirement may be fulfilled by completing any three of the following CSM courses, including at least one Arts course and at least one Humanities course:

Arts

Art 101, 102, 103, 106, 108

Ethnic Studies 288, 585

Film 451, 452

Music 100, 202, 275

Humanities

English 110, 120, 130, 140

Ethnic Studies 350, 351, 425

History 100, 101, 102, 110, 201, 202, 242, 260, 270, 310, 350, 360

Humanities 101, 102, 111, 112, 113, 114, 125, 127, 128, 131, 133, 136

Literature 101, 105, 113, 115, 143, 151, 153, 200, 201, 202, 231, 232, 251, 301, 302, 430

Philosophy 100, 244

Speech 111, 112

V. Social and Behavioral Sciences

This requirement may be fulfilled by completion of any three of the following CSM courses:

Anthropology 110, 180

Economics 100, 102

Ethnic Studies 101, 102, 150, *151, 152, 160, 261, 262, 290

Geography 110

Journalism 110

Political Science 100, 110, 130, 150, 170, 200, 210, 215, 220, 250, 255, 260, 520

Psychology 100, 105, 110, 201, 300, 410

Sociology 100, 105, 110, *141, 200, 300, 340

*Note: Either Ethnic Studies 151 or Sociology 141, but not both, will partially fulfill this requirement.

VI. Physical and/or Biological Sciences

This requirement may be fulfilled by completion of two or more of the following CSM courses. At least one course must include a laboratory(*). Seven (7) units are required; unit values of courses are shown in parentheses. Certain restrictions apply to courses marked ®; see note below.

Astronomy 100(3), *101(1)

Biology 100(3), 102(3), *110(4), 125(3), 140(3), ®145(3), *150(4), 160(3), 180(3), 184(3), *200(4), *210(5), *220(5), *230(4), *240(5), ®*250(4), ®*260(5), *265(4), *266(5)

Chemistry ®100(3), ®*210(5), ®*220(5), *224(4), *225(4), *250(4)

Geography 100(3)

Geology ®100(3), *101(1), *210(4)

Humanities 127(3), 128(3)

Meteorology 100(3)

Oceanography 100(3), *101(1)

Paleontology 110(3)

Physical Science 100(3)

Physics 100(3), ®*210(4), ®*220(4), *250(4), *260(4), *270(4)

® Note: No credit for Biology 145 if taken after 220. If Biology 250, 260, 265, and 266 are all taken, credit allowed for two courses only. No credit for Chemistry 100 if taken after 210, 224 or 410. Credit allowed for only one series: Chemistry 210, 220 or Chemistry 224, 225. If both Geology 100 and 210 are taken, credit allowed for one course only. If Physics 210 and 250 are both taken, deduct 3 units from 210. Similarly, deduct 2 units from 220/260, and deduct 2 units from 220/270.

Note: In preparation for transfer to a UC campus in a specific major, students should consult their counselor/advisor concerning recommended ***major preparation*** courses which parallel those taken by freshmen and sophomores at the UC campus.

Proposed Intersegmental General Education Transfer Curriculum (IGETC)

The Academic Senates of the University of California and the California State University recently approved the implementation in Fall 1991 of an Intersegmental General Education Transfer Curriculum (IGETC), a series of courses that community college students can use to satisfy lower division general education requirements at any CSU or UC campus. The IGETC will provide an alternative to the CSU General Education Requirements and will replace the UC Transfer Core Curriculum.

Since the IGETC supersedes the UC Transfer Core Curriculum (TCC) option, ***new*** students (those entering Fall 1991 and after) will complete the IGETC, not the TCC. However, for continuing students who have been following the TCC requirements, the University of California will honor the TCC policy through Spring 1993.

The IGETC will permit a student to transfer from a community college to a campus in either the CSU or UC system without the need, after transfer, to take additional lower-division general education courses to satisfy campus G.E. requirements.

Completion of the IGETC is not a requirement for transfer to a CSU or UC, nor is it the only way to fulfill the lower-division general education requirements of the CSU or UC prior to transfer. Students may find it advantageous to take courses fulfilling CSU's general education requirements or those of a particular UC campus. Students pursuing majors that require extensive lower-division major preparation may not find the IGETC option to be their best choice. The IGETC will probably be most useful for students who want to keep their options open before making a final decision about transferring to a particular CSU or UC campus.

In preparing for transfer to a CSU or UC campus in a specific major, students should consult their counselor/advisor concerning recommended ***major preparation*** courses which parallel those taken by freshmen and sophomores at the CSU/UC campus.

The proposed College of San Mateo IGETC curriculum listed on these pages has been submitted for final approval to the appropriate UC and CSU officials. If you choose to follow this option, check with a CSM counselor/advisor after July 1, 1991, for changes, if any, in the final version.

IMPORTANT NOTE:

The course requirements for **all areas must be completed** before the IGETC can be certified by College of San Mateo. All courses must be completed with grades of "C" or better.

Restriction: Courses designated with the symbol ® may be counted in one area only.

Area 1 - English Communication

CSU – *3 courses required, one from each of the three groups below*

UC – *2 courses required, one each from Group A and Group B*

Group A: English Composition

ENGL 100, ®110, ®120, ®130, ®140

Group B: Critical Thinking

ENGL 165, SOSC 111

Group C: Oral Communication

SPCH 100, 120, 150

Area 2 - Mathematical Concepts and Quantitative Reasoning

CSU and UC – *one of the following courses:*

MATH 125, 200, 222, 241, 242, 251, 252, 260, 261, 262, 268

Area 3 - Arts and Humanities

CSU and UC – *at least 3 courses which total 9 or more semester units, with at least one course from the Arts and one from the Humanities*

Note that LIT. 111, SPAN 201, and SPAN 202 are 2-unit courses; all other courses listed in this area are 3-unit or 5-unit courses.

Foreign language courses taken to meet this requirement must not overlap in content. For example, since FREN 110 covers the same material as FREN 111 and 112 combined, it is not possible to use both FREN 110 and FREN 111 toward meeting this requirement.

Students who take HIST 201 or 202 may not use HIST 102 to meet this requirement for UC.

Arts Courses

ART 101, 102, 103, 106, 108

ETHN 288, 585

FILM 451, 452

MUS. 100, 202, 275

Humanities Courses

CHIN 111, 112

ENGL ®110, ®120, ®130, ®140

ETHN 350, 351

FREN 110, 111, 112, 120, 121, 122, 130, 131, 132, 140, 161, 162

GERM 110, 111, 112, 120, 121, 122, 130, 131, 132, 140

HIST 100, 101, 102

HUM. 101, 102, 111, 112, 113, 114, 125, 127, 128, 131, 133, 136

JAPA 110, 111, 112, 120, 121, 122

LAT. 111, 112

LIT. 101, 105, 111, 113, 115, 143, 151, 201, 202, 231, 232, 251, 301, 302, 430

PHIL 100, 244

SPAN 110, 111, 112, 120, 121, 122, 130, 131, 132, 133, 140, 161, 162, 201, 202, 251

SPCH 111, 112

Area 4 - Social and Behavioral Sciences

CSU and UC – *at least 3 courses which total 9 or more semester units, with courses from at least two disciplines.*

Courses listed in this area are 3 units each except PLSC 200 (5 units) and PLSC 310 (2 units).

Students who take both ETHN 151 and SOCI 141 will receive credit at UC for only one of those two courses.

Students who take any combination of PLSC 200, 210, and 310 will receive credit at UC for only one of those courses.

ANTH 110, 180

ECON 100, 102

ETHN 101, 102, 150, 151, 152, 160, 261, 262, 425

GEOG 110

HIST 110, 201, 202, 242, 260, 270, 310, 350, 360

PLSC 100, 110, 130, 150, 170, 200, 210, 215, 220, 250, 255, 260, 310, 520

PSYC 100, 105, 110, 201, 300, 410

SOCI 100, 105, 110, 141, 200, 300, 340

Area 5 - Physical & Biological Sciences

CSU and UC – *at least two courses required, with a total of at least 7 semester units, including at least one Physical Science course and at least one Biological Science course. At least one course must include a laboratory component.*

The units associated with each course are shown in parentheses, and courses with a laboratory component are listed with an asterisk (*).

UC will not give credit for PSCI 100 if it is taken after a college course in Astronomy, Chemistry or Physics.

Physical Science

ASTR 100(3), *101(1)

CHEM 100(3), *210(5), *224(4)

GEOG 100(3)

GEOL 100(3), *101(1), *210(4), *220(4)

HUM. 127(3) and 128(3)

METE 100(3)

OCEN 100(3), *101(1)

PSCI 100(3)

PHYS 100(3), *210(4), *250(4)

Biological Science

BIOL 100(3), 102(3), *110(4), 125(3), 140(3), 145(3), *150(4), 184(3), *200(4), *210(5), *220(5), *230(4), *250(4), *265(4)

PALN 110(3)

Language Other Than English

UC requirement only – not required of students transferring to CSU

This requirement may be fulfilled by completion of two years of a foreign language in high school with a grade of C or better, or by performance on tests such as earning a minimum score of 550 on an appropriate College Board Achievement Test in a foreign language, or by completion of any one of the following CSM courses:

FREN 120, 122, 130, 131, 132, 140, 161, 162

GERM 120, 122, 130, 131, 132, 140

JAPA 120, 122

SPAN 120, 122, 130, 131, 132, 133, 140, 161, 162, 201, 202, 251, 620

CSU Graduation Requirement in U.S. History, Constitution and American Ideals

This requirement is not part of IGETC, but may be completed prior to transfer.

Courses used to meet this requirement **may not be used** to satisfy requirements of Area 4 (Social and Behavioral Sciences) of IGETC.

2 courses required - one from Group A and one from Group B

Group A: U.S. History and American Ideals

HIST 102, 201, 202, 242, 260, 350, 360

Group B: U.S. Constitution

PLSC 200, 205

Instead of taking PLSC 200 or 205 in Group B, students may take two courses, one each from Group C and Group D:

Group C: U.S. Constitution

PLSC 210, 215, 220, 250, 255, 260

Group D: California State and Local Government

ETHN 101, 102

HIST 310, 315

PLSC 310

SOCI 200

UC Graduation Requirement in American History and Institutions

This requirement is not a part of IGETC, but may be completed prior to transfer.

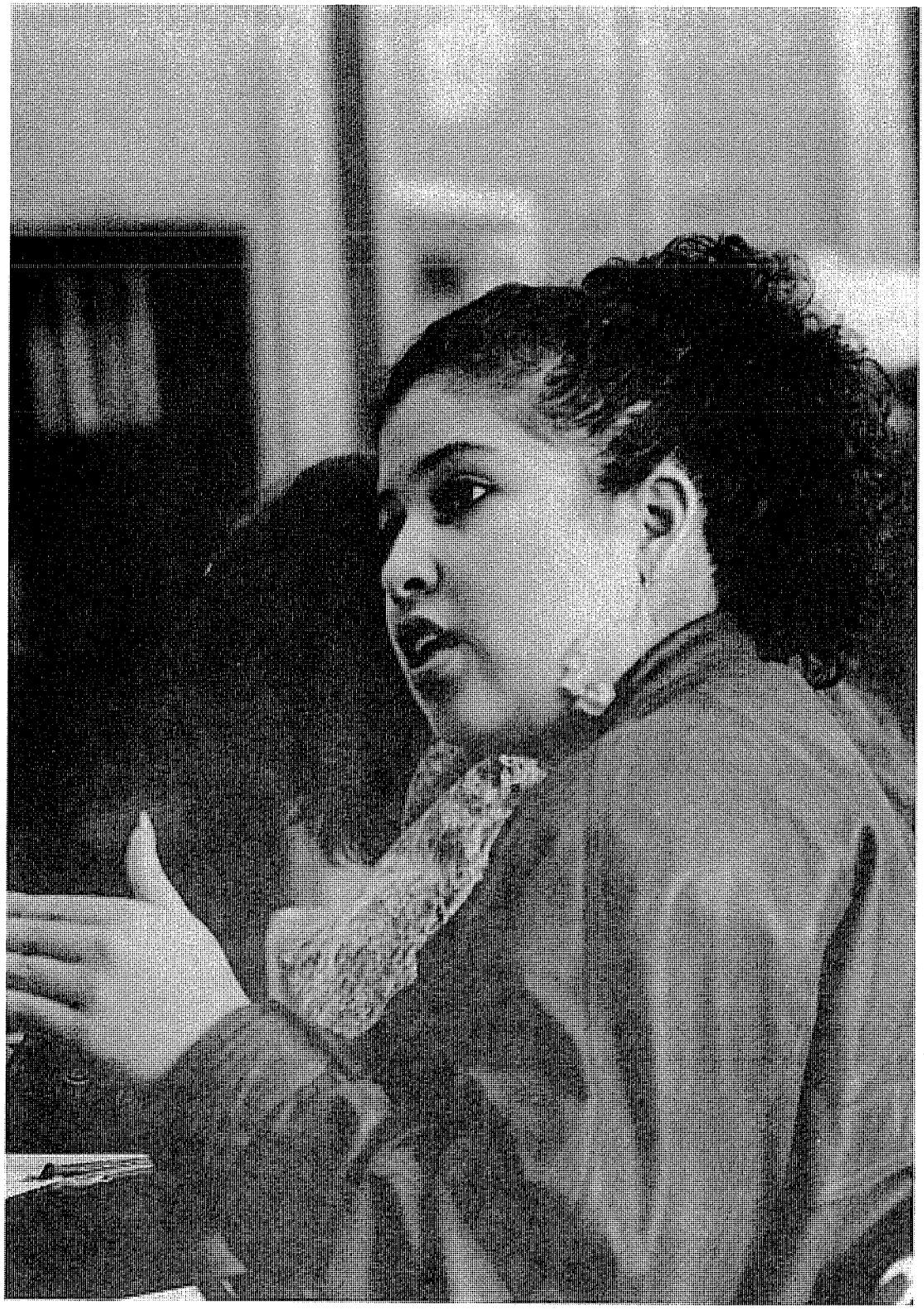
The requirement may be satisfied in one of the following ways:

- By taking one year of U.S. history or one-half year of U.S. history and one-half year of U.S. government in high school with a grade of "C" or better.
- By taking one of the following courses at CSM:

  HIST 102, 201, 202

  PLSC 200, 210

- By passing certain advanced placement or achievement tests with specified scores as outlined in the catalog of the UC campus to which the student will transfer.



A.A./A.S. Degree, Transfer, and Certificate Programs at CSM

	AA/AS Degree	Transfer	Certificate
ADMIN. OF JUSTICE	•	•	•
AERONAUTICS		•	
Aircraft Maintenance Technology	•		
Airframe & Power Plant Technology	•		•
Commercial Pilot	•		•
Pilot Technology	•		
AGRICULTURE		•	
ANATOMY		•	
ANTHROPOLOGY		•	
ARCHAEOLOGY		•	
ARCHITECTURE	•	•	
ART	•	•	
Commercial	•		
Interior Design	•		•
Interior Design II–ASID			•
Painting	•		
Photography	•		
ASTRONOMY		•	
BACTERIOLOGY		•	
BIOCHEMISTRY		•	
BIOLOGY		•	
BIOPHYSICS		•	
BOTANY		•	
BROADCASTING ARTS		•	
Broadcasting Engineering	•		•
Radio Broadcasting–General	•		•
Radio Broadcasting–Operations	•		•
TV Broadcasting–General	•		•
TV Broadcasting–Operations	•		•
BUILDING INSPECTION	•		•
BUSINESS		•	
Accounting	•	•	•
Business Administration	•	•	
Business Infor. Processing	•		•
Business Management	•		•
Escrow	•		•
Marketing Management	•		•
Merchandising	•		•
Real Estate	•		•
Small Business Management	•		•
CHEMISTRY	•	•	
COMPUTER & INFORMATION SCIENCE	•	•	
Computer Support Specialist			•
COSMETOLOGY	•		•
CRIMINOLOGY		•	
DENTAL ASSISTING	•		•
DENTAL HYGIENE		•	
DENTISTRY (Pre-Dental)		•	
DIETETICS		•	
DRAFTING TECHNOLOGY	•	•	•
ECOLOGY		•	
ECONOMICS		•	
EDUCATION		•	
ELECTRONICS TECHNOLOGY	•	•	•
Avionics			•
ENGINEERING	•	•	
ENGINEERING TECHNOLOGY Electronics	•	•	
ENGINEERING TECHNOLOGY General	•	•	
ENGLISH	•	•	
ENTOMOLOGY		•	
ENVIRONMENTAL HAZARDOUS MATERIALS TECHONOLGY	•		•
ETHNIC STUDIES	•	•	
FASHION MERCHANDISING	•	•	•
FILMMAKING	•	•	
FIRE SCIENCE TECHNOLOGY	•	•	•
FORESTRY		•	
FRENCH	•	•	
GENETICS		•	
GEOGRAPHY		•	
GEOLOGICAL SCIENCES	•	•	
GEOPHYSICS		•	
GERMAN	•	•	
HEALTH SCIENCE		•	
HISTORY		•	
HORTICULTURE		•	
Environmental	•		•
Floristry			•
Ornamental	•		•
Pest Control			•
HUMANITIES	•	•	
INDUSTRIAL ARTS		•	
INTERNATIONAL RELATIONS		•	
JOURNALISM	•	•	
LAW (Pre-Legal)		•	
LIBERAL STUDIES	•	•	
LIFE SCIENCES		•	
Biological	•	•	
General	•		
Medical	•	•	
Pre-Nursing	•	•	
MANUFACTURING & INDUSTRIAL TECHNOLOGY		•	
MACHINE TOOL TECHNOLOGY	•	•	•
Computer Numerical Control			•
MARINE BIOLOGY		•	
MATHEMATICS	•	•	
MEDICAL ASSISTING	•		•
Medical Transcription	•		•
MEDICAL SERVICES		•	
METEOROLOGY		•	
MICROBIOLOGY		•	
MUSIC	•	•	
NURSING (Registered)	•	•	
NUTRITION		•	
OPTOMETRY (Pre-Optometry)		•	
PALEONTOLOGY		•	
PHARMACY		•	
PHILOSOPHY		•	
PHYSICAL EDUCATION		•	
PHYSICAL SCIENCE	•	•	
PHYSICS	•	•	
PHYSIOLOGY		•	
PLUMBING & PIPE FITTING	•		•
POLITICAL SCIENCE		•	
PSYCHOLOGY		•	
PUBLIC HEALTH		•	
PUBLIC ADMINISTRATION		•	
RECREATION EDUCATION		•	
REFRIGERATION & AIR CONDITIONING MECHANICS	•		•
SOCIAL SCIENCE	•	•	
SOCIOLOGY		•	
SPANISH	•	•	
SPEECH	•	•	
TECHNICAL ART/GRAPHICS	•	•	•
Industrial Design		•	
VETERINARY MEDICINE		•	
WELDING TECHNOLOGY	•	•	
Welding Technician			•
General Welder			•
Manufacturing Technology			•
WILDLIFE CONSERVATION		•	
ZOOLOGY		•	

Degree and Certificate Requirements

Administration of Justice

Associate in Science Degree with a major in Administration of Justice; Transfer Program; Certificate Program

A.S. Degree

Major requirements: ADMJ 100, 102, 104, 106, 108, 120; ENGL 825; 3 elective units. Total: 24 semester units.

Suggested electives: ADMJ 165 is highly recommended for transfer students; ADMJ 125, 153 are also desirable.

Plus General Education and other requirements for the A.S. degree (see Index: General Education).

Transfer Program

Recommended courses: completion of A.S. degree requirements listed above. Students should consult the catalog of the college or university to which they plan to transfer.

Certificate Program

This program is designed for pre-service students and consists of the following pre-service courses.

Certificate requirements: ADMJ 100, 102, 104, 106, 108, 120, 153 with a grade of C or higher in each course. Total: 21 semester units.

POST (Peace Officers Standards and Training Commission) Certification
Upon completion with a grade of C or higher of each of the following special courses, students will receive POST certification of completion. Elective credit may be applied to the A.S. degree.

Post Certification Courses:
ADMJ 755 Advanced Officers Course, 1-2.5 units;
ADMJ 770 Advanced Dispatcher/Clerk, 1-2.5 units;
ADMJ 771 Reserve Officers Basic Training Module A, 3 units;
ADMJ 772 Reserve Officers Basic Training Module B, 5 units;
ADMJ 773 Reserve Officers Basic Training Module C, 4 units.

Aeronautics

Transfer Program

Transfer programs are available for four-year degree curricula at San Jose and San Francisco State Universities and other institutions which provide Aeronautics or Design and Industry majors.

Aeronautics: Airframe and Powerplant Technology

Associate in Science Degree with a major in Airframe and Powerplant Technology; Certificate Programs

Recommended high school preparation: elementary algebra, intermediate algebra, plane geometry, drafting, general shop, physics, or physical sciences. Students should check course descriptions and prerequisites and discuss recommended sequence with counselors/advisors.

Career Opportunities: students who complete courses and obtain a Federal Aviation Certificate and Associate in Science degree in Airframe and Powerplant Technology have excellent opportunities for steady employment by airlines as well as other aircraft operations.

Because of Federal Aviation Administration regulations regarding attendance and performance, the following special rules apply to all maintenance courses (AERO 300 through AERO 370): 1. Any time missed during one of these courses must be made up before the end of the eight-week course. If more than three days or 18 hours are missed in any one course, the student will receive a "W," and the course must be repeated before he/she can receive credit for the course. Advancement to other courses is allowed if the student has completed AERO 300/301 and 310/311 or the equivalent of AERO 310/311 (ELEC 240/241, 242/243) with a grade of C or higher. 2. Less than 70% (letter grade of C) will be considered a failing grade. A final examination will be given at the end of each eight-week course. Failure to achieve a 70% on this final examination will require that the course be repeated. The student may advance to other courses if AERO 300/301 and 310/311 or the equivalent of 310/311 (ELEC 240/241, 242/243) have been completed with a grade of C or higher.

A.S. Degree

Option 1

Major requirements: AERO 300, 301, 310, 311; AERO 330, 331, 350, 351, 370, 371; AERO 320, 321, 340, 341, 360, 361; Total: 52 semester units.

Plus General Education and other requirements for the A.S. degree (see Index: General Education).

If a student has an airframe or powerplant license, upon application to the Aeronautics Department, 7 units of credit may be granted and the A.S. Degree may be completed under Option 2 or 3.

Option 2 (for those students who already have an airframe license)

Major requirements: AERO 320, 321, 340, 341, 360, 361 plus 6 units selected from DRAF 120; ELEC 110, 280; MANU 100; PHYS 100; WELD 300. Total: 25.5 semester units plus 7 units credit granted for airframe license.

Plus General Education and other requirements for the A.S. degree (see Index: General Education).

Option 3 (for those students who already have a powerplant license)

Major requirements: AERO 330, 331, 350, 351, 370, 371 plus 6 units selected from DRAF 120; ELEC 110, 280; MANU 100; PHYS 100; WELD 300. Total: 25.5 semester units plus 7 units credit granted for powerplant license.

Plus General Education and other requirements for the A.S. degree (see Index: General Education).

Certificate Program

Students may apply for a Certificate in Airframe and Powerplant Technology upon completion of one of the following options:

Option 1

Certificate requirements: AERO 300, 301, 310, 311, 320, 321, 330, 331, 340, 341, 350, 351, 360, 361, 370, 371 with a grade of C or higher in each course. Total: 52 semester units.

If a student has an airframe or powerplant license, upon application to the Aeronautics Department, 7 units of credit may be granted and the Certificate requirements may be completed under Option 2 or 3.

Option 2 (for those students who already have an airframe license)

Certificate requirements: AERO 320, 321, 340, 341, 360, 361 with a grade of C or higher in each course. Total 19.5 semester units plus 7 units credit granted for airframe license.

Option 3 (for those students who already have a powerplant license)

Certificate requirements: AERO 330, 331, 350, 351, 370, 371 with a grade of C or higher in each course. Total 19.5 semester units plus 7 units credit granted for powerplant license.

Aeronautics: Airframe Technology

Certificate Program

Certificate requirements: AERO 300, 301, 310, 311; AERO 330, 331, 350, 351, 370, 371 with a grade of C or higher in each course. Total: 32.5 semester units.

Aeronautics: Powerplant Technology

Certificate Program

Certificate requirements: AERO 300, 301, 310, 311; AERO 320, 321, 340, 341, 360, 361 with a grade of C or higher in each course. Total: 32.5 semester units.

Aeronautics: Aircraft Maintenance Technology

Associate in Science Degree with a major in Aircraft Maintenance Technology

This major is designed especially for students who already possess both the airframe and powerplant licenses granted by the F.A.A. Upon application to the Aeronautics Department, students may receive 13 units of credit toward an Associate in Science degree in Aircraft Maintenance Technology. Applicants must have completed 12 units at College of San Mateo with a 2.5 G.P.A. and be enrolled at the College at the time of application.

Major requirements: 18 units selected from the following courses: DRAF 120; ELEC 110, 280; PHYS 100; MANU 100; WELD 300, COOP 641 (3 units). Total: 18 semester units plus 13 units granted for airframe and powerplant licenses.

Plus General Education and other requirements for the A.S. degree (see Index: General Education).

Aeronautics: Avionics

(See Electronics Technology: Avionics)

Aeronautics: Commercial Pilot

Associate in Science Degree with a major in Commercial Pilot; Certificate Program

Recommended high school preparation: intermediate algebra, plane geometry, drafting, trigonometry, general shop, and physics or physical sciences or business administration. Students should check course descriptions and prerequisites, and discuss recommended sequence with counselors/advisors.

Designed for the student who plans to become a commercial pilot, flight instructor, airline pilot or fixed-base operator, this program may also be used as basic training for aviation business and entrance into air traffic control employment.

A.S. Degree

Major requirements: AERO 100, 101, 102, 115, 126, 137; METE 100. Total: 21 semester units.

Plus General Education and other requirements for the A.S. degree (see Index: General Education).

Certificate Program

Certificate requirements: completion of the A.S. degree major requirements listed above, with a grade of C or higher in each course.

Aeronautics: Pilot Technology

Associate in Science with a major in Pilot Technology

This major is designed especially for students who already possess a commercial pilot, instrument, and multi-engine license or an airline transport pilot license. Upon application to the Aeronautics Department, students may receive 11 units of credit toward an Associate in Science degree in Pilot Technology. Applicants must have completed 12 units at College of San Mateo with a 2.5 G.P.A. and be enrolled at the College at the time of application.

Major requirements: 12 units selected from the following courses: AERO 115; ASTR 100; BUS. 100, 101; CIS 110; ELEC 110; MANU 100; PHYS 100. Total: 12 semester units plus 11 units granted for Commercial pilot, instrument, and multi-engine license or airline transport pilot license.

Agriculture

Transfer Program

Recommended high school preparation: chemistry, physics, elementary algebra, intermediate algebra, geometry, trigonometry, mechanical drawing, two years in one foreign language.

Students who intend to major in Agriculture should plan a course at College of San Mateo to meet the general requirements for junior standing, as well as the lower division requirements, of the specific college or university to which they plan to transfer.

Apprenticeship Related Instruction

Classes of Related training are offered for apprentices in certain trades as indicated in the section on curriculum for Apprenticeship Training. These classes follow the course outlined by the appropriate Joint Apprenticeship Committee and the Division of Apprenticeship Standards of the State of California.

Archaeology

(See Anthropology courses.)

Architecture

Associate in Science Degree with a major in Architecture; Transfer Program

Recommended high school preparation: academic program including mathematics (4 years), science (4 years), English (4 years), art (1 year), mechanical drawing (1 semester). Students should check course descriptions and prerequisites, and discuss recommended sequence with an architectural counselor/advisor.

A.S. Degree

Major requirements: ARCH 120, 125, 130, 140, 145, 150, 160, 210, 220, 230, 240. Total: 30 semester units.

Suggested Electives: ARCH 100, 112; MATH 241, 242 and PHYS 210, 220 or MATH 251, 252, 253 (or MATH 260, 261, 262, 263) and PHYS 250, 260, 270.

Plus General Education and other requirements for the A.S. degree (see Index: General Education).

Transfer Program

Recommended courses: A.S. Degree major requirements listed above. Total: 30 semester units.

Suggested Electives: Selected from those listed above, as required by transfer institution.

Students should consult the catalog of the college or university to which they plan to transfer.

Architecture: Architectural Engineering, Landscape, City and Regional Planning

Transfer Program

Students who plan to transfer to a university or college offering a professional program in Architecture should consult the catalog of the advanced institution of their choice and then arrange a schedule of suitable transfer courses.

Art

Associate in Arts Degree with a major in Art; Transfer Program

A.A. Degree

Major requirements: ART 201, 202, 206, 207, 214, 301 plus 9 units in other Art courses. Total: 27 semester units.

Plus General Education and other requirements for the A.A. degree (see Index: General Education).

Transfer Program

Recommended courses: completion of A.A. degree requirements listed above. Students should consult the catalog of the college or university to which they plan to transfer.

Art: Commercial

Associate in Arts Degree with a major in Commercial Art

Recommended high school preparation: design, drawing, painting.

Career opportunities: employment in advertising, manufacturing, public relations, or communications. Experienced artists frequently specialize in a particular product or field such as fashion, industrial art, advertising, story illustration, or interior design.

Major requirements: ART 201, 202, 206, 207, 301, 328; TA&G 351. Total: 20 semester units.

Suggested electives: ART 214, 223, 231, 241, 305; BUS. 175; CRER 410; SPCH 100.

Plus General Education and other requirements for the A.A. degree (see Index: General Education).

Art: Interior Design

Associate in Arts Degree with a major in Interior Design; Certificate Programs

A.A. Degree

Major requirements: ART 142, 145, 147, 148, 149, 153, 155, 157. Total: 24 semester units.

Plus General Education and other requirements for the A.A. degree (see Index: General Education).

Certificate Program: Interior Design

Certificate requirements: ART 142, 145, 146, 147, 148, 149, 153, 155, 156, 157 with a grade of C or higher in each course. Total: 30 semester units.

Certificate Program: Interior Design (ASID)

This is an expanded program that stresses drawing skills, knowledge of materials and the esthetics of interior design principles. Meets ASID student chapter requirements.

Certificate requirements: ART 101, 102, 142, 145, 146, 147, 148, 149, 153, 155, 156, 157, 201, 301, 641 (3 units); FASH 113; plus 12 units of other Art courses, or 9 units of Art courses and 3 units of floral design with a grade of C or higher in each course. Total: 60 semester units.

Art: Painting

Associate in Arts Degree with a major in Painting

Major requirements: ART 201, 202, 207, 214, 223, 231, 237, 405. Total: 24 semester units.

Suggested Electives: Art 101, 102, 103, 406.

Plus General Education and other requirements for the A.A. degree (see Index: General Education).

Art: Photography

Associate in Arts Degree with a major in Photography

Major requirements: ART 201 or 301 or 350, 351, 352, 353, 354, 355. Total: 18 semester units.

Suggested electives: ART 101, 214, 237; FILM 461; TA&G 351, 352.

Plus General Education and other requirements for the A.A. degree (see Index: General Education).

Broadcasting Arts

Transfer Program

Career opportunities: Radio and television positions are available for engineers, broadcasters, and sound and video-control technicians. Students in the Broadcasting Arts programs not only receive instruction in theoretical aspects of the field but also have additional, important opportunities to work in and with live facilities. Through actual on-the-air broadcasts from the campus stations, KCSM-FM and KCSM-TV, students receive practical experience that provides excellent preparation for immediate employment or for transfer to a four-year program.

The following courses are suggested electives for all Broadcasting Arts majors: ART 350; BUS. 101, 175; FILM 451, 452, 461; ELEC 110, 200, 250, 260, 302; SPCH 111, 120.

Transfer Program

Recommended courses: completion of A.A. degree requirements listed below. Students should consult the catalog of the college or university to which they plan to transfer.

Broadcasting Arts: Broadcast Engineering

Associate in Arts Degree with a major in Broadcast Engineering; Certificate Program

A.A. Degree

Major requirements: ELEC 200; BCST 110, 131, 231, 244, 301, 302; CIS 110. Total: 27 semester units.

Plus General Education and other requirements for the A.A. degree (see Index: General Education).

Certificate Program

Certificate requirements: completion of the A.A. degree major requirements listed above with a grade of C or higher in each course. Total: 27 semester units.

Broadcasting Arts: Radio Broadcasting, General

Associate in Arts Degree with a major in Radio Broadcasting, General and Certificate Program.

A.A. Degree

Major requirements: BCST 110, 115, 131, 132, 194, 231; CIS 110; plus 6 units selected from BCST 135, 192, 194, 250; BUS. 305. Total: 28 semester units.

Plus General Education and other requirements for the A.A. degree (see Index: General Education).

Certificate Program

Certificate requirements: completion of the A.A. degree major requirements listed above with a grade of C or higher in each course. Total: 28 semester units.

Broadcasting Arts: Radio Broadcasting, Operations

Associate in Arts Degree with a major in Radio Broadcasting, Operations; Certificate Program

A.A. Degree

Major requirements: BCST 110, 115, 131, 132, 195, 231; BUS. 300 or CIS 160; plus three units selected from BCST 135, 192, 194, 301, 641; BUS. 101; ELEC 110; SPCH 111. Total: 22 semester units.

Plus General Education and other requirements for the A.A. degree (see Index: General Education).

Certificate Program

Certificate requirements: BCST 110, 115, 131, 132, 192, 194, 195, 231; BUS. 300 or CIS 160; ELEC 110 with a grade of C or higher in each course. Total: 28 semester units.

Broadcasting Arts: Television Broadcasting, General

Associate in Arts Degree with a major in Television Broadcasting, General; Certificate Program.

A.A. Degree

Major requirements: BCST 110, 131, 231, 232, 241; BUS. 300 or CIS 160; plus 6 units selected from BCST 115, 192, 194, 242, 244, 641, ELEC 110. Total: 25 semester units.

Plus General Education and other requirements for the A.A. degree (see Index: General Education).

Certificate Program

Certificate requirements: completion of the A.A. degree major requirements listed above with a grade of C or higher in each course. Total: 25 semester units.

Broadcasting Arts: Television Broadcasting, Operations

Associate in Arts Degree with a major in Television Broadcasting, Operations; Certificate Program

A.A. Degree

Major requirements: BCST 110, 131, 231, 232, 241, 242; BUS. 300 or CIS 160; plus 6 units selected from BCST 243, 244, 301, 641; ELEC 110. Total: 29 semester units.

Plus General Education and other requirements for the A.A. degree (see Index: General Education).

Certificate Program

Certificate requirements: completion of the A.A. degree major requirements listed above with a grade of C or higher in each course. Total: 29 semester units.

Building Inspection

Associate in Science Degree with a major in Building Inspection; Certificate Program

A.S. Degree

Major requirements: BLDG 700, 710, 720, 730, 740; 3 units selected from BLDG 750, 760, or 780 or MGMT 120; 3 units selected from ENGL 820 or 800 or higher or MGMT 110; 3 units selected from BUS. 160 or MGMT 235. Total: 24 semester units.

Suggested elective: PHYS 100.

Plus General Education and other requirements for the A.S. degree (see Index: General Education).

Certificate Program

Certificate requirements: completion of the A.S. degree major requirements listed above with a grade of C or higher in each course.

Business Administration

Associate in Arts Degree with a major in Business Administration; Transfer Program

Recommended high school preparation: elementary algebra, intermediate algebra, geometry, trigonometry, foreign language.

A.A. Degree

Option 1

Major requirements: ACTG 121, 131; BUS. 201, 295; ECON 123 or MATH 200. Total: 21 semester units.

Suggested electives: BUS. 401; ECON 100, 102.

Option 2

Major requirements: ACTG 100 or 121; BUS. 100, 101, 115, 129, 201; BUS. 295 or CIS 110 or BUS. 300 series (3 units). Total: 19-22 semester units.

Suggested electives: BUS. 131, 150, 170, 180, 401.

Plus General Education and other requirements for the A.A. degree (see Index: General Education).

Transfer Program

Recommended courses: completion of A.A. degree requirements listed above under Option 1. (Note: students who plan to transfer should not select Option 2.) Students should consult the catalog of the college or university to which they plan to transfer.

Business

Career Programs

The following programs are designed to prepare students for employment in specific careers. They emphasize business skills for immediate employment; general courses provide a background for promotion in chosen occupational areas. Students planning to complete a four-year degree in

these areas should consult the catalog of the college of university to which they plan to transfer.

Business: Accounting

Associate in Arts Degree with a major in Accounting; Transfer Program; Certificate Program

Recommended high school preparation: typing, general office procedures, English basic skills.

Career Opportunities: graduates may be employed in entry-level positions in government offices and private companies.

A.A. Degree

Major requirements: ACTG 121, 131, 142; BUS. 129, 201; BUS. 295 or 303, 311, 312, and 321. Total: 21 semester units.

Suggested Electives: Bus 101, 115, 311; Econ 100, 102.

Plus General Education and other requirements for the A.A. degree (see Index: General Education).

Transfer Program

Recommended courses: completion of A.A. degree requirements listed above. Students should consult the catalog of the college or university to which they plan to transfer.

Certificate Program

Certificate requirements: completion of the A.A. degree major requirements listed above with a grade of C or higher in each course.

Business: Business Information Processing

Associate in Arts Degree with a major in Business Information Processing; Certificate Programs

Recommended high school preparation: typing, business math, microcomputers, accounting, business English, and office work experience.

Career Opportunities: graduates may be employed in entry-level positions and mid-level office management. Students develop the ability to organize and manage work tasks and information through the use of computer/office technology. These programs offer training in decision-making and administrative duties that are required for promotion.

A.A. Degree

(Business: Business Information Processing)

Completion of one of the following options:

Microcomputers/Word Processing option

Major requirements: BUS. 100, 115, 300; 301/302 or 303/304; 307, 311, 321, 325, 340, 344, 345, 350, 360, 361; 365 or 366; 401. Total: 25 semester units.

Microcomputers/Data Base and Spreadsheet Functions option

Major requirements: ACTG 100, 142; BUS. 100, 115, 129, 300; 301 or 303; 311, 312, 313, 321, 322, 323, 340, 344, 345, 350. Total: 26 semester units.

Plus General Education and other requirements for the A.A. degree (see index: General Education).

Certificate Programs

(Business: Business Information Processing, Microcomputers/Word Processing)

Certificate requirements: completion of the A.A. degree major requirements listed above with a grade of C or higher in each course.

(Business: Business Information Processing, Microcomputers/Data Base and Spreadsheet Functions)

Certificate requirements: completion of the A.A. degree major requirements listed above with a grade of C or higher in each course.

Business: Escrow

Associate in Arts Degree with a major in Escrow; Certificate Program

The California Escrow Association recommends 27 units of required core courses and 12 units of suggested electives for the A.A. degree. See a Real Estate Department counselor/advisor for guidance regarding these courses and for information regarding the Escrow Certificate.

A.A. Degree

Major requirements: R.E. 100*, 121, 131, 301*, 303*, 305; BUS. 100; BUS. 115 (or MATH 120 or higher); BUS. 401; plus 12 units selected from the following courses: ACTG 100, 121; BUS. 101, 201, 305, 307; ECON 100 or 102; PSYC 100; R.E. 110, 141, 143, 210, 235; SPCH 100 or 120. Total: 39 semester units.

Plus General Education and other requirements for the A.A. degree (see Index: General Education).

Students who have already earned an A.A. degree at College of San Mateo with a major in Real Estate and wish to qualify for an additional major in Escrow may do so by completing the R.E. 301, 303, 305; BUS. 401; and 6 additional units in Real Estate. Consult a Real Estate counselor/advisor for additional information.

Certificate Program

Certificate requirements: R.E. 100*, 121, 131, 301*, 303, 305 plus 6 units selected from the following suggested electives (as recommended by California Escrow Association): ACTG 100 or 121; BUS. 101, 115 or 810, 305 or 307, 401; COOP 641**; R.E. 110, 141 or 143, 200, 210, 230 with a grade of C or higher in each course. Total: 24 units.

If the Escrow Certificate is to be earned following the College of San Mateo Real Estate Certificate, the 6 units of selected electives must be taken from the category listed above, excluding any that have been utilized to earn the Real Estate Certificate.

*At the recommendation of a Real Estate counselor/advisor and with the approval of the instructor of Real Estate 303, Real Estate 301 may be waived; or at the recommendation of a counselor/advisor alone, Real Estate 100 may be waived, provided equivalent units of the suggested electives are completed.

**Consult with a Real Estate counselor/advisor requirements for Work Experience Program.

CSM's Escrow Certificate Program has been approved for official certification by CEA (California Escrow Association). Check with the Real Estate Department Counselor for further details.

Business: Management

Associate in Arts Degree with a major in Management; Certificate Program

The program is designed for persons working at the supervisory level or for those interested in supervisory positions. An advisory committee composed of rep-

resentatives from various types of business and industrial organizations has assisted the College staff in the development of the program.

A.A. Degree

(Management: Business Management)

Major requirements: BUS. 100; MGMT 100, 235; ACTG 100 or 3 units from the BUS. 300 series plus 12 semester units selected from the following: BUS. 101; BUS. 150 or 701 and 705 and 720; BUS. 170, 180; CIS 110; MGMT 105, 110, 120, 215, 220, 641. Total: 24 semester units.

(Management: Small Business Management)

Major requirements: BUS. 100; BUS. 150 or 701, 705, 720; ACTG 100 or 3 units from the BUS. 300 Series; MGMT 100 plus 12 units selected from the following: BUS. 101, 180, 201; CIS 110; MGMT 105, 110, 120, 215, 220, 235, 641. Total: 24 semester units.

(Management: Marketing Management)

Major requirements: MGMT 100, 235; BUS. 100, 180 plus 12 semester units selected from the following: BUS. 175; CIS 110; MGMT 105, 110, 120, 215; 1-3 units from the BUS. 300 series. Total: 24 units.

Plus General Education and other requirements for the A.A. degree, (see index: General Education).

Certificate Program

The Certificate in Management can be earned in Business Management, Small Business Management, and Marketing Management. It will be awarded upon completion of the major requirements listed above with a grade of C or higher in each course.

Business: Merchandising (General)

Certificate Program

Certificate requirements: BUS. 100, 101, 115, 170, 175, 180, 641 (6 units) with a grade of C or higher in each course. Total: 24 semester units.

Business: Merchandising (Fashion)

(See Fashion Merchandising)

Business: Merchandising (Management)

A.A. Degree with a major in Merchandising (Management); Certificate Program

A.A. Degree

Major requirements: BUS. 100, 101, 115, 170, 175, 180, 641 (6 units); ACTG 100 or 121. Total: 27-29 semester units.

Plus General Education and other requirements for the A.A. degree, (see index: General Education).

Certificate Program

Certificate requirements: completion of the major requirements listed above, with a grade of C or higher in each course.

Business: Real Estate

Associate in Arts Degree with a major in Real Estate; Certificate Program

For a degree or certificate, a grade of C or higher is required in each course.

A.A. Degree

Major requirements: BUS. 100 or MGMT 100; R.E. 100*, 105*, 110, 121, 131, 141 or 143, 200 (if R.E. 100 has been completed, R.E. 200 is not required but may be counted as elective credit toward A.A. degree). Total: 18-21 semester units.

Suggested electives: ACTG 100 or 121; ARCH 100; BUS. 101, 170, 175, 150, 201, 401; BUS. 305 or 307; CIS 110; ECON 100, 102; PSYC 100.

Plus General Education and other requirements for the A.A. degree (see Index: General Education).

Certificate Program

Certificate requirements: R.E. 100*, 105*, 110, 121, 131, 141 or 143, 200 (if R.E. 100 has been completed, R.E. 200 is not required but may be counted as elective credit toward Real Estate Certificate); 15 units selected from the following: 105 (if not taken to fulfill requirement), 122, 132, 143, 145, 200 (if not taken to fulfill major requirement), 205, 210, 215, 220, 225, 230, 235, 301, 303, 305, 311, 313 with a grade of C or higher in each course. Total: 30-33 semester units.

*R.E. 100 and 105 are not required for persons with real estate broker's or salesman's license. A photocopy of license must be filed with the Office of Admissions and Records.

Chemistry

Associate in Science Degree with a major in Chemistry and Transfer Program

Major requirements: CHEM 210, 220, 231, 250. Total: 19 semester units.

Plus General Education and other requirements for the A.S. degree (see Index: General Education).

Transfer Program

Recommended courses: completion of A.A. degree requirements listed above. Students should consult the catalog of the college or university to which they plan to transfer.

Computer and Information Science

Associate in Science Degree with a major in Computer and Information Science; Transfer Program; Certificate Program in Computer Support Specialist

Recommended preparation: for all of the course work described in the CIS program, fluency in the English language and keyboarding skills are essential. Testing for proficiency in the reading and writing of English is done regularly through the testing facilities of CSM Student Services. Students who wish to be tested should contact the Testing Office in Room 1-130. Keyboarding skills may be improved in the Business Skills Lab.

Job requirements vary among companies, and students' course selection for the A.S. degree in CIS or the Computer Support Specialist Certificate should be guided by these requirements. Therefore, it is important for students to check these requirements with companies for which they plan to work. For this, the Career Center and the Cooperative Education Office may be able to help.

A.S. Degree

In order to receive an A.S. degree in Computer and Information Science, students must complete the recommended courses for the transfer program or the certificate requirements listed below for the Computer Support Specialist Program plus the General Education and other requirements for the A.S. degree (see Index: General Education) for a total of 60 semester units.

Transfer Programs

Students should consult the catalog of the college or university to which they plan to transfer.

Transfer Program (General)

Recommended courses: CIS 115/116; CIS 250/251 and 350/351 or 270/271 and 272/273; 6 or more units selected from any CIS course numbered higher than 110; 15 or more units selected from ENGL 100; MATH 251-252 or 260-261; MATH 268. Total: 33 or more semester units.

Transfer Program (Emphasis on Scientific Applications)

Students interested in scientific applications programming should follow the course recommendations listed above for the general transfer program. In addition, CIS 240/241, 270/271, 350/351, and 360/361 are strongly recommended.

Certificate Program (Computer Support Specialist)

This program is designed to train students to develop systems in a microcomputer environment or to support such systems. Students may choose to concentrate in applications or systems development. Graduates of this program will be able to support microcomputer systems of companies in numerous industries as those companies take advantage of microcomputer and networking technologies. The program will accommodate those who want to enhance their computer skills as well as those new to computers.

Certificate requirements: CIS 110, 115/116, 150; ELEC 110, 210, 215; ENGL 100; MATH 110 or 111-112 or higher math class; 4 units selected from the following: CIS 210/211, 216/217, 218/219, 230/231, 240/241, 250/251, 270/271, 272/273, 280/281, 282/283, 290/291; 6-8 units selected from the following: CIS 120, 130/131, 152, 306/307, 320, 350/351, 360/361, 370/371, 641; 5 units selected from the following: CIS 160, 170, 171, 302, 303; BUS. 301, 302, 303, 304, 311, 312, 313, 321, 322, 360, 361; TA&G 165, 166, 175. (All requirements must be completed with a grade of C or higher in each course.) Total: 39.5-42.5 semester units.

General interest in computers

For students who do not plan to major in CIS but wish to learn about computers, CIS 100 or CIS 110 are recommended as beginning courses. Those who wish to learn some programming should complete CIS 115/116 and then a programming language.

Cooperative Education

Cooperative Work Experience Education enables students to earn college credit for work and learning done on his/her current job. The job must be major or career related. Cooperative Education involves: *a.* students attending CSM full or part time and working full or part time; or *b.* students working full time one semester and attending CSM the next. These programs allow students to earn additional college credit while learning through an actual job experience. Cooperative Education gives the opportunity to use classroom theory in the job setting. Further information is available in the Cooperative Education Office, located in the Career Development Center in Building 5, telephone 574-6171.

Cosmetology

Associate in Arts Degree with a Major in Cosmetology; Certificate Program

The Cosmetology Program consists of 1600 hours training in theory and practical skills in all phases of beauty culture. Units are based on hours in attendance.

High school preparation: Completion of tenth grade or equivalent is required by State Law. Students must be 17 years of age to be eligible for State Examination. Note: High school students may enroll in cosmetology training at College of San Mateo in their junior or senior year by contacting their respective schools and the Cosmetology Department.

Priorities for Admission: (1) San Mateo County residence. (2) High school graduation or equivalent and 18 years of age or older. (3) Applications will be reviewed according to date and time of receipt in Bldg. 21, Rm. 101. Contact the Cosmetology Department, 574-6363, for application information and forms.

When space is available, students with previous training may be eligible for admission to the Advanced Standing program in Cosmetology within a one-year period of withdrawal from a previous school and upon submission of State Board records to the Cosmetology Department. No student who has completed more than 1,000 hours of approved training in another school will be admitted to the Advanced Standing program.

A.A. Degree

Major requirements: COSM 712, 722, 732, 742, with a grade of C or higher in each course; BUS. 115. Total: 43 semester units.

Suggested electives: FASH 118; BUS. 101; ACTG 100; PSYC 100; SOCI 100; SPCH 120.

Plus General Education and other requirements for the A.A. degree (see Index: General Education).

One-Year Certificate Program

Upon satisfactory completion of 1600 hours (with grades of C or higher), students will be qualified to take the California State Board of Cosmetology examination for licensure as a cosmetologist.

Certificate requirements: up to 18 units of COSM 712, 722; up to 30 units of COSM 732, 742, all with a grade of C or higher. Total: 40 semester units.

Special Courses in Cosmetology

COSM 750, Brush-up: refresher course to upgrade skills for students who have satisfactorily completed an approved course of training with a minimum of 1600 hours or for out-of-state cosmetologists in preparation for the California State Board of Cosmetology Examination.

COSM 754, Advanced Manicuring: completion of 350 hours prepares a student to take the California State Board of Cosmetology Examination in Manicuring and subsequent employment in this field only.

COSM 760, Cosmetology Instruction Preparation: preparation for California State Board of Cosmetology Instructor examination; 600 hours instructor training plus up to 150 hours, if necessary, to correct deficiencies.

Data Processing

(See Computer and Information Science)

Dental Assisting

Associate in Science Degree with a Major in Dental Assisting; Certificate Program

Admission Requirements: To be eligible for enrollment in the Dental Assisting programs, the applicant must:

1. be a high school graduate or equivalent;
2. have completed high school math or algebra and one year of keyboarding and English or their equivalent with a C grade or better;
3. attain placement in ENGL 801 or eligibility for ENGL 800;
4. be admitted to the college and have a C average in all completed college courses.

A.A. Degree

Major requirements: DENT 711, 712, 713, 721, 722, 731, 732, 735, 741, 742, 751, 752, 761, 762; BUS. 115; PSYC 108 or SOCI 100; SPCH 120; COOP 647 (2.5 units). Total: 41-44 semester units.

A grade of C or higher is required for all Dental Assisting courses.

Plus General Education and other requirements for the A.A. degree (see Index: General Education).

Certificate Programs

One-Year Certificate

First Semester
DENT 711, 721, 731, 735, 741, 751, 761, READ 812 or ENGL 830 for 18-20 semester units.

Second Semester
DENT 712, 713, 722, 732, 742, 752, 762; COOP 647; SPCH 850. Total for 16.5-19.5 semester units.

Total: 36.5 semester units.

The College of San Mateo Dental Assisting Certificate will be awarded to all students completing the above required courses with a grade of C or better.

Upon successful completion of either program with a grade of C or higher in all courses required for the certificate, the student is eligible to take the National Certification Examination to become a Certified Dental Assistant, and the California Registration Examination to become a Registered Dental Assistant.

Drafting Technology

Associate in Science Degree with a major in Drafting Technology; Transfer Program; Certificate Program

Recommended high school preparation: elementary algebra and mechanical drawing. Students should check course descriptions and prerequisites and discuss recommended sequence with counselors/advisors.

Career Opportunities: Drafting is common to all manufacturing and construction activities. The draftsperson interprets the engineer's ideas, presenting them in the language of manufacturing and construction. Graduates of the Drafting Technology Program have several opportunities available. They may go directly into industry as a draftsperson with the potential to be a designer. They also have the option of continuing their education at one of the state colleges in pursuit of a Bachelor's degree in Industrial Technology.

A.S. Degree (Day Program)

Major requirements: DRAF 201,202, 301,302. Total: 28 semester units.

Suggested electives: ELEC 110; PHYS 100.

Plus General Education and other requirements for the A.S. degree (see Index: General Education).

Transfer Program

Recommended courses: completion of A.S. degree requirements listed above. Students should consult the catalog of the college or university to which they plan to transfer.

Certificate Program (Day)

Certificate requirements: completion of the A.S. degree major requirements listed above and DRAF 102, 400; ELEC 110; MANU 100, 120; MTT 200 with a grade of C or higher in each course. Total: 45 semester units.

Certificate Program (Evening)

Certificate requirements: completion of DRAF 120, 722, 731, 732, 740; ELEC 110; PHYS 100; MANU 200; MATH 130 or 222 with a grade of C or higher in each course. Total: 26-28 semester units.

Computer-aided drafting (CAD) has been integrated into the day and evening drafting programs. For details, contact the Technology Division office at 574-6228.

Education

Transfer Program

Students who are planning for a career in teaching at the elementary or secondary level should concentrate on meeting the General Education requirements of the college they plan to attend. The program of courses recommended for a student who plans to teach will, to a considerable degree, depend upon the credential sought and the teacher education college the student plans to attend. However, EDUC 100 should be taken as an introduction to this profession.

Electronics Technology

Associate in Science Degree with a major in Electronics Technology; Transfer Program; Certificate Program

A.S. Degree (Day)

Major requirements: ELEC 200* or 201/202*, 210, 250, 260, 280, 300, 302, 310, 330, 350, 360, 362 with a GPA of 2.0 or higher. Total: 41.5-42.5 semester units.

Suggested electives: BUS. 100, 301 or 303, 305 or 307; CIS 150, 230/231; 250/251; DRAF 120; ELEC 386; PHYS 100 or 210

*To meet math requirement, ELEC 230 or 231/232 or MATH 120 or equivalent must be taken concurrently with ELEC 200 or 201/202. Students planning to transfer should begin with MATH 120 or higher.

Plus General Education and other requirements for the A.S. degree (see Index: General Education).

A.S. Degree (Evening)

Major requirements: ELEC 710* or 201/202*, 720, 260, 730, 310, 360, 740, 280 or 330. Total: 28-30 semester units.

Suggested electives: BUS. 100, 301 or 303, 305 or 307; CIS 150, 230/231, 250/251; DRAF 120; ELEC 386; PHYS 100.

*To meet the math requirement, E.T. 230 or 231/232 or MATH 120 or equivalent must be taken prior to or concurrently with ELEC 710 or 201 and 202.

Plus General Education and other require-

ments for the A.S. degree (see Index: General Education).

Transfer Program

Recommended courses: completion of A.A. degree requirements listed above. Students should consult the catalog of the college or university to which they plan to transfer.

Certificate Program (Day)

Certificate requirements: completion of the A.S. degree major requirements (day) listed above with a G.P.A. of 2.0 or higher.

Certificate Program (Evening)

Certificate requirements: completion of the A.S. degree major requirements (evening) with a G.P.A. of 2.0 or higher and no grade lower than a C.

Advanced Placement (Degree/ Certificate)

Students with extensive background in electronics from military, industrial or other educational institutions who wish to obtain a degree or certificate must complete a minimum of 19 units from the courses listed below, with a G.P.A. of 2.0 or higher and no grade lower than a C. Course substitution/waiver form must be filed with the Office of Admissions and Records to verify experience and/or course qualification.

Major requirements: ELEC 260, 280, 300, 302, 310, 350, 360, 362, 380, 720, 730, 740; MATH 120 or higher; maximum of 4 units Cooperative Education. Total: 19 semester units for the certificate, plus General Education and other requirements for the A.S. degree (see Index: General Education).

Electronics Technology: Avionics

Certificate Program

Certificate requirements: ELEC 240/ 241, 242/243, 246/247, 340/341, 342/343, 344/345. Total: 40 semester units.

Engineering

Associate in Science Degree with a major in Engineering; Transfer Program

Recommended high school preparation: mathematics (four years); chemistry (one year); physics (one year); mechanical drawing (one year). Students should check course descriptions and prerequisites, and discuss recommended sequence with counselors/ advisors.

A.S. Degree

Major Requirements: ENGR 210, 230, 260, 270 plus 5 additional units chosen from the Transfer Program recommended courses or from the following electives: ENGR 111, 666; CHEM 231, CIS 250/ 251, 270/271; ECON 100, 102; GEOL 210; MATH 200, 270. Total: 19 semester units.

Plus General Education and other requirements for the A.S. degree (see Index: General Education).

Transfer Program

The basic Engineering program prepares students for transfer with junior standing to a four-year college or university. Students should refer to the catalog of the college of their choice for special requirements; however, the following core subjects were approved unanimously by the Engineering Liaison Committee of the California Community Colleges, State Colleges and Universities, University of California, and private institutions.

The following courses will satisfy the Engineering Liaison Committee core program requirements: mathematics (beginning with analytic geometry and calculus and including a course in ordinary differential equations, 16 units); chemistry (for engineers and scientists, 8 units); physics (for engineers and scientists, 12 units); statics (3 units); engineering graphics (4 units) which includes instruction in computer-assisted design; computers, digital (2 units); orientation and motivation (1 unit); materials science (3 units); circuits and devices (4 units).

Recommended courses: A.S. degree major requirements; MATH 251-252-253 or 260-261-262-263; MATH 275; CHEM 224-225 or 210-220; CIS 240/241; PHYS 250, 260, 270; 5 additional units selected from the following electives: ENGR 111, 666; CHEM 231, CIS 250/251, 270/271; ECON 100, 102, GEOL 210; MATH 200, 270. Total: 62-64 semester units.

Engineering Technology: General

Associate in Science Degree with a major in Engineering Technology; Transfer Program

Engineering Technology is that part of the engineering field which blends scientific and engineering knowledge with technical skills in research, development and production. The College offers the general education, mathematics, science, engineering, and many of the technical courses for the lower division requirements in Engineering Technology.

A.S. Degree

Major requirements: ARCH 150, 160; ENGR 210; MATH 241-242; 6 elective units selected from area of technology specialization. Total: 24 semester units.

Suggested Electives: ACTG 100; ENGR 666; CIS 250/251; MATH 200; technical courses.

Plus General Education and other requirements for the A.S. degree (see Index: General Education).

Transfer Program

Recommended courses: Completion of the A.S. degree major requirements listed above plus DRAF 120; CIS 240/241; CHEM 224; PHYS 210-220. Total: 43 semester units. Students should consult the catalog of the college or university to which they plan to transfer.

Engineering Technology: Electronics

Associate in Science Degree with a major in Engineering Technology: Electronics; Transfer Program

A.S. Degree

Major requirements: ELEC 200 or 201/ 202, 210, 250, 260, 300, 302, 310, 350, 360, 362 (evening courses ELEC 710, 720, 730, 740 may be substituted for corresponding day courses: ELEC 200 or 201/ 202, 250, 300, 350); MATH 241, 242. Total: 40.5-41.5 semester units.

Suggested electives: ENGR 666; CIS 230/ 231, 240/241, 250/251; MATH 200; BUS. 301 or 303 or 308.

Plus General Education and other require-

ments for the A.S. degree (see Index: General Education).

Transfer Program (Cal Poly Program)

Recommended courses: completion of A.S. degree major requirements listed above plus PHYS 210, 220; CHEM 224. Students should consult the catalog of the college or university to which they plan to transfer.

English

Associate in Arts Degree with a major in English; Transfer Program

Major requirements: 18 units from English or literature courses. With Language Arts Division approval, certain courses in film, humanities, and foreign languages may be substituted for up to 6 units of English or literature. Total: 18 semester units.

Plus General Education and other requirements for the A.A. degree (see Index: General Education).

Transfer Program

Recommended courses: completion of A.A. degree requirements listed above. Students should consult the catalog of the college or university to which they plan to transfer.

Environmental Hazardous Materials Technology Program

Associate in Science Degree with a major in Environmental Hazardous Materials Technology; Certificate Program

This major prepares students to work with hazardous materials in compliance with governmental regulations and recognized standard industry practices. Emphasis is on practical knowledge and application in the hazardous materials field.

A.S. Degree

Major requirements: EHMT 100, 110, 130, 150, 200, 230; BIOL 110; CHEM 410, 420; MANU 120. Total 36 semester units.

Plus General Education and other requirements for the A.S. degree (see Index: General Education).

Certificate Program

Certificate requirements: completion of the A.S. degree major requirements listed above with a grade of C or higher in each course.

Ethnic Studies

Associate in Arts Degree with a major in Ethnic Studies; Transfer Program

The multicultural emphasis of this program has attracted many persons currently employed in public school systems, social services and human relations, and professionals whose jobs involve interpersonal situations with multiracial groups.

A.A. Degree

Major requirements: ETHN 101, 102; plus 12 units selected from the following courses: ETHN 150, 151, 152, 160, 261, 262, 288, 290, 350, 351, 425, 585. Total: 18 semester units.

Plus General Education and other requirements for the A.A. degree (see Index: General Education).

The Ethnic Studies program is structured for the student who plans to major in the Social Sciences, Social Welfare, Humanities, Ethnic Studies or related areas in either a two-year program or as transfer to a four-year institution. Ethnic Studies courses are transferable as Social Science, Humanities, Electives or Ethnic Studies, depending upon the respective institution. In addition, Ethnic Studies courses allow public school teachers the opportunity to meet California State requirements in ethnic education.

Transfer Program

Recommended courses: completion of A.A. degree requirements listed above. Students should consult the catalog of the college or university to which they plan to transfer.

Fashion Merchandising

Associate in Arts Degree with a Major in Fashion Merchandising; Transfer Program; Certificate Program

The Fashion Merchandising curriculum is a study of the ready-to-wear apparel industry with consideration of the various factors (economic, political and societal change) which affect the merchandising of fashion apparel.

Major requirements: FASH 113, 117, 151, 154, 155, 157; CA&S 412; BUS. 170, 175, 641 (3 units). Total: 30 semester units

Plus General Education and other requirements for the A.A. degree (see Index: General Education).

Transfer Program

Recommended courses: completion of A.A. degree requirements listed above. Students should consult the catalog of the college or university to which they plan to transfer.

Certificate Program

Certificate requirements: completion of the A.A. degree major requirements listed above with a grade of C or higher in each course. Total: 30 semester units.

Filmmaking

Associate in Arts Degree with a major in Filmmaking; Transfer Program

A.A. Degree

Major requirements: FILM 451, 452, 461, 462 plus at least 6 units selected from FILM 453, 464, 465; ART 201, 301, 350, 351, 352, 353, 354, 355; BUS. 175, 180; ENGL 161, 162. Total: 20 semester units.

Plus General Education and other requirements for the A.A. degree (see Index: General Education).

Transfer Program

Filmmaking majors should check requirements for transfer in junior standing to the college of their choice or consult with a College of San Mateo counselor/advisor.

Fire Science Technology

Associate in Science Degree with a major in Fire Science Technology; Transfer Program; Certificate Program

The Fire Science Technology program prepares students to meet the high standards necessary in pursuing a career in the fire service. Students who wish to concentrate on meeting the basic requirements for entry-level employment are advised to complete FIRE 783 and FIRE 785. Many fire departments require the completion of these courses for eligibility for employment as a firefighter.

A.S. Degree

Major requirements: FIRE 715*, 718, 720, 730, 745; ENGL 835; three units selected from FIRE 705, 725, 740; 14 units selected from State Fire Marshall certification courses, with a grade of C or higher in each course. (To select elective courses, obtain assistance from counselor/advisor.) Total: 35 semester units.

Plus General Education and other requirements for the A.S. degree (see Index: General Education).

Transfer Program

It is recommended that the transfer student take the six core courses and three units of Fire Science Technology electives only and concentrate in the area of general education for transfer to a junior standing in a four-year institution.

Certificate Program

Certificate requirements: completion of the A.S. degree requirements listed above with a grade of C or higher in each course.

*In all Fire Science Technology programs, FIRE 715, Introduction to Fire Technology, may be waived for those students who have three or more years of certified service as professional fire fighters. (A letter verifying service must be filed with the Office of Admissions and Records.) If FIRE 715 is waived, another three units of Fire Science courses must be substituted. Six units of Emergency Medical Technician may be used to satisfy the Fire Science electives.

Floristry

(See Horticulture: Floristry)

Foreign Languages

(See specific headings for majors in French, German and Spanish.)

French

Associate in Arts Degree with a major in French; Transfer Program

A.A. Degree

Major requirements: completion of 18 units of French language courses (excluding the 800 series). Total: 18 semester units.

With Language Arts Division approval, ART 103 and HIST 101 may be accepted as part of the 18 units.

Plus General Education and other requirements for the A.A. degree (see Index: General Education).

Transfer Program

Recommended courses: completion of A.A. degree requirements listed above. Students should consult the catalog of the college or university to which they plan to transfer.

Geological Sciences

Associate in Science Degree with a major in Geological Sciences; Transfer Program

A.S. Degree

Major requirements: CHEM 210, 220; GEOL 210; OCEN 100, 101; PALN 110. Total: 21 semester units.

Plus General Education and other requirements for the A.S. degree (see Index: General Education).

Transfer Program

Recommended courses: major requirements for the A.S. Degree plus MATH 241-242 or 251-252 or 260-262; PHYS 210-220 or 250, 260, 270.

The mathematics and physics requirements vary at different four-year institutions. Consult the appropriate college catalog or your counselor/advisor for specific requirements.

German

Associate in Arts Degree with a major in German; Transfer Program

A.A. Degree

Major requirements: completion of 18 units of German language courses (excluding the 800 series). Total: 18 semester units.

With Language Arts Division approval, ART 103 and HIST 101 may be accepted as part of the 18 units.

Plus General Education and other requirements for the A.A. degree (see Index: General Education).

Transfer Program

Recommended courses: completion of A.A. degree requirements listed above. Students should consult the catalog of the college or university to which they plan to transfer.

Horticulture

Transfer Program

Recommended courses: completion of A.A. degree requirements listed above. Students should consult the catalog of the college or university to which they plan to transfer.

Five programs in Horticulture, two during the day and three in the evening, afford specific training geared to meet the individual requirement of the student. For a degree or certificate, a grade of C or higher is required in all horticulture courses.

Horticulture: Environmental

Associate in Science Degree with a major in Environmental Horticulture; Certificate Program

A.A. Degree

Option 1 (Nursery)

Major requirements: HORT 311-312, 315, 327, 330, 342. Total: 18 semester units.

Option 2 (Landscape)

Major requirements: HORT 311-312, 315, 330, 340, 342. Total: 18 semester units.

Option 3 (General)

Major requirements: HORT 311-312, 315, 327, 330, 411. Total: 18 semester units.

Suggested electives: HORT 411, 412, 320, 415, 341; ACTG 100; BUS. 170.

Plus General Education and other requirements for the A.S. degree (see Index: General Education).

Certificate Programs (Day Program)

Options 1, 2, and 3

Certificate requirements: completion of A.S. degree major requirements listed above with a grade of C or higher in each course. Total: 18 semester units.

Horticulture: Floristry

Certificate Program (Day Program)

Certificate requirements: HORT 327, 411, 412, 413, 415, 416, 420 with a grade of C or higher in each course. Total: 21 semester units.

Horticulture: Ornamental

Associate in Science Degree with a major in Ornamental Horticulture; Certificate Program

A.A. Degree

Major requirements: HORT 701, 702, 705, 706, 711, 712; 3 units selected from HORT 771, 772, 773, 774, 775, 776; 6 units selected from HORT 709, 721, 722, 731, 742. Total: 27 semester units.

Plus General Education and other requirements for the A.S. degree (see Index: General Education).

Certificate Program (Evening)

Certificate requirements: completion of A.S. degree major requirements listed above with a grade of C or higher in each course. Total: 27 semester units.

Horticulture: Pest Control

Certificate Program (Evening)

Certificate requirements: HORT 711, 712, 771, 772, 773, 774, 775, 776 with a grade of C or higher in each course. Total: 24 semester units.

Humanities

Associate in Arts Degree with a major in Humanities; Transfer Program

A.A. Degree

Major requirements: HUM. 111, 112, 113, 114; plus 6 units of electives selected from the list of courses satisfying the A.A./A.S. Degree Humanities requirements (see Index: General Education). Total: 18 semester units.

Plus General Education and other requirements for the A.A. degree (see Index: General Education).

Transfer Program

Recommended courses: completion of A.A. degree requirements listed above. Students should consult the catalog of the college or university to which they plan to transfer.

Journalism

Associate in Arts Degree with a major in Journalism; Transfer Program

Major requirements: JOUR 110, 120, 300; 9 units selected from English or literature courses. Total: 18 semester units.

Plus General Education and other requirements for the A.A. degree (see Index: General Education).

Transfer Program

Recommended courses: completion of A.A. degree requirements listed above. Students should consult the catalog of the college or university to which they plan to transfer.

Liberal Studies

Associate in Arts Degree with a major in Liberal Studies; Transfer Program

A.A. Degree

Major requirements: eighteen units selected from courses satisfying the A.A./A.S. Degree requirements for Natural Sciences, Social Science, and Humanities (see Index: General Education), with at least 3 units in each area. Total: 18 semester units.

Plus General Education and other requirements for the A.A. degree (see Index: General Education).

Transfer Program

Recommended courses: completion of A.A. degree requirements listed above. Students should consult the catalog of the college or university to which they plan to transfer.

Life Sciences

Transfer Program

Recommended high school preparation: biology (1 year); chemistry (1 year); physics (1 year); mathematics (algebra, 2 years; geometry, 1 year; trigonometry, 1 semester).

For those students who wish to major in Biological Science or Medical Science and have little or no high school preparation in one or more of the above subjects, the following courses should be completed prior to attempting courses in the major sequence: BIOL 110; CHEM 192; MATH 110 or other appropriate level of math; PHYS 100.

The programs outlined below are typical of requirements to transfer with junior standing to a four-year college or university. In order to meet the requirements of specific institutions, the students should refer to the catalog of the college of their choice.

Life Sciences: Biological

Associate in Science Degree with a major in Biological Sciences (Botany, Forestry, Marine Biology, Zoology, etc.) and Transfer Program

A.S. Degree

Major requirements: BIOL 210, 220, 230; CHEM 210. Total: 19 semester units.

Plus General Education and other requirements for the A.S. degree (see Index: General Education).

Transfer Program

Recommended courses: A.S. Degree major requirements; CHEM 220, 231, 232; MATH 120, 130; 12 units of biology electives (excluding BIOL 100 and 110); 8-12 units selected from PHYS 210, 220 or PHYS 250, 260, 270. Total: 62-66 semester units.

Students should consult the catalog of the college or university to which they plan to transfer.

Life Sciences: General

Associate in Arts Degree with a major in Life Sciences

For students who wish to receive a general life sciences degree but who do not necessarily plan on transferring to a four-year institution as biology majors. Those who plan on transferring as biology majors in various areas of life sciences should refer to the transfer programs listed below.

A.S. Degree

Major requirements: 4-5 units selected from BIOL 110, 210, 220, 230; 12-15 units selected from BIOL 102, 110, 111, 125, 130, 140, 145, 150, 160, 180, 184, 200, 210, 220, 230; 3 units from physical science. Total: 19-23 semester units.

Plus General Education and other requirements for the A.S. degree (see Index: General Education).

Students are encouraged to group courses as follows to emphasize their major interests and to meet personal or academic needs:

Human Biology: BIOL 110, 125, 130, 160; CHEM 410 or 210.

Marine Biology: BIOL 110, 111, 150, 200; OCEN 100 or GEOL 100.

Natural History: BIOL 110, 111, 150, 200; GEOL 100 or METE 100 or GEOG 100.

Wildlife/Forestry: BIOL 102, 110, 111, 200, 180 or 184; GEOL 100 or METE 100.

Life Sciences: Medical

Associate in Science Degree with a Major in Medical Sciences (Pre-Medical, Pre-Dental, Pre-Veterinarian, Medicine, etc.); Transfer Program

A.S. Degree

Major requirements: BIOL 210, 230; CHEM 210, 220. Total: 19 semester units.

Plus General Education and other requirements for the A.S. degree (see Index: General Education).

Transfer Program

Recommended courses: BIOL 210, 230; 4-14 units selected from BIOL 240, 250, 260; 15-20 units selected from CHEM 210, 220, 231, 232; 8-15 units selected from MATH 241-242 or 251-252-253 or 260-261-262; 8-12 units selected from PHYS 210, 220 or 250, 260, 270. Total: 44-70 semester units.

Life Sciences: Pre-Nursing

Associate in Science Degree with a major in Pre-Nursing; Transfer Program

A.S. Degree

Major requirements: BIOL 240, 250, 260; CHEM 210-220 or 410-420. Total: 22-24 semester units.

Plus General Education and other requirements for the A.S. degree (see Index: General Education).

Transfer Program

Recommended courses: A.S. degree major requirements; 4-12 units biology electives (excluding BIOL 100 and 110); 3-8 units science electives (PHYS 100, 210, or 220). Total: 29-36 semester units. Students should consult the catalog of the college or university to which they plan to transfer.

Machine Tool Technology

Associate in Science Degree with a major in Machine Tool Technology; Transfer Program; Certificate Program

The Machine Tool Technology major will utilize knowledge and skills in drafting, machining, fabrication, applied mathematics, welding, industrial computer, power systems, and other related subjects. Classes will focus on the applied technology through a combination of theory and laboratory.

Since this major focuses on a wide range of subject material and is less specialized than the single field major, graduates of the program will have a working knowledge in a wide range of manufacturing processes and may be qualified to work in the areas including machinist, engineering prototype, applied design, equipment modification, maintenance and repair, and related industrial activities.

Career Opportunities: The Machine Tool technician is a vital figure in any manufacturing industry. He or she must work from blueprints, understand manufacturing processes, and fabricate necessary parts through the use of lathes, mills, drills, grinding, numerical-control programming and many other processes.

A.S. Degree

Major requirements: MTT 110, 111, 120, 121, 210, 211, 220, 221, 702, 703, 704, 710, 720; DRAF 120; MANU 101, 102; WELD 300. Total: 34 semester units.

Plus General Education and other requirements for the A.S. degree (see Index: General Education).

Transfer Program

Recommended courses: completion of A.S. degree requirements listed above. Students should consult the catalog of the college or university to which they plan to transfer.

Certificate Program (Day)

Certificate requirements: completion of the A.S. degree requirements listed above, with a G.P.A. of 2.0 or higher.

Certificate Program (Evening)

This program for the general machinist includes machine tool operations for lathes, mills, drill, cutter design and grinding, and many more related topics. Students are required to supply safety glasses, texts, and basic classroom materials. MTT 750 may be substituted for MTT 200 to fulfill the drafting requirement.

Certificate requirements: MTT 701 or MANU 101; MTT 702, 750, 755, 760; plus six units selected from MTT 703; DRAF 120; ELEC 110; WELD 300, with a G.P.A. of 2.0 or higher. Total: 19 semester units.

Machine Tool Technology: Computer Numerical Control Programming

Certificate Program

This program includes work designed for upgrade of employed machinists or those with manufacturing experience or training. Instructional units include math, blueprint reading, manual and computer programming, and production problems.

Certificate requirements: MTT 200 or 750 or industrial experience; MTT 701 or MANU 102; MTT 702, 703, 704, 705; 4 additional units in MTT or Cooperative Education, with a G.P.A. of 2.0 or higher. Total: 18-21 semester units.

Mathematics

Associate in Science Degree with a major in Mathematics; Transfer Program

Recommended high school preparation: Four years of high school level mathematics, physics (one year), mechanical drawing (one year), two or more years of a foreign language (German, French, or Russian).

A.S. Degree Program

Major requirements: MATH 231; MATH 251-252-253 or 260-261-262-263; 6 to 8 units selected from MATH 200, 268, 270, 275 or CIS 240/241, 250/251, 270/271. Total: 22-25 semester units.

Plus General Education and other requirements for the A.A./A.S. degree (see Index: General Education).

Transfer Program

College of San Mateo offers a wide variety of courses for students who wish to major in Mathematics, enabling them to transfer to a university or four-year college at the end of the sophomore year. Students should consult the catalog of the college of their choice for special requirements.

Medical Assisting

Associate in Arts Degree with a major in Medical Assisting; Certificate Program

Recommended high school preparation: written and oral communication skills, typing, biology, psychology, and basic mathematics.

Career Opportunities for persons trained as medical assistants occur primarily in physicians' offices and clinics. Related positions are found in hospitals, insurance companies, medical publishing firms, laboratories, and pharmaceutical firms.

A.A. Degree

Major requirements: ACTG 100; BIOL 130; COOP 641 (Medical 3 units), MEDA 100, 110, 115, 120, 121, 140, 150, 160, 190. Total: 38 semester units.

Plus General Education and other requirements for the A.A./A.S. degree (see Index: General Education).

Certificate

Certificate requirements: completion of the above A.A. degree major requirements with a grade of C or higher in each course.

Medical Assisting: Medical Transcription

Associate in Arts Degree with a major in Medical Transcription; Certificate Program

A.A. Degree

Major requirements: BIOL 130; BUS. 300, 307, 303-304-366, 321; MEDA 110, 115, 140, 141, 160, 190 with a grade of C or higher in each course. Total: 27 semester units.

Certificate

Certificate requirements: completion of the above A.A. degree major requirements with a grade of C or higher in each course.

Military Science

Military Science is offered to qualified students on a full-time basis at College of San Mateo. Classes and leadership laboratory are conducted at San Jose State University under the supervision of the Professor of Military Science, San Jose State University.

Students may complete the first two years of Army ROTC while enrolled at College of San Mateo and qualify for enrollment in the advanced course (third and fourth year) at degree granting colleges and universities. Completion of ROTC and a baccalaureate degree qualify students for a commission in the United States Army Reserve or Regular Army.

Students may obtain enrollment forms from their counselor/ advisor or the Department of Military Science, San Jose State University (telephone (408/924-2920).

Naval ROTC

College of San Mateo students may enroll in Navy ROTC at the University of California, Berkeley. Interested students should contact the Department of Naval Science, University of California, Berkeley, (telephone 642-3551) for further information.

Music

Associate in Arts Degree with a major in Music; Transfer Program

A.A. Degree

Major requirements: 9 units from MUS. 100, 101, 102, 103, 131, 132, 133, 170; 3 units from MUS. 202, 275; 6 units from MUS. 170, 430, 451, 453, 460, 470, 490; 3 units from MUS. 301, 302, 303, 304, 320, 340, 360, 371, 372, 402, 403. Total: 21 semester units.

Plus General Education and other requirements for the A.A. degree (see Index: General Education).

Transfer Program

Recommended courses: completion of A.A. degree requirements listed above. Students should consult the catalog of the college or university to which they plan to transfer.

Nursing

Registered Nursing Program

Associate in Science Degree with a major in Nursing; Transfer Program

The College of San Mateo Nursing Program provides students with opportunities for learning at the College, local hospitals, and related health agencies. Clinical practice begins early in the first semester. A graduate of this program is prepared to care for patients in homes, hospitals, clinics, and doctor's offices.

Upon graduation, the candidate receives an Associate in Science degree and is eligible to take the California Registered Nursing examination. The graduate is also eligible to transfer to a four-year nursing program.

Admission Requirements: to be eligible for enrollment in the program, the applicant must:

1. Be a high school graduate or equivalent.
2. Have completed within the last five years high school intermediate algebra or Math 110 with a grade of C or higher or passed the CSM Math Placement Test 2 with score of 21 or higher.
3. Have completed one year of high school chemistry with lab or CHEM 410 or equivalent with a grade of C or higher.
4. Have completed within the last five years BIOL 250 or 265 or equivalent

with a grade of C or higher.
5. Be eligible for ENGL 100.
6. Have a cumulative G.P.A. of 2.5 in all college courses taken.

A.S. Degree Program

Major requirements: NURS 211, 212, 221, 222, 231, 232, 241, 242; BIOL 240, 250-260 or 265-266; PSYC 100, 201; SOCI 100; SPCH 100 or 120; ENGL 100. Total: 66-67 semester units. Each course must be completed with a grade of C or higher to qualify for the California State R.N. licensing examination.

Plus General Education and other requirements for the A.S. degree (see Index: General Education).

Transfer Program

Students who intend to transfer with a major in Nursing should plan their course at College of San Mateo to meet the general requirements for junior standing, as well as the lower division departmental requirements, of the college or university to which they wish to transfer.

Please refer to Life Science Pre-Nursing Program in College of San Mateo catalog.

Physical Education

Transfer Program

Recommended high school preparation: elementary algebra, plane geometry, biology, chemistry, competency in aquatics, rhythms and dance, individual sports and team sports.

Students who intend to transfer to a major in Physical Education should enroll and participate in two P.E. activity classes per semester. Participation on at least one varsity athletic team is also recommended. (The semester of varsity participation would satisfy the two activity classes recommended for that semester.) Students should refer to the catalog of the college of their choice for specific requirements, or consult with their College of San Mateo counselor/advisor.

Suggested Electives: biology, chemistry, anatomy, physiology, physics, sports psychology, health science.

Physical Science

Associate in Science Degree with a major in Physical Science; Transfer Program

Recommended high school preparation: elementary algebra, plane geometry, intermediate algebra, trigonometry, chemistry, physics.

A.S. Degree

Major requirements: at least one course in each of the following areas: ASTR 100, 101; CHEM 100, 410, 210; GEOL 100, 210; PHYS 100, 210, 250. Total: 18 semester units.

Suggested Electives: CHEM 231, 250; HUM. 113, 125, 127, 128; CIS 240/241, 250/251; MATH 251, 252, 253 or 260, 261, 262, 263; MATH 275; METE 100; PHYS 250, 260, 270; PSCI 100.

Plus General Education and other requirements for the A.S. degree (see Index: General Education).

Transfer Program

Recommended courses: completion of A.S. degree requirements listed above. Students should consult the catalog of the college or university to which they plan to transfer.

Physics

Associate in Science Degree with a major in Physics; Transfer Program

A.S. Degree

Major requirements: PHYS 250, 260, 270; plus 6 units from CHEM 210, 220, 224, 225, 231, 232, 250, 260; CIS 240/241, 250/251, 270/271; MATH 200, 251, 252, 253 or 260, 261, 262, 263, and 270, 275. (Note: A student completing both CHEM 210 and CHEM 224, will receive credit for CHEM 210 only; a student completing both CHEM 220 and CHEM 225, will receive credit for CHEM 220 only.) Total: 18 semester units.

Plus General Education and other requirements for the A.S. degree (see Index: General Education).

Transfer Program

Recommended courses: completion of A.S. degree requirements listed above. Students should consult the catalog of the college or university to which they plan to transfer.

Plumbing and Pipe Fitting

Associate in Science Degree with a major in Plumbing and Pipe Fitting

The courses required for this degree are administered by College of San Mateo in conjunction with the Joint Apprenticeship and Training Council. Registration is limited to those individuals fulfilling the related instruction requirements of the State of California as an indentured apprentice. For information, contact the Plumbers JATC or the college Apprenticeship Related and Supplemental Training Coordinator.

Required high school preparation: at least 18 years of age, high school graduate or GED, one semester of algebra with a grade of C or higher, and one other semester of high school math with grade of C or higher.

A.S. Degree

Major requirements: PLUM 701, 702, 703, 704, 705, 706, 707, 708, 709, 710. Total: 35 semester units.

Plus General Education and other requirements for the A.S. degree (see Index: General Education).

Certificate Program

Certificate requirements: completion of the A.S. degree requirements listed above with a grade of C or higher.

Recreation Education

Transfer Program

Recommended high school preparation: see Physical Education Transfer Program.

Students who intend to transfer to a major in Recreation Education should enroll and participate in two P.E. activity classes per semester. Participation on at least one varsity athletic team is also recommended. (The semester of varsity participation would satisfy the two activity classes recommended for that semester.)

Suggested Electives: Biology, Chemistry, Anatomy, Physiology, Physics, Sports Psychology, and Health Science.

Refrigeration and Air Conditioning Mechanics

Associate in Science Degree with a major in Refrigeration and Air Conditioning Mechanics

The courses required for this degree are administered by College of San Mateo in conjunction with the Joint Apprenticeship and Training Council. Registration is limited to those individuals fulfilling the related instruction requirements of the State of California as an indentured apprentice. For information, contact the Plumbers JATC or the college Apprenticeship Related and Supplemental Training Coordinator.

Required high school preparation: at least 18 years of age, high school graduate or GED, one semester of algebra with a grade of C or higher, and one other semester of high school math with a grade of C or higher.

A.S. Degree

Major requirements: PLUM 741, 742, 743, 744, 745, 746, 747, 748, 749, 750. Total: 35 semester units.

Plus General Education and other requirements for the A.S. degree (see Index: General Education).

Certificate Program

Certificate requirements: completion of the A.S. degree requirements listed above with a grade of C or higher.

Social Science

Associate in Arts Degree with a major in Social Science; Transfer Program

Social Science fields are many and varied, and include such areas as Cultural Anthropology, Economics, Ethnic Studies, Geography, History, International Relations, Philosophy, Political Science, Psychology, and Sociology. Students should refer to the catalog of the college of their choice for special requirements.

A.A. Degree

Major requirements: ENGL 195 (recommended that this be taken concurrently with the student's second course in the Social Sciences) plus 18 units selected from at least 3 of the following, with a minimum of 2 courses in one of the following: anthropology; economics (not including ECON 123); ethnic studies (not including ETHN 288, 350, 351, 585); geography (not including GEOG 100); history; political science; psychology (not including PSYC 121); social science (not including SOSC 111); sociology. Total: 19 semester units.

Plus General Education and other requirements for the A.A. degree (see Index: General Education).

Transfer Program

Recommended courses: completion of A.A. degree requirements listed above. Students should consult the catalog of the college or university to which they plan to transfer.

Spanish

Associate in Arts Degree with a major in Spanish; Transfer Program; Departmental Certification

A.A. Degree

Major requirements: completion of 18 units of Spanish language courses (excluding the 800 series). Total: 18 semester units.

With Language Arts Division approval, ANTH 110 may be accepted as part of the 18 units.

Plus General Education and other requirements for the A.A. degree (see Index: General Education).

Transfer Program

Recommended courses: completion of A.A. degree requirements listed above. Students should consult the catalog of the college or university to which they plan to transfer.

Departmental Certification

Students who feel written proof of their proficiency in Spanish would be beneficial to their careers may apply for Departmental Certification after they have completed SPAN 140 and a minimum of two additional units and have passed the department tests on aural comprehensive and speaking fluency.

Speech

Associate in Arts Degree with a major in Speech; Transfer Program

A.A. Degree

Major requirements: SPCH 100, 111 or 112, 120, 130, 150; 6 units selected from English or literature courses. Total: 21 semester units.

Plus General Education and other requirements for the A.A. degree (see Index: General Education).

Transfer Program

Recommended courses: completion of A.A. degree requirements listed above. Students should consult the catalog of the college or university to which they plan to transfer.

Technical Art and Graphics

Associate in Arts Degree with a major in Technical Art/Graphics; Transfer Program; Certificate Program

Career Opportunities: numerous opportunities for artists with technical art and graphics training, including research and development centers, technical publications, manufacturing plants, state and federal bureaus, educational institutions, and advertising agencies.

A.A. Degree

Major requirements: TA&G 201-202, 210, 220, 230, 300, 310, 352; TA&G 400 or 641; ART 202 or 328. Total: 36 semester units.

Plus General Education and other requirements for the A.A. degree (see Index: General Education).

Transfer Program

Recommended courses: completion of A.A. degree requirements listed above. Students should consult the catalog of the college or university to which they plan to transfer.

Certificate Program

Certificate requirements: completion of the A.A. degree major requirements listed above with a grade of C or higher in each course. Total: 36 semester units.

Technical Art and Graphics: Industrial Design

Transfer Program

Career Opportunities: industrial designers work for manufacturing companies and independent design offices. Today, nearly every manufacturer of consumer hard goods, housewares, appliances, automobiles, and electronic equipment has a design staff or retains a consultant.

Students should refer to the catalog of the college of their choice for special requirements since the three California colleges approved by the Industrial Design Society of America vary considerably in their recommendations for undergraduate preparation.

Recommended courses: TA&G 201, 210, 220, 310. Total: 18 semester units.

Suggested Electives: MANU 120.

In addition, the three colleges referred to above typically also require these courses: ART 102, 103; BIOL 110; ECON 100; PHYS 210, 220; SPCH 100.

Vocational Gardening

(See Horticulture)

Welding Technology

Associate in Science Degree with a Major in Welding Technology; Transfer Program; Certificate Programs

Recommended high school preparation: high school graduate or equivalent or 18 years of age, elementary algebra, physics, mechanical drawing, drafting, keyboarding, or word processing.

A.S. Degree

Major requirements: WELD 110, 111, 120, 121, 210, 211, 220, 221, 250; DRAF 120; ELEC 110; MANU 101, 200; PHYS 100 or MANU 100. Total: 48 semester units.

Plus General Education and other requirements for the A.A. degree (see Index: General Education).

Transfer Program

Recommended courses: completion of A.A. degree requirements listed above. Students should consult the catalog of the college or university to which they plan to transfer.

Welding Technology: Welding Technician

Certificate Program

Certificate requirements: completion of the major requirements listed above with a G.P.A. of 2.0 or higher.

Welding Technology: General Welder

Certificate Program

Recommended high school preparation: elementary algebra, physics, mechanical drawing.

Certificate requirements: WELD 110, 111, 120, 121, 250; DRAF 120; MANU 101, 200; PHYS 100 or MANU 100. Total: 27 semester units.

Welding Technology: Manufacturing Technology (formerly TIG Welder)

Certificate Program

Career Opportunities: The field of manufacturing technology offers employment in automotives, aircraft, guided missiles, nuclear energy, railroads, radio, television, appliances, department stores and food processing plants.

Certificate requirements: WELD 300, 700; DRAF 120; ELEC 110; MTT 200 or 750; MTT 701 or MANU 101; MTT 755; DRAF 100; WELD 250 plus 3 units selected from BUS. 300, 303, and 304 or 301, 302 and 365 or ELEC 260 or 280 or MTT 702, 703 or 755 or EHMT 100. Total: 24 semester units.

Women's Studies

College of San Mateo currently offers Women's Studies courses in various academic disciplines. These include HIST 260: Women in American History (3 units), which surveys the accomplishments of American women from colonial times to the present. The roles played by American women of different racial and local origins are explored in depth. LIT. 251: Women in Literature (3 units) investigates the images of women in English and American literature and introduces students to important contemporary women writers. PLSC 255: Women, Politics and Power (3 units) examines the changing role of women in the American political process. CRER 101-102-103: College Re-entry (1-3 units) analyzes the student's present abilities and interests, develops college-level study skills, examines career opportunities for women, and provides academic and career counseling in a milieu supportive of women.

An academic major in Women's Studies is now available at some four-year colleges and universities. Students interested in majoring in Women's Studies should consult the catalog of the college of their choice for detailed information. In addition, the College of San Mateo offers a College Re-Entry Program for students whose formal education has been interrupted or postponed (see Index: Re-entry Program).

California Articulation Number (CAN)

The California Articulation Number (CAN) identifies some of the transferable lower-division introductory courses commonly taught within each academic discipline on college campuses.

The system assures students that CAN courses on one participating campus will be accepted in lieu of the comparable CAN course on another participating campus.

The CAN system is new and growing and designed to facilitate student transfer between and among public institutions of higher education in California. CANs are listed parenthetically after the course description in the section which follows.

Description of Courses

The following special courses may be offered in instructional programs as recommended by the appropriate Division Dean and approved by the Committee on Instruction. See class schedule for specific course descriptions and current semester offerings.

641 Cooperative Education (1-4) *(Grade option.)* Work experience in a field related to a career goal, supplemented by individual counseling from an instructor-coordinator. (See Index: "Cooperative Education.") (CSU)

680 – 689 Selected Topics (1-3) *Hours by arrangement.* Selected topics not covered by regular catalog offerings. Course content and unit credit to be determined by the appropriate division in relation to community-student need and/or available staff. May be offered as a seminar, lecture, or lecture/laboratory class. (CSU)

690 Special Projects (1-2) *Hours by arrangement. Prerequisite: 3.0 G.P.A. in subject field.* Independent study in a specific field or topic, directed by an instructor and supervised by the Division Dean. Students are eligible to request approval of a special project only after successfully completing at least two college-level courses in the subject field. (Note: Students normally may receive credit for only one special project per semester.) (CSU)

680 and 690 courses are also transferable to UC, contingent upon a review of the course outline by a UC campus. Maximum credit allowed in Selected Topics and Special Projects is 3 units per term, with 6 units total in any or all subject areas combined.

880 – 889 Selected Topics (1-3) *Hours by arrangement. Nontransferable course.* Selected topics not covered by regular catalog offerings. Course content and unit credit to be determined by the appropriate division in relation to community-student need and/or available staff. May be offered as a seminar, lecture, or lecture/laboratory class.

Accounting

100 Accounting Procedures (3) *Three lecture hours per week. Prerequisite: completion of or concurrent enrollment in BUS. 115 or 810 or equivalent.* Introductory course to prepare students to record business transactions using a formal accounting system. Includes practical applications of accounting procedures for both a merchandising and service business. A computer is used to practice the accounting procedures. (CSU)

121 Financial Accounting (5) *Five lecture hours plus two lab hours by arrangement per week. Prerequisites: BUS. 311; MATH 110 or equivalent; and eligibility for ENGL 100. Sophomore standing recommended.* Study of generally accepted accounting principles, procedures, and concepts that apply to sole proprietorships, partnerships, and corporations. Practice in applying theory to the accumulation and recording of accounting data, leading to preparation of financial statements. (CSU/UC) (CAN BUS 2)

131 Managerial Accounting (5) *Five lecture hours plus two lab hours by arrangement per week. Prerequisite: ACTG 121 or equivalent with a grade of C or higher.* Introduction to uses of accounting information by management for analysis, planning, decision-making, and control. Includes product cost accumulation, cost-volume-profit analysis, responsibility accounting, budgeting, and long- and short-term decision-making including capital budgeting. (CSU/UC)

141 Accounting Management Applications (5) *Five lecture hours per week. Prerequisite: ACTG 131 or equivalent with a grade of C or higher.* Management concepts of internal control; analysis, design, and implementation of an accounting information system, with business ethics integrated.

142 Automated Accounting (3) *(Credit/No Credit or Letter Grade Option.) Three lecture hours per week. Prerequisite: ACTG 100 or 121 or equivalent.* Practical application of accounting procedures utilizing a microcomputer and an integrated accounting software package. Study of software and hardware evaluation, internal control issues, and systems implementation as they apply to a computerized accounting environment. Manual to automated system conversion. (CSU)

171 Federal Income Tax I (3) *Three lecture hours per week. Prerequisite: ACTG 121 or equivalent.* Procedures for computing the income tax liability of individuals in accordance with the latest income tax laws and regulations. Practice in solving typical problems and in the preparation of tax returns.

172 Federal Income Tax II (3) *Three lecture hours per week. Prerequisite: ACTG 121 or equivalent.* Procedures for computing the income tax liability of partnerships, corporations, estates, and trusts in accordance with the latest income tax laws and regulations. Practice in solving typical problems in the preparation of tax returns.

641 Cooperative Education (1-4) (See first page of Description of Courses section.) (CSU)

680 – 689 Selected Topics (1-3) (See first page of Description of Courses section.) (CSU)

690 Special Projects (1-2) (See first page of Description of Courses section.) (CSU)

880 – 889 Selected Topics (1-3) (See first page of Description of Courses section.)

Administration of Justice

(Law Enforcement)

100 Introduction to Administration of Justice (3) *Three lecture hours per week. Required of all Administration of Justice majors in the freshman year.* History and philosophy of administration of justice in America; recapitulation of the system; identification of the various subsystems, role expectations, and their interrelationships; theories of crime; education and training for professionalism in the system. (This course is part of the core curriculum.) (CSU/UC*)

102 Principles and Procedures of the Justice System (3) *Three lecture hours per week.* Detailed study of the role and responsibilities of each segment of the administration of justice system: law enforcement, judiciary, and corrections. Analysis of past, present, and future exposure to each subsystem; procedures from

initial entry to final disposition; and the relationship each segment maintains with its system members. (This course is part of the core curriculum.) (CSU/UC*)

104 Concepts in Criminal Law (3)
Three lecture hours per week. Historical development; philosophy of law and constitutional provisions; definitions; classifications of crime and their application to the system of administration of justice; legal research, study of case law, and methodology and concepts of law as a social force. (This course is part of the core curriculum.) (CSU/UC) (CAN AJ 4)

106 Legal Aspects of Evidence (3)
Three lecture hours per week. Origin, development, philosophy, and constitutional basis of evidence; constitutional and procedural considerations affecting arrest, search, and seizure; kinds and degrees of evidence and rules governing their admissibility; judicial decisions interpreting individual rights and case studies. (This course is part of the core curriculum.) (CSU) (CAN AJ 6)

108 Community Relations (3)
Three lecture hours per week. Comprehensive exploration of the roles of administration of justice practitioners and their agencies. Analysis of relationships between agencies and the public. Emphasizes the professional image of the system of justice administration and the development of positive relationships between the system and the public. (This course is part of the core curriculum.) (CSU/UC)

120 Criminal Investigation (3)
Three lecture hours per week. Basic principles of criminal investigations. Includes human aspects of dealing with the public; specific knowledge necessary for handling crime scenes; interviews, evidence, surveillance, follow-up, technical resources, and case preparation. (CSU)

125 Juvenile Procedures (3)
Three lecture hours per week. Study of extent, causes, and prevention of juvenile delinquency; analysis of juvenile courts, probation, institutional treatment, and parole and prevention programs. The sociological and anthropological approaches to juvenile delinquency in terms of their relation to the administration of justice systems. (CSU)

153 Patrol Procedures (3)
Three lecture hours per week. Prerequisite: completion of or concurrent enrollment in ADMJ 100. Methods, techniques, and responsibilities of the patrol unit. The value of a one-person car as opposed to a two-person car; marked vs. unmarked patrol cars; beat patrol and observation; police hazards and how to handle them. (CSU)

165 Police Organization and Administration (3) *Three lecture hours per week. Prerequisites: ADMJ 100 and 102 and sophomore standing or possession of POST Basic Certificate.* Study of police organization and administration. Covers chain of command, span of control, functional supervision, unity of command, and the purpose of the police organization and administration. (CSU)

641 Cooperative Education (1-4)
(See first page of Description of Courses section.) (CSU)

680 – 689 Selected Topics (1-3)
(See first page of Description of Courses section.) (CSU)

690 Special Projects (1-2)
(See first page of Description of Courses section.) (CSU)

755 Advanced Officers Course (1-2.5)
Twenty to forty lecture hours per semester by arrangement. Prerequisite: satisfactory completion of a basic law enforcement course approved by POST (Peace Officer Standards and Training Commission). New laws, recent court decisions, current enforcement procedures, new concepts in law enforcement technology, community relations, and other refresher training as may be necessary. Certified by POST (Peace Officer Standards and Training Commission). (To maintain competency, may be repeated for credit as required by POST.)

761 State Security Requirements: Fire Arms Training (.5) *Eight lecture and six lab hours per semester.* Designed to train contract, private patrol, and proprietary guards in handgun use. Requires lecture and range qualification. (Meets State of California requirements. College will certify student to Bureau of Collection and Investigation Services upon successful completion of written exam and range firing.) (Note: Any person convicted of a felony may be violating the law by participating in this firearms course.)

762 Security Baton Training (.5)
Total of twelve lecture hours. Study of the legal and moral aspects of the use of force. Instruction in baton procedures, defensive and offensive control, and arrest techniques. Students must meet performance objectives. This course is certified by POST (Peace Officers Standards and Training Commission) and fulfills the requirements of the Consumer Affairs Division. Students should contact the Administration of Justice Office before the class meets.

766 Chemical Firearm Instruction (.5)
Six lecture and twelve lab hours per semester by arrangement. Prerequisite: completion of or concurrent enrollment in ADMJ 771 or 772. History and use in law enforcement of nonlethal chemical agents. Field application and exposure to chemical agents and first aid for exposure victims. Safety instruction for firing range operation; care, safety, and use of chemical agent weapons, including range familiarization. Conforms to POST (Peace Officers Standards and Training) requirement for chemical agents training. (Note: Any person convicted of a felony may be violating the law by participating in the firearms portion of this course.)

770 Advanced Dispatcher/Clerk (1-2.5)
Twenty to forty lecture hours per semester. Preparation for a position as a dispatcher and/or complaint clerk with a law enforcement agency. Review of procedures to upgrade the skills of those presently employed in this field.

771 Reserve Officers Basic Training Module A (3) *Forty-four lecture and twelve lab hours per semester.* Arrest, search, and seizure; theory and practical application of related laws; firearms, legal consideration, safety standards, and procedures. Range-firing of weapon and qualification by students. Students must meet performance objectives upon completion of course. Course is certified by POST (Peace Officer Standards and Training Commission) as required under Penal Code Section 832.6 (a) (1). (Note: Any person convicted of a felony may be violating the law by participating in the firearms portion of this course.)

772 Reserve Officers Basic Training Module B (5) *Eighty lecture and sixteen lab hours per semester. Prerequisite: ADMJ 771.* Role of the back-up officer, including law, communications, driver

awareness, force and weaponry, patrol procedures, traffic, and custody and defense tactics. Upon completion of the course, students must meet the required performance objectives. Course certified by POST (Peace Officers Standards and Training) to partially fulfill requirements for Reserve Peace Officers defined under Penal Code Section 822.6 (a). (Note: Any person convicted of a felony may be violating the law by participating in the firearms portion of this course.)

773 Reserve Officers Basic Training Module C (4) *Sixty-eight lecture hours. Prerequisites: completion of Modules A and B of Reserve Officers Basic Training as defined by POST.* Criminal law, criminal evidence, criminal investigation, introduction to law enforcement, juvenile procedures, patrol procedures, police-community relations, and traffic laws and control. Certified by POST (Peace Officer Standards and Training Commission). When successfully completed with ADMJ 771 and 772, meets minimum classroom requirements for Non-designated Level 1 Reserve Officers.

880 – 889 Selected Topics (1-3) (See first page of Description of Courses section.)

Aeronautics

(Also see Meteorology 100 and 110)

Students in airframe and powerplant courses required to provide their own tools and supplies and to pay fees for airplane taxiing.

100 Private Pilot Ground School I (1.5) *Three lecture hours per week for eight weeks. Prerequisite: for day students, concurrent enrollment in AERO 126.* Phase I for preparation to take FAA Private Pilot written examination. Principles of flight, Federal Aviation Regulations, flight environment, aircraft performance, and aviation weather. (CSU)

101 Instrument Pilot Ground School I (1.5) *Three lecture hours per week for eight weeks. Prerequisites: for day students, AERO 104 and 126 with a grade of C or higher and concurrent enrollment in AERO 115 and 137 and METE 100 or 110; for evening students, private pilot license or AERO 104 with a grade of C or higher.* Phase I for preparation to take FAA Instrument Pilot written examination. Federal Aviation Regulations, principles of IFR flight, instrument navigation, IFR flight environment, ATC clearances, charts for instrument flight, instrument approaches. (CSU)

102 Commercial Pilot Ground School I (1.5) *Three lecture hours per week for eight weeks. Prerequisites: for day students, AERO 104, 105, 115, and 137 with a grade of C or higher; for evening students, private pilot license or AERO 104 with a grade of C or higher.* Phase I for preparation to take FAA Commercial Pilot written examination. Includes Federal Aviation Regulations 67, 71, 73, 137, and advanced navigation. (CSU)

104 Private Pilot Ground School II (1.5) *Three lecture hours per week for eight weeks. Prerequisites for day students, AERO 100 with a grade of C or higher and concurrent enrollment in AERO 126; for evening students, AERO 100 with a grade of C or higher.* Phase II for preparation to take FAA Private Pilot written examination. Weather charts, navigation, cross country flight planning, emergency procedures, and aviation medical considerations. (CSU)

105 Instrument Pilot Ground School II (1.5) *Three lecture hours per week for eight weeks. Prerequisites: for day students, AERO 101 and 126 with a grade of C or higher and concurrent enrollment in AERO 115 and 137 and METE 100 or 110; for evening students, AERO 101 with a grade of C or higher.* Phase II for preparation to take FAA Instrument Pilot written examination. IFR operations, holding patterns, departure and arrivals, meteorology/weather charts, IFR flight plan, emergency procedures, physiology of IFT flight. (CSU)

106 Commercial Pilot Ground School II (1.5) *Three lecture hours per week for eight weeks. Prerequisite: AERO 102.* Phase II for preparation to take FAA Commercial Pilot written examination. Includes high performance aircraft systems and operations, weather and forecast charts. (CSU)

115 Aircraft Powerplant for Pilots (3) *Three lecture hours per week.* Theory, operation, and nomenclature of reciprocating and turbine powerplants. Basic construction of induction, ignition, lubrication, propellers, and other systems; use of performance curves. (CSU)

126 Introduction to Aeronautics for Pilots (3) *Three lecture hours per week.* Study of subsonic, transonic, and supersonic flight with emphasis on stability and control. Aircraft nomenclature, design features, systems components, and construction, including fixed and rotary wing aircraft. Weight and balance, load-factor calculations on aircraft, and introduction to the Federal Aviation Regulations systems. (CSU)

130 Introduction to Aeronautics for Mechanics (3) *Three lecture hours per week. Prerequisite: one year of high school algebra with a grade of C or higher and concurrent enrollment in ELEC 240/241 and 242/243; eligibility for ENGL 800 or higher recommended.* Introduction to aeronautical technology, including basic electricity, shop mathematics, history of flight, aerodynamics, and aircraft propulsion systems. Designed primarily for students planning to enter the F.A.A. approved maintenance curriculum. (CSU)

Also see ELEC 240/241 and 242/243, Aircraft Electricity)

137 Federal Aviation Regulations (3) *Three lecture hours per week. Prerequisite: completion of or concurrent enrollment in AERO 101.* Study and practical application of Federal Aviation Regulations and the Airman's Information Manual in relation to general operating and flight rules, definitions and abbreviations, pilot certification, and National Transportation Safety Board accident reporting.

300 General Maintenance I (2.5) *Five lecture hours per week for eight weeks. Prerequisites: AERO 130 and ELEC 240/241 and 242/243 OR at least one year of practical experience in the aviation maintenance industry. (Experience must be verified and approved by the aeronautics coordinator.) Concurrent enrollment in AERO 301.* Blueprint reading, mechanical drawing, aircraft weight and balance procedures, and other maintenance functions as specified in Federal Aviation Regulations Part 147. (CSU)

301 General Maintenance Lab I (4) *Twenty-five lab hours per week for eight weeks. Prerequisite: concurrent enrollment in AERO 300.* Aircraft weighing, nondestructive testing, basic heat treating, use of technical manuals, and other maintenance functions as specified in Federal Aviation Regulation Part 147. (CSU)

320 Powerplant Maintenance I (2.5) *Five lecture hours per week for eight weeks. Prerequisites: ELEC 240/241, 242/243, and concurrent enrollment in AERO 321.* Piston engine construction and operation and basic powerplant indicating systems, as specified in Federal Aviation Regulations Part 147. (CSU)

321 Basic Powerplant Maintenance Lab I (4) *Twenty-five lab hours per week for eight weeks plus one and one- quarter lab hours per week by arrangement. Prerequisites: concurrent enrollment in AERO 320.* Inspection and repair of opposed and radial piston engines; powerplant inspections; inspection of engine indicating systems as specified by Federal Aviation Regulations Part 147. (CSU)

330 Airframe Maintenance I (2.5) *Five lecture hours per week for 8 weeks. Prerequisites: ELEC 240/241, 242/243, and concurrent enrollment in AERO 331.* Principles of aircraft sheet metal structures, identification of aircraft fasteners, and aircraft sheet metal layout and fabrication as specified in Federal Aviation Regulations Part 147. (CSU)

331 Airframe Maintenance Lab I (4) *Twenty five lab hours per week for eight weeks plus one and one- quarter lab hours per week by arrangement. Prerequisite: concurrent enrollment in AERO 330.* Installation of special rivets and fasteners, inspection and repair of sheet metal structures, fabrication of tubular structures, and other aircraft structural maintenance functions as specified by Federal Aviation Regulations Part 147. (CSU)

340 Powerplant Maintenance II (2.5) *Five lecture hours per week for eight weeks. Prerequisites: AERO 320/321 and concurrent enrollment in AERO 341.* Fundamentals of turbine engine construction and operation and piston and turbine engine fuel metering systems as specified in Federal Aviation Regulations Part 147. (CSU)

341 Powerplant Maintenance Lab II (4) *Twenty-five lab hours per week for eight weeks plus one and one- quarter lab hours per week by arrangement. Prerequisite: concurrent enrollment in AERO 340.* Inspection and service of turbine engines and repair of engine fuel metering components as specified in Federal Aviation Regulations Part 147. (CSU)

350 Airframe Maintenance II (2.5) *Five lecture hours per week for eight weeks. Prerequisites: AERO 330/331 and concurrent enrollment in AERO 351.* Principles of construction of aircraft wooden structures, repair of aircraft synthetic material, and principles of rigging fixed- and rotary- wing aircraft as specified in Federal Aviation Regulations Part 147. (CSU)

351 Airframe Maintenance Lab II (4) *Twenty-five lab hours per week for eight weeks plus one and one- quarter lab hours per week by arrangement. Prerequisite: concurrent enrollment in AERO 350.* Application of aircraft covering material; aircraft painting; rigging of fixed- and rotary-wing aircraft as specified in Federal Aviation Regulations Part 147. (CSU)

360 Powerplant Maintenance III (2.5) *Five lecture hours per week for eight weeks. Prerequisites: AERO 340\341 and concurrent enrollment in AERO 361.* Theory of operation of engine fire detection and control systems; theory of operation and construction of aircraft propellers and related components as specified in Federal Aviation Regulations Part 147. (CSU)

361 Powerplant Maintenance Lab III (4) *Twenty-five hours per week for eight weeks plus one and one- quarter lab hours per week by arrangement. Prerequisite: concurrent enrollment in AERO 360.* Inspection and repair of engine exhaust and cooling systems; repair and balancing of propellers as specified in Federal Aviation Regulations Part 147. (CSU)

370 Airframe Maintenance III (2.5) *Five lecture hours per week for eight weeks. Prerequisites: AERO 350\351 and concurrent enrollment in AERO 371.* Theory of operation of aircraft hydraulic, pneumatic, oxygen, and auto-pilot systems and other aircraft systems and components as specified in Federal Aviation Regulations Part 147. (CSU)

371 Airframe Maintenance Lab III (4) *Twenty-five lab hours per week for eight weeks plus one and one- quarter lab hours per week by arrangement. Prerequisites: concurrent enrollment in AERO 370.* Inspection and repair of aircraft hydraulic, fuel, pneumatic, and instrument systems and other aircraft components and systems as specified in Federal Aviation Regulations Part 147. (CSU)

641 Cooperative Education (1-4) (See first page of Description of Courses section.) (CSU)

680 – 689 Selected Topics (1-3) (See first page of Description of Courses section.) (CSU)

690 Special Projects (1-2) (See first page of Description of Courses section.) (CSU)

880 – 889 Selected Topics (1-3) (See first page of Description of Courses section.)

Anthropology

(Also see Biology 125)

110 Cultural Anthropology (3) *(Credit/No Credit or Letter Grade option.) Three lecture hours per week.* Study of culture as the man-made environment of particular societies. Introduction to the anthropological point of view. Cross-cultural comparisons of cultural practices in specific societies and sub-cultures, including contemporary ethnic groups in the United States. (CSU/UC) (CAN ANTH 4)

180 Magic, Science & Religion (3) *(Credit/No Credit or Letter Grade option.) Three lecture hours per week.* Cross-cultural study of preliterate societies' beliefs about the nature of reality, and their religious, scientific, and magical practices as a consequence of these beliefs. Primitive techniques for controlling both the natural and the supernatural. (CSU/UC)

680 – 689 Selected Topics (1-3) (See first page of Description of Courses section.) (CSU)

690 Special Projects (1-2) (See first page of Description of Courses section.) (CSU)

880 – 889 Selected Topics (1-3) (See first page of Description of Courses section.)

Apprenticeship Training

The courses in this section are administered by College of San Mateo in conjunction with various trade and industry joint apprenticeship committees. Registration is limited to those students fulfilling the related instruction requirements of the State of California as indentured apprentices. For more information contact the Apprenticeship Office.

641 Cooperative Education (1-4)
(See first page of Description of Courses section.)

880 – 889 Selected Topics (1-3)
(See first page of Description of Courses section.)

Electrical Apprenticeship (ELEL)

Prerequisite: indenture in the Electrical Apprenticeship Program, approved by the California State Division of Apprenticeship Standards.

701 Electrical Apprenticeship I (3)
Two and one-half lecture and two and one-half lab hours per week. Safety, wiring methods, tools, introduction to the code, structure of matter, wire, electron theory, resistance, Ohm's Law, electrical math, power, fastening devices, conduit, series and parallel circuits, combination circuits, and overcurrent protection devices.

702 Electrical Apprenticeship II (3)
Two and one-half lecture and two and one-half lab hours per week. Safety, wiring methods, voltage drop, magnetism, grounding, principles of generation, electrical plans, circuit calculations, DC motors and generators, three-phase AC, resistive circuits, general lighting, and first aid.

703 Electrical Apprenticeship III (3)
Two and one-half lecture and two and one-half lab hours per week. Safety, wiring methods, math of AC circuits, incandescent lamps, electrical testing, inductance, AC and DC meters, rectifiers, transformers, reactance, capacitance, capacitors, Wholt job, projection, and isometric line sketching.

704 Electrical Apprenticeship IV (3)
Two and one-half lecture and two and one-half lab hours per week. Safety, wiring methods, series and parallel RC & RL circuits, rigging, motor drives, calculations, LC circuits, fire alarms, refrigeration cycle, basic air conditioning, short circuit calculations, and T.I.

705 Electrical Apprenticeship V (3)
Two and one-half lecture and two and one-half lab hours per week. Safety, theory, wiring systems, distribution systems, basic principles of A/C motors, power in A/C circuits (power factor)capacitors, split phase motors, repulsion motors including pole shaded, universal and three-phase and electrical riser diagrams, service and feeders, and three-phase transformers.

706 Electrical Apprenticeship VI (3)
Two and one-half lecture and two and one-half lab hours per week. Motor starting, protective controls, hazardous locations, starters and relays, developing simple circuits, sequence control circuits, current analysis, trouble shooting, fluorescent lamps, wiring and piping, and circuit economics.

707 Electrical Apprenticeship VII (3)
Two and one-half lecture and two and one-half lab hours per week. Nuclear safety, foremanship, resonance (series and parallel), semiconductors, busways, transistors, wiring roughing, amplifiers, electric closets, coupling networks, and oscillators.

708 Electrical Apprenticeship VIII (3)
Two and one-half lecture and two and one-half lab hours per week. Application of electronics, measurement and control, emergency lighting, temperature, pressure and levels, metric system, static control, metrication, journeyman status, and code review.

Fire-Medic Apprenticeship (FIME)

Fire-Medic Apprenticeship

Prerequisite: indenture in the Fire-Medic Apprenticeship Program, approved by the California State Division of Apprenticeship Standards.

701 Fire Command IA Apprenticeship (2.5) *(Credit/No credit.) Forty lecture hours per semester by arrangement.* The role of the fireground officer, the emergency decision- making process, basic tactics and strategies, fireground stress, operational standards, and command and control components.

702 Fire Command IB Apprenticeship (2.5) *(Credit/No credit.) Forty lecture hours per semester by arrangement.* Management of hazardous materials incidents, emergency response, D.O.T., CHEMTREC, protective clothing and decontamination, evacuation, and containment and disposal.

703 Fire Instructor 1A Apprenticeship (2.5) *(Credit/No credit.) Forty lecture hours per semester by arrangement.* Preparation of course outlines, job breakdowns, behavioral objectives, and manipulative lesson plans. Instruction in the importance of the occupational analysis, terms of education, teaching methods, and the psychology of learning.

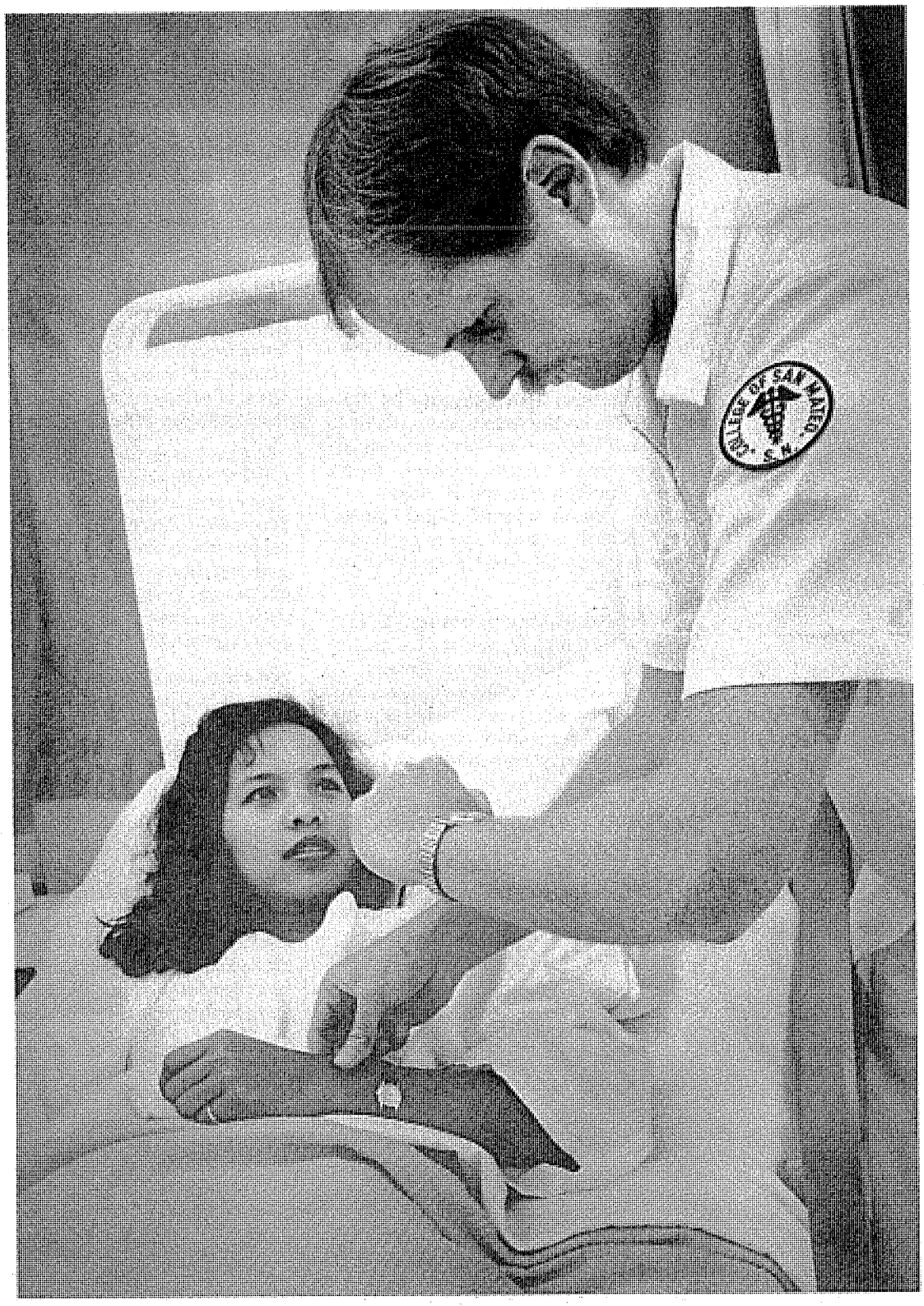
704 Fire Instructor IB Apprenticeship (2.5) *(Credit/No credit.) Forty lecture hours per semester by arrangement.* Preparation of technical lesson plans, supplementary instruction sheets, test planning sheets, and written and oral examinations. Includes the fundamentals of evaluation, lesson plan formats, and the principles of effective instruction.

705 Fire Investigation IA Apprenticeship (2.5) *(Credit/No credit.) Forty lecture hours per semester by arrangement.* Responsibilities of the investigator, cause and origin investigation, techniques and reports, and legal responsibilities.

706 Fire Management I Apprenticeship (2.5) *(Credit/No credit.) Forty lecture hours per semester by arrangement.* Management techniques, including management by objective and participatory management, understanding human needs, decision making, and team building, Equal Employment Opportunity, communications, and disputes.

707 Fire Prevention IA Apprenticeship (2.5) *(Credit/No credit.) Forty lecture hours per semester by arrangement.* Duties and responsibilities of prevention personnel, relation of building and fire codes, type and classification of flammable liquids, regulatory identification, and extinguishing systems.

708 Fire Prevention IB Apprenticeship (2.5) *(Credit/No credit.) Forty lecture hours per semester by arrangement.* Life safety requirements in building construction, exiting, sprinkler systems, hood and duct systems, and smoke and fire detection and alarm systems.


COLLEGE OF SAN MATEO
U. S. A.

711 Fire Heavy Rescue Apprenticeship (2.5) *(Credit/No credit.) Forty lecture hours per semester by arrangement.* Heavy rescue method operations, basic building construction and collapse characteristics, organization, personnel limitations, environmental consideration, resource identification, ropes and application, vertical techniques, considerations and aerial hazards, damaged building operations, specialized situations, transportation emergencies, and high-rise and elevator rescue.

Emergency Medical Technician

Prerequisite: registration in the E.M.T. Apprenticeship Program, approved by the California State Division of Apprenticeship Standards.

771 Emergency Medical Technician/ Nonambulatory (6) *(Credit/No credit.) One hundred lecture and five lab hours per semester by arrangement.* Training for Emergency Medical Technicians; their roles and responsibilities in the primary and secondary survey and treatment of the patient.

775 Emergency Medical Technician/ Nonambulatory—Re-Certification Apprenticeship (2.5) *(Credit/No credit.) Forty lecture hours per semester by arrangement. Prerequisite: possession of a valid E.M.T.-1 NA Certificate.* Refresher course for those in need of EMT/Fire Service re-certification. Includes updated and new technology in emergency prehospital care.

Lithographer Apprenticeship
(LITH)

Prerequisite: indenture in the Lithographer Apprenticeship Program, approved by the California State Division of Apprenticeship Standards.

701 Lithographer Apprenticeship I (1.5) *(Credit/No credit.) One lecture hour and two lab hours per week.* Basic lithography. May include mechanical art assembly and color correction depending on the need of the individual apprentice.

702 Lithographer Apprenticeship II (1.5) *(Credit/No credit.) One lecture hour and two lab hours per week.* Mechanical art assembly, densitometry/sensitometry, camera I, color correction, image assembly I, platemaking, basic offset press operation, and ink technology. Specific topics adapted to needs of the individual apprentice.

703 Lithographer Apprenticeship III (1.5) *(Credit/No credit.) One lecture hour and two lab hours per week.* Mechanical art assembly, densitometry/sensitometry, camera I, camera II, color correction, image assembly II, platemaking, basic offset press operation, advanced offset press operation, and ink technology. Specific topics adapted to needs of the individual apprentice.

704 Lithographer Apprenticeship IV (1.5) *(Credit/No credit.) One lecture hour and two lab hours per week.* Mechanical art assembly, densitometry/sensitometry, camera I, camera II, camera III, scanner operation, color correction,image assembly I, image assembly II, image assembly III, platemaking, basic offset press operation, advanced offset press operation, and ink technology. Specific topics adapted to needs of the individual apprentice.

Plumbing Apprenticeship
(PLUM)

Plumbing and Pipefitting

Prerequisite: indenture in the Plumbing Apprenticeship Program, approved by the California State Division of Apprenticeship Standards.

701 Plumbing Apprenticeship I (3.5) *Three lecture and two lab hours per week.* Safety, first aid, use and care of tools, history of and materials used in the plumbing industry, and shop assembly.

702 Plumbing Apprenticeship II (3.5) *Three lecture and two lab hours per week.* Mathematics, science, and mechanics applying to plumbing.

703 Plumbing Apprenticeship III (3.5) *Three lecture and two lab hours per week.* Plumbing codes and water supply systems.

704 Plumbing Apprenticeship IV (3.5) *Three lecture and two lab hours per week.* Introduction to drawing and plumbing fixtures.

705 Plumbing Apprenticeship V (3.5) *Three lecture and two lab hours per week.* Advanced plumbing and piping layout, pipe fixtures and supports, and drainage.

706 Plumbing Apprenticeship VI (3.5) *Three lecture and two lab hours per week.* Aspects of plumbing service work.

707 Plumbing Apprenticeship VII (3.5) *Three lecture and two lab hours per week.* Cutting; gas and arc welding.

708 Plumbing Apprenticeship VIII (3.5) *Three lecture and two lab hours per week.* Hydronic and solar heating.

709 Plumbing Apprenticeship IX (3.5) *Three lecture and two lab hours per week.* Further instruction in drawing and plan reading.

710 Plumbing Apprenticeship X (3.5) *Three lecture and two lab hours per week.* Further instruction in plumbing codes, builders' transit levels, and basic heating.

Steamfitting/Pipefitting

Prerequisite: indenture in the Steamfitter, Pipefitter Apprenticeship Program, approved by the California State Division of Apprenticeship Standards.

721 Steamfitter, Pipefitter Apprenticeship I (3.5) *Three lecture and two lab hours per week.* Safety and health; use and care of tools; soldering and brazing.

722 Steamfitter, Pipefitter Apprenticeship II (3.5) *Three lecture and two lab hours per week.* Mathematics and pipe measurements.

723 Steamfitter, Pipefitter Apprenticeship III (3.5) *Three lecture and two lab hours per week.* Oxyacetylene cutting and burning; basic shielded metal arc welding.

724 Steamfitter, Pipefitter Apprenticeship IV (3.5) *Three lecture and two lab hours per week.* Drawing interpretation.

725 Steamfitter, Pipefitter Apprenticeship V (3.5) *Three lecture and two lab hours per week.* Rigging and signaling, pipe materials, and basic science.

726 Steamfitter, Pipefitter Apprenticeship VI (3.5) *Three lecture and two lab hours per week.* Pumps and steam systems.

727 Steamfitter, Pipefitter Apprenticeship VII (3.5) *Three lecture and two lab hours per week.* Introduction to industrial pipe fitting and hydronic heating systems.

728 Steamfitter, Pipefitter Apprenticeship VIII (3.5) *Three lecture and two lab hours per week.* Pipe drafting and blueprint reading.

729 Steamfitter, Pipefitter Apprenticeship IX (3.5) *Three lecture and two lab hours per week.* Advanced welding.

730 Steamfitter, Pipefitter Apprenticeship X (3.5) *Three lecture and two lab hours per week.* Gas-tungsten arc welding.

Refrigeration and Air Conditioning

Prerequisite: indenture in the Refrigeration and Air Conditioning Apprenticeship Program, approved by the California State Division of Apprenticeship Standards.

741 Refrigeration & Air Conditioning Apprenticeship I (3.5) *Three lecture and two lab hours per week.* Basic refrigeration.

742 Refrigeration & Air Conditioning Apprenticeship II (3.5) *Three lecture and two lab hours per week.* Basic electricity.

743 Refrigeration & Air Conditioning Apprenticeship III (3.5) *Three lecture and two lab hours per week.* Refrigerant controls.

744 Refrigeration & Air Conditioning Apprenticeship IV (3.5) *Three lecture and two lab hours per week.* Basic and pneumatic controls.

745 Refrigeration & Air Conditioning Apprenticeship V (3.5) Three lecture and two lab hours per week. Brazing, piping, and hydronics.

746 Refrigeration & Air Conditioning Apprenticeship VI (3.5) *Three lecture and two lab hours per week.* Advanced electricity.

747 Refrigeration & Air Conditioning Apprenticeship VII (3.5) *Three lecture and two lab hours per week.* Electrical controls and wiring diagrams.

748 Refrigeration & Air Conditioning Apprenticeship VIII (3.5) *Three lecture and two lab hours per week.* Heat pumps.

749 Refrigeration & Air Conditioning Apprenticeship IX (3.5) *Three lecture and two lab hours per week.* Supermarket installations and refrigerator box load.

750 Refrigeration & Air Conditioning Apprenticeship X (3.5) *Three lecture and two lab hours per week.* Start-up testing and air balance.

Sheet Metal Apprenticeship

(SHMT)

Sheet Metal

Prerequisite: indenture in the Sheet Metal Apprenticeship Program, approved by the California State Division of Apprenticeship Standards.

701 Sheet Metal Apprenticeship I (2.5) *Two lecture and two lab hours per week.* Introduction to sheet metal industry: opportunity and obligations; history; layout and pattern development; drafting and sketching; and safety and first aid.

702 Sheet Metal Apprenticeship II (2.5) *Two lecture and two lab hours per week.* Introduction to tools, handling of sheet metal, fastenings, types of materials, mathematics, service work, and field installation. Introduction to architectural sheet metal and parallel line development.

703 Sheet Metal Apprenticeship III (2.5) *Two lecture and two lab hours per week.* Employee-employer relations, layout and pattern, and fabrication and installation of architectural sheet metal.

704 Sheet Metal Apprenticeship IV (2.5) *Two lecture and two lab hours per week.* Service work, field installations, introduction to blueprint reading, and radial line development.

705 Sheet Metal Apprenticeship V (2.5) *Two lecture and two lab hours per week.* Use of time; layout and pattern development with introduction to triangulation, mathematics, and continuation of service.

706 Sheet Metal Apprenticeship VI (2.5) *Two lecture and two lab hours per week.* Mechanical field installation, use of power actuated tools, continuation of blueprint reading, blow pipe, introduction to plastic and fibers, food service and beverage equipment, and advanced triangulation.

707 Sheet Metal Apprenticeship VII (2.5) *Two lecture and two lab hours per week.* Round pattern development, skylights, boiler breechings, lagging, rollation, short-cut methods, and special problems.

Sheet Metal Service

Prerequisite: indenture in the Sheet Metal Service Apprenticeship Program, approved by the California State Division of Apprenticeship Standards.

708 Sheet Metal Apprenticeship VIII (2.5) *Two lecture and two lab hours per week.* Duct design and assembly, calculation of airflow (CMF), and engineering of complete air conditioning systems.

721 Sheet Metal Service Apprenticeship I (2.5) *Two lecture and two lab hours per week.* Introduction to sheet metal service trade, including basic electricity and electrical controls, cooling, heating and its controls, and air movement and filtration, with special emphasis on safety.

722 Sheet Metal Service Apprenticeship II (2.5) *Two lecture and two lab hours per week.* Continuation of heating and combination controls; advanced electrical theory, motors, heating pumps, and safety.

723 Sheet Metal Service Apprenticeship III (2.5) *Two lecture and two lab hours per week.* Review of Sheet Metal Service Apprenticeship I and II; basic refrigeration and safety.

724 Sheet Metal Service Apprenticeship IV (2.5) *Two lecture and two lab hours per week.* Compressor changeout, basic piping, multi-system control, basic heat pump application, and safety.

725 Sheet Metal Service Apprenticeship V (2.5) *Two lecture and two lab hours per week.* Theory of multi-system controls, air distribution and valves, and safety.

726 Sheet Metal Service Apprenticeship VI (2.5) *Two lecture and two lab hours per week.* Theory of hydronic piping, hydronic and water pumps, and safety.

727 Sheet Metal Service Apprenticeship VII (2.5) *Two lecture and two lab hours per week.* Boilers, chillers, combination systems, and safety.

728 Sheet Metal Service Apprenticeship VIII (2.5) *Two lecture and two lab hours per week.* Airflow and control systems (MFG), cooling towers, evaporator condensers, energy and management systems, and safety.

743 Sheet Metal Welding Apprenticeship I (2) *One lecture hour and three lab hours per week.* Introduction to and safety of sheet-metal welding, oxy-fuel welding, and power sources.

744 Sheet Metal Welding Apprenticeship II (2) *One lecture hour and three lab hours per week.* Shielded-metal arc welding, gas-tungsten arc welding, and gas-metal arc welding.

745 Sheet Metal Blueprint Reading Apprenticeship I (2) *Two lecture hours per week.* Introduction to reading plans and specifications, architectural plans, and structural plans.

746 Sheet Metal Blueprint Reading Apprenticeship II (2) *Two lecture hours per week.* Mechanical plans, electrical plans, and specialty plans.

747 Sheet Metal Solar Apprenticeship I (2) *Two lecture hours per week.* Introduction to solar heating: theory of operation, operation of an active system, collectors, heat storage, control systems, typical configurations, building considerations, basic collectors, installing rocks, and sensors and thermostats.

748 Sheet Metal Solar Apprenticeship II (2) *Two lecture hours per week.* Duct installation, fans and conventional heating devices, instrumentation, system check and start-up, leak temperature and pressure testing, hydronic systems, and schematics; installing components, piping, and heat pump systems.

Sprinkler Fitter Apprenticeship

(SPFI)

Prerequisite: indenture in the Sprinkler Fitter Apprenticeship Program, approved by the California State Division of Apprenticeship Standards.

701 Sprinkler Fitter Apprenticeship I (3) *Three lecture hours and one lab hour per week.* Introduction to fire protection, including safety, first aid, and blueprint reading.

702 Sprinkler Fitter Apprenticeship II (3) *Three lecture hours and one lab hour per week.* Basic mathematics, introduction to National Fire Association #13 (N.F.P.A.); introduction to underground piping and overhead piping, learning to read underground plans.

703 Sprinkler Fitter Apprenticeship III (3) *Three lecture hours and one lab hour per week.* Related mathematics; continuation of N.F.P.A. #13; knowledge of sprinkler heads, occupancy classification, and valves; hanging and bracing piping; and introduction to basic soldering and brazing.

704 Sprinkler Fitter Apprenticeship IV (3) *Three lecture hours and one lab hour per week.* Review of blueprint reading; study of valve types and related devices; continuation of N.F.P.A. #13; introduction to various types of sprinkler systems; and math review.

705 Sprinkler Fitter Apprenticeship V (3) *Three lecture hours and one lab hour per week.* Math review with transit and level operations; underground installation review; continuation of N.F.P.A. #13, introduction to water supply for sprinkler systems; introduction to fire pumps; and N.F.P.A. #20 and #24.

706 Sprinkler Fitter Apprenticeship VI (3) *Three lecture hours and one lab hour per week.* Continuation of N.F.P.A. #13; introduction to hydraulics; study of preaction and dry pipe systems; continuation of fire pumps; and introduction to principles of foremanship.

707 Sprinkler Fitter Apprenticeship VII (3) *Three lecture hours and one lab hour per week.* Continuation of N.F.P.A. #13; introduction to alarms for sprinkler systems; continuation of fire pumps; advanced soldering and brazing; use of gas and acetylene equipment; and trouble shooting.

708 Sprinkler Fitter Apprenticeship VIII (3) *Three lecture hours and one lab hour per week.* Introduction to arc welding. Emphasizes good foremanship, leadership, and the development of all-around techniques.

Architecture

Students intending to major in Architecture are advised to consult with the architectural counselor/advisor in the Math/Science Division before registering.

Unless otherwise indicated, a grade of C or higher is required for all prerequisite courses.

100 Survey of Contemporary Architecture (3) *Three lecture hours per week.* Basic values in contemporary architecture; its relationship to the environment, the individual and society, the home, the neighborhood, and the urban structure in general. A survey of the contributions of outstanding architects, engineers, and planners. Films, slides, lectures, and individual research. (CSU/UC*)

112 Surveying (2) *Two lecture and three lab hours per week for twelve weeks. Prerequisite: MATH 130.* Theory of measurements in surveying: measurement of distance, differential leveling and measurements of angles and directions, stadia techniques, and topographic mapping. (CSU/UC*)

120 Black and White Graphics (2) *One lecture hour and three lab hours per week plus two lab hours per week by arrangement.* Representational freehand drawing. Covers composition, visual perspective, and three-dimensional thinking. Includes an introduction to photography. A 35mm or larger format camera is necessary. Graphic supplies will be required. (To increase competency, may be repeated for a maximum of 4 units of credit.) (Fall only.) (CSU)

125 Architectural Photography (1) *One lecture hour plus two lab hours per week by arrangement. Prerequisite: ARCH 120 or equivalent.* The use of photography as a visual tool in the interpretation of architecture. Techniques of preparing a portfolio for transfer to professional schools of architecture. Extra supplies may be required. (To increase competency, may be repeated for a maximum of 2 units of credit.) (Spring only.) (CSU)

130 Color Graphics (1) *One lecture hour and two lab hours per week.* Representational freehand drawing involving water color and ink. Further development in composition, visual perspective, and three-dimensional thinking related to form and space. Graphic supplies will be required. (To increase competency, may be repeated for a maximum of 2 units of credit.) (Spring only.) (CSU)

140 Perspective Drawing (2) *One lecture and three lab hours per week. Prerequisite: ARCH 120 or equivalent and MATH 115 or equivalent.* Basic techniques in the graphic communication of architects: orthographic and isometric projection, descriptive geometry, mechanical perspective, and shades and shadows. Graphic supplies will be required. (Spring only.) (CSU)

145 Delineation (2) *One lecture and three lab hours per week. Prerequisite: ARCH 140 or equivalent.* Three-dimensional representations with various drawing media to express architectural ideas and designs. Graphic supplies will be required. (To increase competency, may be repeated for a maximum of 4 units of credit.) (Fall only.) (CSU)

150 Statics (3)
Three lecture hours per week. Prerequisite: completion of or concurrent enrollment in MATH 241 or 251 or 260. Analysis of forces and their effects on rigid body structures by both analytical and graphical methods in two and three dimensions. (Fall only.) (CSU/UC*)

160 Strength of Materials (3)
Three lecture hours per week. Prerequisite: ARCH 150. Analysis of stresses and deformations caused by forces acting on simple structures; selection of beams, columns and joint configurations in the process of design. Introduction to statically indeterminate structures. (Spring only.) (CSU/UC*)

210 Architectural Design (4)
Three lecture and three lab hours per week plus three lab hours per week by arrangement. Prerequisites: concurrent enrollment in ARCH 120 and 666. Investigation into how design affects the environment and human existence therein, with research into peripheral areas through the use of architecturally related problems. Introduction to graphic thinking, critical thinking, and three-dimensional awareness. Investigation of proportion and scale, rhythm, balance, unity and contrast, transition, ordering systems, shade, color, texture, and basic materials. Problems in form, line, space, and composition. Graphic supplies will be required. (Fall only.) (CSU/UC*)

220 Architectural Design and Materials (4) *Three lecture and three lab hours per week plus three lab hours per week by arrangement. Prerequisites: ARCH 120, 210 and 666; concurrent enrollment in ARCH 140.* Transfers admitted by portfolio evaluation only. Basic studies in spacial relationships involving human, environmental and architectural criteria. Continuation of ARCH 210 but on a more complex and higher plane. Problems in form, line, space, and composition. Introduction to the language and application of building materials including in- depth research of common materials used in building. Graphic supplies will be required. (Spring only.) (CSU/UC*)

230 Architectural Design and Practice I (4) *Three lecture and three lab hours per week plus three lab hours per week by arrangement. Prerequisites: ARCH 140 and 220; concurrent enrollment in ARCH 145.* Transfers admitted by portfolio evaluation only. Continuation of ARCH 220, but on a more complex and higher plane. Advanced studies in spatial and visual relationships involving human, environmental, and architectural criteria. Introduction to design determinants as they relate to architectural practice. Introduction to electrical, mechanical, plumbing, and solar systems and structures as design determinants. Graphic supplies will be required. (Fall only.) (CSU/UC*)

240 Architectural Design and Practice II (4) *Three lecture and three lab hours per week plus three lab hours per week by arrangement. Prerequisites: ARCH 145 and 230; concurrent enrollment in ARCH 125 and 130.* Transfers admitted by portfolio evaluation only. Continuation of ARCH 230, but on a more complex and higher plane. Advanced studies in the application of design determinants to architectural problems with an emphasis on integrated design solutions. Continued exploration of the language of building structure and spatial analysis as a means of architectural communication. Graphic supplies will be required. (Spring only.) (CSU/UC*)

641 Cooperative Education (1-4)
See first page of Description of Courses section. (CSU)

666 Introduction to Architecture (1)
(Credit/No credit.) Three lecture hours per week for six weeks. An intensive introduction to the problems faced by a beginning architecture student; academic and professional requirements, opportunities, and available areas of specialization and alternatives. (Fall only.) (CSU)

680-689 Selected Topics (1-3)
See first page of Description of Courses section. (CSU)

690 Special Projects (1-2)
See first page of Description of Courses section. (CSU)

880-889 Selected Topics (1-3)
See first page of Description of Courses section.

Art

101 History of Art I (3)
(Credit/No Credit or Letter Grade Option.) Three lecture hours per week. Survey of Ancient, Classical, Early Christian, Byzantine, and Medieval art. Emphasizes sculpture and architecture. (CSU/UC) (Completion of ART 101, 102, and 103 = CAN ART SEQ A)

102 History of Art II (3)
(Credit/No Credit or Letter Grade Option.) Three lecture hours per week. Survey of Proto-Renaissance, Renaissance, and Baroque art. Emphasizes the development of painting from the 14th to the 17th Centuries. (CSU/UC) (Completion of ART 101, 102, and 103 = CAN ART SEQ A)

103 History of Art III (3)
(Credit/No Credit or Letter Grade Option.) Three lecture hours per week. Survey of European and American art from the 18th Century to the present. Emphasizes the development of modern painting as a reaction against earlier traditions. (CSU/UC) (Completion of ART 101, 102, and 103 = CAN ART SEQ A)

106 Survey of Contemporary Art (3)
Three lecture hours per week. Survey of modern art with an emphasis on present works. Painting, sculpture, ceramics, glass, etc. Includes field trips to Bay Area galleries and museums. (CSU/UC)

108 History of American Art (3)
Three lecture hours per week. Study of art in America, its native artists, and its relations to the historical evolution of this country. Emphasizes portraiture, nature and genre painting, realism, fantasy, and symbolism. (CSU/UC)

141 Interior Design I (3)
Three lecture hours per week. Survey of the modern home site, design, furnishings, and decoration. (CSU)

142 Interior Design II (3)
Three lecture hours per week. Survey of the history of furniture, with an examination of "period styles," their influence on modern interior decoration, and their values in solving problems. (CSU)

145 Basic Concepts for Interior Design (3) *Three lecture and three lab hours per week.* Study of and directed experiments in the elements and principles of design. Lectures, demonstrations of techniques, and

design concepts specifically related to interior design practice. (CSU)

146 Contract Drawing for Interior Design (3) *Three lecture hours and one lab hour per week. Prerequisites: ART 145 and 147.* Instruction in the use of instrument drawings to create architectural contract drawings. Emphasizes practical detailing techniques employed to enable interior designers to communicate with architectural counterparts. (CSU)

147 Space Planning (3)
Three lecture and three lab hours. Organization, creative design, planning, and construction of open and closed architectural spaces. Investigation of techniques and styles of executing floor plans and elevations. Covers the organization and drawing of both residential and commercial structures. (CSU)

148 Color Applied to Interior (3)
Three lecture hours per week. Application of color theory to aesthetic, functional, and psychological uses in textile design and interior decorating. Study of color and its application to interiors in relation to texture, scale, intensity, and room arrangement. (CSU)

149 Graphic Interior Design (3)
Three lecture and three lab hours. Prerequisite: ART 147. Rendering and presentation techniques using linear perspective drawing and color manipulation. Class problems involve one- and two-point perspective and rapid sketch exercises. (CSU)

151 History of Furniture I (3)
Three lecture hours per week. Survey of the furniture and decoration of the Western world from ancient times to the 18th Century. Covers interior architectural detail of the Egyptian, Greek, Roman, Medieval, Renaissance, and Oriental styles. (CSU)

152 History of Furniture II (3)
Three lecture hours per week. Prerequisite: ART 151. Study of principal styles of furniture, accessories, and architectural details from the 18th Century through the 20th Century. (CSU)

153 Materials and Application (3) *Four lecture hours per week.* Analysis of the functional use and aesthetic effect of various materials, including synthetics, masonry, metal, wood, glass, leather, fabric, carpeting, paint, paper, and plastics. (If students wish to repeat this course, they may petition to audit. See Index: "Audit Policy.") (CSU)

155 Interior Design Workshop (3)
Three lecture and three lab hours per week. Prerequisites: ART 145, 147, and 149. Development of verbal and visual communication skills for dealing with domestic and commercial clients, sub-contractors, and architects. Practical experience involving presentation, coordination, and resolution of all facets of design problems using sketches, models, and sample boards. (CSU)

156 Interior Design Portfolio (3)
Three lecture hours per week. Prerequisite: ART 155. Professional presentation of interior design projects to potential clients and employers. An occupational course for the advanced student in interior design. (CSU)

157 Interior Design Management (3)
Three lecture hours per week. Prerequisites: ART 145, 147, and 149. Instruction in setting up an interior design practice serving residential and commercial clients. Merchandising, licensing, purchasing, pricing of furnishings, communicating of ideas, designer-client relations, and business practices. (CSU)

201 Form and Composition I (3)
Three lecture-critique and three lab hours per week. Drawing proficiency not required. Basic drawing course for college students. Study of two- and three-dimensional form and space relationships and the elements of design in pictorial composition. Sequence of problems based on still life. Drawing in various dry media and graphites. (CSU/UC*) (CAN ART 8)

202 Form and Composition II (3)
Three lecture-critique and three lab hours per week. Prerequisite: ART 201. Advanced composition; further study of three-dimensional form, in black and white and color; advanced pictorial composition in illustration and the fine arts. (CSU/UC*)

206 Figure Drawing and Portraiture (3)
Three lecture-critique and three lab hours per week. Drawing the human figure in the modern approach from both live models and plaster anatomical casts, using charcoal, conte, and ink. Emphasizes gesture, line, texture, and expressiveness. (To increase competency, may be repeated for a maximum of 12 units of credit, after which students may petition to audit. See Index: "Audit Policy.") (CSU/UC*)

207 Life Drawing (3)
Three lecture-critique and three lab hours per week. Prerequisite: Art 201. Drawing the human figure in the traditional manner. Lecture and demonstration on artistic anatomy. Drawing in conte and pastel from the nude model, with emphasis on three-dimensional realism, as a basis for figure and portrait painting, sculpture, and drawing. (To increase competency, may be repeated for a maximum of 12 units of credit, after which students may petition to audit. See Index: "Audit Policy.") (CSU/UC*)

214 Color (3)
Three lecture-critique and three lab hours per week. Drawing proficiency not required. Study of the physical and psychological properties of color. Stresses knowledge and skills needed to use color aesthetically. (CSU/UC*)

223 Oil Painting I (3)
Three lecture-critique and three lab hours per week. Prerequisites: ART 201 or 202; ART 214 and 301 recommended. Introduction to basic oil painting techniques and compositional ideas. Emphasizes the use of value, color, and light to model forms and create the illusion of three-dimensional objects in space. (CSU/UC*)

224 Oil Painting II (3)
Three lecture-critique and three lab hours per week. Prerequisite: ART 223; ART 214 and 301 recommended. Continuation of ART 223, with increased emphasis on color, composition, and development of a personal style. (May be repeated for a maximum of 12 units of credit, after which students may petition to audit. See Index: "Audit Policy.) (CSU/UC*)

231 Watercolor I (3)
Three lecture-critique and three lab hours per week. Prerequisites: ART 201; ART 214 recommended. Introduction to the basic tools and techniques of water color; washes, wet-into-wet, dry brush, transparent vs. opaque. Includes discussion of color theory, laws of diminishing contrast and compositional considerations. (CSU/UC*)

232 Watercolor II (3)
Three lecture-critique and three lab hours per week. Prerequisite: ART 231. Continuation of ART 231, with emphasis on more painting experience in various styles and

techniques in watercolor, such as an addition of opaque paints and the use of collage to extend the painting experience. (To increase competency, may be repeated for a maximum of 12 units of credit, after which students may petition to audit. See Index: "Audit Policy.") (CSU/UC*)

237 Etching I (3)
Three lecture-critique and three lab hours per week. Prerequisite: Art 201. Introduction to the intaglio etching process as a fine art, with emphasis on traditional methods of timed etch in line and aquatint, soft ground, lift, drypoint, and mezzotint and their printing in value and color. Extra supplies may be required. (CSU/UC)

238 Etching II (3)
Three lecture-critique and three lab hours per week. Prerequisite: ART 237. Advanced course with individualized instruction in intaglio etching as a fine art. Emphasis is on contemporary printing methods. (To increase competency, may be repeated for a maximum of 12 units of credit, after which students may petition to audit. See Index: "Audit Policy.") (CSU/UC*)

241 Silkscreen I (2-3)
Two-three lecture-critique and two-three lab hours per week. Introduction to the fine art application of the silkscreen with non-toxic water-base inks, including screen-building, basic stencils, printing technique, and concepts required to develop a completed print. Extra supplies may be required. (CSU/UC*)

242 Silkscreen II (2-3)
Two-three lecture-critique and two-three lab hours per week. Prerequisite: ART 241. Advanced serigraphy; individualized instruction in water-based inks for the fine art use of the silkscreen. Extra supplies may be required. (To increase competency, may be repeated for a maximum of 12 units of credit, after which students may petition to audit. See Index: "Audit Policy.") (CSU/UC*)

301 Design (3)
Three lecture-critique and three lab hours per week. Principles of visual organization, balance, rhythm, perspective, pattern, etc. Collage, drawing, and painting. (CSU/UC*)

305 Three-Dimensional Design (3)
Three lecture-critique and three lab hours per week. Prerequisite: ART 301. Volume, line, and space studies using paper, wire, wood, string, and plaster of Paris construction to create mobiles, stabiles and similar objects. (CSU/UC*)

328 Rendering Techniques (3)
Three lecture-critique and three lab hours per week. Prerequisites: ART 202 and 301. Illustration techniques and tools of the commercial artist; professional procedure in developing rendering; development of an illustration from a pencil rough to a finished comprehensive. (To increase competency, may be repeated for a maximum of 12 units of credit.) (CSU)

350 Visual Perception (3)
Three lecture-critique hours per week. Visual exploration into natural forms and manmade objects as an expression of art using 35mm slide photography as the medium. Covers basic principles of perception, light, color, composition, and visual awareness. Encourages students to transmit their aesthetic, intellectual and emotional concerns through the photographic medium. Instruction in the use of 35mm cameras, lenses, film, and other creative controls of photography are included. Extra supplies may be required. (CSU)

351 Photography I (3)
Three lecture-critique and three lab hours per week. Prerequisites: ART 201, 301, or 350 recommended. Introduction to basic black and white photographic skills and equipment. Precise methods of negative developing, printing, and finishing the fine photograph. Extensive darkroom work. Portfolio is produced. Extra supplies may be required. (CSU/UC*)

352 Photography II (3)
Three lecture-critique and three lab hours per week. Prerequisite: ART 351. For students who have basic black and white camera and darkroom skills. Refinement of visual and technical skills. Advanced exposure and development techniques applied to fine printmaking. Portfolio is produced. Extra supplies may be required. (To increase competency, may be repeated for a maximum of 12 units of credit.) (CSU/UC*)

353 Photography III (3)
Three lecture-critique and three lab hours per week. Prerequisite: ART 351. Broader aspects of technical perfection and visual awareness. Explores contemporary and creative forms of photography presentations, with emphasis on experimental techniques. Extra supplies may be required. (To increase competency, may be repeated for a maximum of 12 units of credit.) (CSU/UC*)

354 Color Photography I (3)
Three lecture-critique and three lab hours per week. Prerequisite: ART 351. Introduction to the use of color materials as an expressive medium. Access to color processor. Emphasizes mastery of the technical aspect of color balance and exposure. Extra supplies may be required. (CSU)

355 Color Photography II (3)
Three lecture-critique and three lab hours per week. Prerequisite: ART 354. Continuation of ART 354, with emphasis on more refined control of color materials and more cohesive portfolio. Extra supplies may be required. (To increase competency may be repeated for a maximum of 12 units of credit.) (CSU)

405 Sculpture I (3)
Three lecture-critique and three lab hours per week. Beginning clay modeling of abstract and human forms. Stresses analysis of form for realistic expression in dealing with the human form. Extra supplies may be required. (To increase competency, may be repeated for a maximum of 12 units of credit.) (CSU/UC*) (CAN ART 12)

406 Sculpture II (3)
Three lecture-critique and three lab hours per week. Prerequisite: ART 405 or equivalent. Introduction to armature building, construction, mold-making, casting, and removal process. Realistic and abstract approaches; abstract stressed. (To increase competency, may be repeated for a maximum of 12 units of credit, after which students may petition to audit. See Index: "Audit Policy.") (CSU/UC*)

411 Ceramics I (3)
Three lecture-critique and three lab hours per week. Elementary clay construction, including pinch, coil, and slab; methods of ornamentation, glazing, and firing; introduction to the potter's wheel. Extra supplies are required. (CSU/UC*) (CAN ART 6)

412 Ceramics II (3)
Three lecture-critique and three lab hours per week. Prerequisite: ART 411. Continuation and advanced study of topics introduced in ART 411. Extra supplies are required. (To increase competency, may be repeated for a maximum of 12 units of credit, after which students may petition to audit. See Index: "Audit Policy.") (CSU/UC*)

641 Cooperative Education (1-4)
(See first page of Description of Courses section.) (CSU)

680 – 689 Selected Topics (1-3)
(See first page of Description of Courses section.) (CSU)

690 Special Projects (1-2)
(See first page of Description of Courses section.) (CSU)

880 – 889 Selected Topics (1-3)
(See first page of Description of Courses section.)

Astronomy

Unless otherwise indicated, a grade of C or higher is required for all prerequisite courses.

100 Introduction to Astronomy (3)
Two lecture hours and one recitation hour per week. Survey of astronomy satisfying science requirements in state colleges and universities. Includes descriptive material on the solar system, stars, galaxies and, life in the universe, together with an introduction to the methods employed by astronomers in gathering information. (CSU/UC)

101 Astronomy Laboratory (1)
Three lab hours per week. Prerequisites: MATH 110 or equivalent AND completion of or concurrent enrollment in ASTR 100. Use of planetarium for constellation identification, coordinate systems, and basic astronomical measurements of planets, stars and spectra. Occasional telescopic observations and visits to observatories. With ASTR 100, satisfies lab science requirements for U.C. and California State Universities. Extra supplies may be required. (CSU/UC)

680 – 689 Selected Topics (1-3)
See first page of Description of Courses section. (CSU)

690 Special Projects (1-2)
See first page of Description of Courses section. (CSU)

880 – 889 Selected Topics (1-3)
See first page of Description of Courses section.

Biology

Unless otherwise indicated, a grade of C or higher is required for all prerequisite courses.

100 Introduction to the Life Sciences (3) *Three lecture hours per week.* Fundamental principles of life. The awareness of plant and animal interrelations and interdependencies. Examines the human role in the world of living things in relation to contemporary problems. One or more field trips may be required. (Intended for non-science majors with no previous experience in the biological sciences.) (CSU/UC)

102 Environmental Conservation (3)
Three lecture hours per week. Study of the relationship of humans to the immediate and global environments, including the conservation of renewable and non-renewable resources, dynamics of ecosystems, and the interaction of plant and animal populations; alternative energy sources; and current problems caused by human interactions with the environment. One or more field trips may be required. (CSU/UC)

110 General Principles of Biology (4)
Three lecture and three lab hours per week. Prerequisite: high school biology or equivalent. Study of the principles of the biological sciences. Includes origin and evolution of life, cellular nature of living things, genetics, ecology, life cycles, and natural history. One or more field trips may be required. Extra supplies may be required. (CSU/UC)

111 General Nature Study (4)
Two lecture and six lab/field hours per week. Introduction to common flora and fauna of Bay Area biotic communities, with emphasis on methods of locating, identifying, preserving, and displaying selected species. Considers basic principles of biology, ecology, conservation, and nature photography as they relate to adaptation, life cycles, habits, habitats, and interrelationships. Lab includes methods of interpretation. Emphasizes internship co-op experience through local groups with a nature study orientation applied to education and recreation programs. (CSU)

125 Physical Anthropology (3)
Three lecture hours per week. Man's place in nature; man's evolution, genetics, and racial variation. Evolutionary basis of man's behavior and social systems. One or more field trips may be required. (CSU/UC) (CAN ANTH 2)

130 Human Biology (3)
Three lecture hours per week. Prerequisite: BIOL 100 or 110. Introductory study of human anatomy and physiology, including the functional relationships of cells to each body system, with emphasis on the relationships of structures to the functions of each body system. Recommended especially for students in the Medical Assisting program. (CSU/UC*)

140 Animals and Man (3)
Three lecture hours per week. Introduction to animals around us and their relationship to man. Includes basic principles of animal biology and ecology. Views animals as predators, prey, servants, companions, and bearers of disease. Emphasizes historical and traditional viewpoints, contemporary issues, animal rights and human obligations. (General education course for non-science majors.) One or more field trips may be required. (CSU/UC)

145 Plants and Man (3)
Three lecture hours per week. Introduction to plants and their functions as they apply to man. Principles of living organisms, their structure-functions, evolution, and ecology. Emphasizes the role of plants in the development of human civilization and considers their impact as a primary food source for human population. One or more field trips may be required. (CSU/UC*)

150 Introduction to Marine Biology (4)
Three lecture and three lab/field hours per week. Prerequisite: one college-level biology course recommended. Introduction to physical oceanography, marine animals, marine plants, and marine ecology. Emphasizes the natural history of marine forms, including their taxonomy, morphology, and physiology. Describes bays, estuaries, and oceans as habitats. Extra supplies may be required. (CSU/UC)

160 Human Genetics (3)
Three lecture hours per week. Prerequisite: high school biology or equivalent. Survey of genetics with emphasis on human applications. Includes such broad topics as the principles of inheritance, gene expression and regulation, mutations and congenital defects, evolution, new scientific developments, and sociological implications. (CSU/UC)

180 Introduction to Forestry (3)
Three lecture hours per week. Study of the forest as a biological community; scientific and economic basis of forestry, including topics from ecology, dendrology, entomology, pathology, silviculture, mensuration, utilization, economics, and careers in forestry. One or more field trips may be required. (CSU/UC)

184 Wildlife Biology (3)
Three lecture hours per week. Study of wildlife species of North America, with emphasis on common mammals of the Pacific states. Additional selected and appropriate vertebrate species: identification, characteristics, life histories, abundance, and distribution. Basic biological and ecological principles directly applicable to wildlife issues of species and habitat conservation. One or more field trips may be required. (CSU/UC)

200 General Ecology (4)
Three lecture and three lab/field hours per week. Prerequisite: one course in the biological sciences. Introduction to the principles of ecology and field methodology. Includes diversity and distribution of flora and fauna, interrelationships of organisms and behavioral evolution, and energy flow relationships to ecosystems and population dynamics. Emphasizes global communities as well as local habitats and species. Lab includes methods of interpretation and presentation of field project data. (CSU/UC)

210 General Zoology (5)
Three lecture and six lab hours per week. Prerequisites: BIOL 110 and CHEM 192 or 410 OR one year of high school biology with lab with a grade of B or higher and one year of high school chemistry with lab with a grade of B or higher. Introduction to the principles of animal biology. Includes molecular basis of life; structure, function, and behavior as seen in invertebrates and selected chordates; ecology; zoogeography; and animal evolution. One or more field trips may be required. Extra supplies may be required. (CSU/UC)

220 General Botany (5)
Three lecture and six lab hours per week. Prerequisites: BIOL 110 and CHEM 192 or 410 OR one year of high school biology with lab with a grade of B or higher and one year of high school chemistry with lab with a grade of B or higher. Principles of biology as illustrated by plants with emphasis on structure, physiology and reproduction in green plants. One or more field trips may be required. Extra supplies may be required. (CSU/UC) (CAN BIOL 6)

230 Introductory Cell Biology (4)
Three lecture and three lab hours per week. Prerequisites: BIOL 110 and CHEM 192 or 410 OR one year of high school biology with lab with a grade of B or higher and one year of high school chemistry with lab with a grade of B or higher. Evaluation and analysis of the living cell and its components. Examines metabolism of the cell and the bioenergetics involved as they relate to cellular development, growth, and reproduction. (Recommended for all life science and medical science majors.) One or more field trips may be required. Extra supplies may be required. (CSU/UC)

240 General Microbiology (5)
Three lecture and six lab hours per week. Prerequisites: one semester of college chemistry and college-level biology with lab course. Introduction to the morphology, physiology, and genetics of microorganisms, with emphasis on bacteria and viruses. Includes environmental, applied microbiology, and the role of bacteria and viruses in health and disease. Laboratory work consists of isolation, cultivation, and identification of bacteria and techniques used to demonstrate microbial properties. (Recommended for students majoring in life science, physical science, and health science.) One or more field trips may be required. Extra supplies may be required. (CSU/UC)

250 Anatomy (4)
Three lecture and three lab hours per week. Prerequisites: high school biology with a grade of B or higher OR BIOL 110 or 130. Structure of the human body. Laboratory study and dissection of the human male and female. (Primarily intended for students of nursing, physiotherapy, physical education and related fields such as chiropractic. Elective for pre-dental, pre-medical, and pre-veterinary students.) Extra supplies may be required. Students may take either the BIOL 250-260 or the BIOL 265-266 series. (CSU/UC*) (CAN BIOL 10)

260 Introductory Physiology (5)
Three lecture and six lab hours per week. Prerequisites: BIOL 110 and CHEM 192 or 410 OR one year of high school biology with lab with a grade of B or higher and one year of high school chemistry with lab with a grade of B or higher. Functions of the organs and systems of the human body. (Intended for students of nursing, physiotherapy, physical education, psychology and related fields. Elective for pre-dental, pre-medical, and pre-veterinary students.) Extra supplies may be required. Students may take either the BIOL 250-260 or the BIOL 265-266 series. (CSU/UC*)

265 Anatomy/Physiology I (4)
Two lecture and six lab hours per week. Prerequisites: BIOL 110 and CHEM 192 or 410 OR one year of high school biology with lab with a grade of B or higher and one year of high school chemistry with lab with a grade of B or higher; completion of or concurrent enrollment in MEDA 110 is also recommended. Comprehensive study of structures and associated functions of the body's organ systems, including cell structure and function, epithelium, connective tissue, integumentary, skeletal, muscular, nervous, and endocrine systems. (Intended for students of physiotherapy, occupational therapy, nursing, biology, and related fields. Elective for pre-dental, pre-medical and pre-veterinary students.) Extra supplies may be required. Students may take either the BIOL 250-260 or the BIOL 265-266 series. (Fall only.) (CSU/UC*)

266 Anatomy/Physiology II (5)
Three lecture and six lab hours per week. Prerequisite: BIOL 265. Continued study of structures and associated functions of the organ systems of the body, including lymphatic, cardiovascular, respiratory, digestive, urinary, and reproductive systems; pregnancy and human development. (Intended for students of physiotherapy, occupational therapy, nursing, biology, and related fields. Elective for pre-dental, pre-medical, and pre-veterinary students.) Extra supplies may be required. Students may take either the BIOL 250-260 or the BIOL 265-266 series. (Spring only.) (CSU/UC*)

641 Cooperative Education (1-4)
See first page of Description of Courses section. (CSU)

675 Honors Colloquium in Biology (1)
One lecture hour per week. Prerequisite: limited to students in the Honors Program who have completed or are concurrently enrolled in an associated non-honors course in biology. Readings, discussion, and lectures covering selected advanced

topics in biology to be determined by the Biology Department and the Honors Program. (CSU/UC*)

680 – 689 Selected Topics (1-3)
See first page of Description of Courses section. (CSU)

690 Special Projects (1-2)
See first page of Description of Courses section. (CSU)

880 – 889 Selected Topics (1-3)
See first page of Description of Courses section.

Broadcasting Arts

110 Introduction to Broadcasting (3) *Three lecture hours per week.* Introduction to the radio and television broadcasting industry: its nature, organization, history, operation, regulation, programming, and business procedures. (CSU)

115 Media Performance (3) *(Credit/No Credit or Letter Grade Option.) Two lecture and three lab hours per week.* Introduction to the basics of announcing skills; development of interview techniques. Practice in reading typical radio copy, speaking ad lib, announcing, and microphone techniques developed through regular use of the studio facilities. (CSU)

131 Radio Studio Techniques I (4) *Two lecture and six lab hours per week. Prerequisite: concurrent enrollment in or completion of BCST 115 with a grade of B or higher.* Study of the basic practices and procedures in radio broadcasting. The proper use of microphones, audio mixing consoles, tape recorders, and other common broadcast equipment, with emphasis on combo- and announcing programs. Extra supplies may be required. (CSU)

132 Radio Studio Techniques II (3) *One lecture hour plus six lab hours per week by arrangement. Prerequisite: BCST 131 with a grade of B or higher plus demonstration of acceptable operational ability.* Continuation of BCST 131. Emphasizes basic multi-track production techniques, including pre- and post-production procedures. Advanced students may operate the radio broadcast station KCSM-FM as part of their laboratory assignment. (CSU)

135 Advanced Radio Operations (3) *One lecture hour plus six lab hours per week by arrangement. Prerequisite: BCST 132 with a grade of B or higher plus demonstration of acceptable operational ability.* Remote broadcasts, recording out-of-studio activities and events, compiling and producing weekly station promotional materials, and assisting students in BCST 195 in producing weekly programs. (CSU)

192 Broadcast Time Sales (3) *Three lecture hours per week.* Fundamentals of time sales; its significance to the station and other departments; its relationship to clients and agencies. Instruction in all promotional materials. (CSU)

194 Radio and Television News Editing and Writing (3) *Three lecture hours per week. Prerequisite: BUS. 305 or equivalent.* Wire copy, rewriting, oral writing style, putting the newscast together for air, good taste in reporting, libel and slander laws, use of the tape recorder and the "beeper" telephone, and writing for still pictures and films. (CSU)

195 Projects in Radio (2) *One lecture hour plus three lab hours per week by arrangement. Prerequisite: BCST 115 with a grade of B or higher plus demonstration of operational ability.* Instruction in broadcast production, with major emphasis on researching a given subject and producing a series of half-hour or quarter-hour programs on it. Emphasizes the writing and final vocal delivery of the series. Programs may be aired on KCSM-FM. (CSU)

231 Television Studio Techniques I (3) *One lecture hour and six lab hours per week.* Study of the equipment used in a television studio, with emphasis on lighting, camera operation, audio control, video switching, and production work. (CSU)

232 Television Studio Techniques II (4) *Two lecture and six lab hours per week. Prerequisite: BCST 231.* Operation of studio equipment, with additional training in producing, directing and writing. (CSU)

241 Electronic Field Production (4) *Two lecture and six lab hours per week. Prerequisites: BCST 232 or 301 with a grade of B or higher OR FILM 461 or 462 and BCST 231 with a grade of B or higher.* Introduction to remote video production equipment, techniques, and principles. Includes producing, directing, writing, videography, audio recording, and editing. By the end of the semester, students must pass proficiency test on remote equipment and manipulative skills. (CSU)

242 Advanced Television Production I (4) *Two lecture and six lab hours per week. Prerequisite: BCST 241 with a grade of B or higher.* Combines skills from studio production, field production, and editing. All programs produced on 3/4" U-matic format. May include public service announcements, short fillers, and magazine-style programs. Suitable program material may air on KCSM-TV. (CSU)

243 Advanced Television Production II (4) *Two lecture and six lab hours per week. Prerequisite: BCST 242 with a grade of B or higher.* Continued advanced activity in television operations and productions. Students are encouraged to create a video resume of their program material. Programs suitable for televising are aired on KCSM-TV. (To increase competency, may be repeated for a maximum of twelve units.) (CSU)

244 Internship in Broadcasting (3) *(Credit/No Credit or Letter Grade Option.) One lecture hour and six lab hours per week. Prerequisite: concurrent enrollment in BCST 241 or equivalent.* Supervised experience in broadcasting operations at KCSM-TV/FM. Students will be required to pass proficiency test on studio and remote equipment. (To increase competency, may be repeated for a maximum of twelve units of credit.) (CSU)

301 Radio and Television Technical Operations I (3) *Two lecture hours plus five lab hours per week by arrangement.* Construction, installation, and maintenance of equipment used in KCSM-FM and KCSM-TV, including lighting, audio, and video console equipment. (CSU)

302 Radio and Television Technical Operations II (3) *Two lecture hours plus five lab hours per week by arrangement. Prerequisite: BCST 301.* Advanced instruction in the subjects introduced in BCST 301, with additional emphasis on inter-communications equipment, video tape recorders, and FM and TV transmitters. (CSU)

641 Cooperative Education (1-4)
(See first page of Description of Courses section.) (CSU)

680 – 689 Selected Topics (1-3)
(See first page of Description of Courses section.) (CSU)

690 Special Projects (1-2)
(See first page of Description of Courses section.) (CSU)

880 – 889 Selected Topics (1-3)
(See first page of Description of Courses section.)

Building Inspection

700 Introduction to the Building Code (3) *Three lecture hours per week.* Survey of the four required courses covering building inspections, code terminology, techniques of inspection, and construction practices.

710 Building Code Applications (3) *Three lecture hours per week. Prerequisite: BLDG 700 with a grade of C or higher or equivalent experience.* Plan checking of building for compliance with the non-structural portion of the Uniform Building Code.

720 Electrical Wiring Inspection (3) *Three lecture hours per week. Prerequisites: BLDG 700 and ELEC 110 with a grade of C or higher or equivalent experience.* Electrical wiring for building inspection, covering single-family dwellings, multifamily dwellings, commercial locations (wiring plans for a store building), industrial locations (power installations), and specialized and hazardous locations.

730 Plumbing Inspection (3) *Three lecture hours per week. Prerequisite: BLDG 700 with a grade of C or higher or equivalent experience.* Building regulations governing drainage systems, vents and venting, plumbing, water systems, building sewers, and gas piping.

740 Mechanical Code (3) *Three lecture hours per week. Prerequisite: BLDG 700 with a grade of C or higher or equivalent experience.* Regulations and inspection methods governing mechanical construction, heating and cooling equipment, combustion air, floor furnaces, wall furnaces, unit heaters, venting, ducts, ventilation systems, and refrigeration systems and equipment.

750 Advanced Plan Checking (3) *Three lecture hours per week. Prerequisite: BLDG 710 with a grade of C or higher or equivalent experience.* Study of engineering fundamentals and the structural plan checking of wood frame buildings based on the Uniform Building Code.

760 California Energy Regulations (3) *Three lecture hours per week.* Methods of compliance with energy regulations applicable to dwellings, apartments, condominiums, and hotels. Includes heat transfer, insulation, weather stripping, climate control systems, water heating, mandatory requirements, computer compliance, point system, component packages, appliance regulations, and solar systems.

770 Contractor's License and Law (3) *Three lecture hours per week. Prerequisite: experience in the construction field.* Introduction to the legal requirements for a contractor's license and a study of the contractor's obligations to clients.

780 Non-Residential Energy Regulations (3) *Three lecture hours per week.* Methods of complying with energy regulations applicable to non-residential buildings. First and second generation regulations (offices, stores, grocery stores). Includes heat transfer, solar gain, mandatory requirements, heating and cooling design, ventilation and fan requirements, lighting-load calculations, energy budgets, component packages, and appliance regulations.

790 Blueprint Reading (3)
Three lecture hours per week. Reading, understanding, and interpreting architectural plans for residential and commercial construction.

880 – 889 Selected Topics (1-3)
(See first page of Description of Courses section.)

Business

100 Contemporary American Business (3) *Three lecture hours per week.* Current concepts of American business from the business perspective. Examination of societal issues affecting business in a dynamic economic environment. Includes the nature of major business functions and the roles of producer and consumer in the economy. (CSU)

101 Human Relations I (3) *Three lecture hours per week.* Designed to increase competence in personal and interpersonal skills, which are critical prerequisites for a successful career in business. Covers perception, self-management, self-image, communication, prejudice, conflict management, leadership, and resistance to change. (CSU)

102 Human Relations II (3) *Three lecture hours per week. Prerequisite: BUS. 101.* Emphasizes self-directed learning of concepts and skills related to increased personal and professional effectiveness. Topics, generated from instructor and class interaction, focus on human relations issues of immediate concern to those taking the class. Requires student participation and involvement greater than that of the first semester course. (CSU)

115 Business Mathematics (3) *Three lecture hours per week. Prerequisite: BUS. 810 with a grade of C or higher or a score of at least 26 on the CSM Math Placement Test One.* Study of mathematics as applied to business, with emphasis on calculations involving interest, discount, negotiable instruments, financial statements and ratios, inventory pricing, depreciation, payroll, income tax, central tendency, and correlation. (CSU)

129 Machine Calculation (1) *Three lab hours per week plus two lab hours by arrangement per week for eleven weeks. Prerequisite: BUS. 810 with a grade of C or higher or a score of 26 on the CSM Math Placement Test One.* Instruction in the touch system on the printing calculator, the electronic display calculator, and the microcomputer 10-key pad. (CSU)

131 Money Management (3) *Three lecture hours per week.* Develops understanding and skill in dealing with consumer financial planning, saving and borrowing money, real estate and security investments, estate planning, and income tax preparation. (CSU)

150 Small Business Management (3) *Three lecture hours per week.* Prerequisite: BUS. 100 or equivalent. Examination of the opportunities and hazards of small business operation. Designed for business students who plan to establish or supervise a small business. Explores significant areas of vital interest to the prospective independent businessperson, including pre-opening requirements. (CSU)

155 Small Business Problem Solving (.5) *(Open entry/open exit.) (Credit/No Credit) Total of eight lecture hours by arrangement.* For individuals interested in starting a business and for small business owners who may be experiencing problems in marketing, management, finance, and related areas. (May be repeated two times for credit.) (CSU)

156 Case Study Lab (1)
One lab hour by arrangement per week. Prerequisite: concurrent enrollment in day section of BUS. 150. Students work with an assigned small business or an individual considering going into business to assist with problem-solving. Semester report required at conclusion. (CSU)

170 Salesmanship Fundamentals (3)
Three lecture hours per week. The role and impact of personal selling in the marketing process. Considers principles and techniques employed effectively in the direct sales process. (CSU)

175 Advertising (3)
Three lecture hours per week. The role of advertising in our economic life, with emphasis on advertising methods and media. (CSU)

180 Marketing (3)
Three lecture hours per week. Prerequisite: BUS. 100 or MGMT 100. Broad study of marketing principles and methods applicable to both consumer and industrial goods and services. Includes retailing and wholesaling consumer goods, marketing industrial goods, marketing policies and practices, and government relationship to marketing. (CSU)

201 Business Law I (3)
Three lecture hours per week. Introduction to the study of business law, including sources, agencies, and enforcement procedures. Emphasizes the ability to understand and review simple contracts and a basic understanding of contract law. Discusses sales warranties and consumer protection legislation. (CSU/UC) (CAN BUS 8)

280 Principles of Exporting (1)
Three lecture hours per week for six weeks. Examines documentation, rules and regulations, and types of licensing required for exporting; considers financial arrangements, letters of credit, marketing resources abroad, and import regulations of foreign countries as they apply to U.S. exporters. (CSU)

281 Principles of Importing (1)
Three lecture hours per week for six weeks. Examines the laws, rules, and regulations governing importing into the United States (application and purpose of import documentation, payment of import duty, and recovery by drawback) and regulation of off-shore manufacturing and assembly as well as other laws enforced by the U.S. Customs Service. (CSU)

282 International Transportation and Forwarding (1) *Three lecture hours per week for six weeks.* The operation of principal international transport modes. Purchase of transport services, transportation cost factors, intermodal methods and economies, allied services, and the role and duties of the foreign freight forwarder. (CSU)

283 Transportation of Dangerous Goods (1) *Three lecture hours per week for six weeks.* Regulation of transportation of dangerous or hazardous goods by all transport modes. Application of federal regulations, state and local laws, and international regulations. Emphasizes special packaging, labeling, marking, and container specifications. (CSU)

295 Computer Systems in Business (4)
Three lecture and two lab hours plus one lab hour by arrangement per week. Prerequisites: BUS. 311 or equivalent; MATH 120 or equivalent; and concurrent enrollment in or completion of ACTG 100 or 121. Introduction to business computers; principles of computer operations and system design. Flowcharting, writing, running, and debugging programs in BASIC for accounting and management. Use of microcomputer software applications for word processing, spreadsheets (Lotus 1-2-3), and database management. (CSU) (CAN BUS 6)

300 Introduction to Microcomputers (1) *Three lecture hours plus two lab hours by arrangement per week for 5-1/3 weeks. (Credit/No Credit.) Prerequisite: knowledge of typewriter keyboard.* Introduction to IBM-PC, including components of a microcomputer system and disk operating system. Develops a familiarity with business application software, including fundamentals of word processing, spreadsheets, and data base management software programs. (To increase competency, may be repeated one time for credit.) (CSU)

301 Micro/Word Processing (WordStar): Beginning (1) *Three lecture hours plus two lab hours by arrangement per week for 5-1/3 weeks. Prerequisite: BUS. 305 or equivalent.* An introduction to WordStar software on the IBM-PC. Emphasizes preparing and editing business documents (using insert, delete, copy, and move functions), formatting, and printing. (To increase competency, may be repeated one time for credit.) (CSU)

302 Micro/Word Processing (WordStar): Intermediate (1) *Three lecture hours plus two lab hours by arrangement per week for 5-1/3 weeks. Prerequisite: BUS. 301.* Increased text editing proficiency using WordStar software on the IBM-PC. Emphasizes advanced text manipulation, page formatting, printing features, merging files, and spelling checker. (To increase competency, may be repeated one time for credit.) (CSU)

303 Micro/Word Processing (WordPerfect): Beginning (1) *Three lecture hours plus two lab hours by arrangement per week for 5-1/3 weeks. Prerequisite: BUS. 305 or equivalent.* Introduction to WordPerfect software on the IBM-PC. Emphasizes preparing and editing business documents (using insert, delete, copy, and move functions), formatting, and printing. (To increase competency, may be repeated one time for credit.) (CSU)

304 Micro/Word Processing (WordPerfect): Intermediate (1) *Three lecture hours plus two lab hours by arrangement per week for 5-1/3 weeks. Prerequisite: BUS. 303.* Increased text editing proficiency using WordPerfect software on the IBM-PC. Emphasizes advanced text manipulation, page formatting, printing features, merging files, and spelling checker. (To increase competency, may be repeated one time for credit.) (CSU)

305 Micro/Keyboarding: Beginning (2)
Three lecture hours plus two lab hours by arrangement per week for eleven weeks. Beginning course to develop keyboard skills by touch and to teach proper keyboarding/typing techniques for microcomputers and electronic typewriters. (CSU)

306 Micro/Keyboarding: Skillbuilding (1) *Three lecture hours plus two lab hours by arrangement per week for 5-1/3 weeks. Prerequisite: knowledge of the keyboard.* Speed and accuracy development for all levels of competency. (To increase competency, may be repeated one time for credit.) (CSU)

307 Micro/Keyboarding: Formatting (1) *Three lecture hours plus two lab hours by arrangement per week for 5-1/3 weeks. Prerequisite: BUS. 305 or ability to type 30 wpm.* Skill development in formatting letters, memos, reports, and tabulated material from a variety of source documents on microcomputers. (CSU)

311 Micro/Spreadsheet: Beginning (1) *Three lecture hours plus two lab hours by arrangement per week for 5-1/3 weeks. Prerequisite: BUS. 300 or equivalent.* Fundamentals of Lotus 1-2-3 on the IBM-PC. Emphasizes building a worksheet using basic commands which include copying, formatting, identifying ranges, formula functions, and printing. (To increase competency, may be repeated one time for credit.) (CSU)

312 Micro/Spreadsheet: Advanced (1) *Three lecture hours plus two lab hours by arrangement per week for 5-1/3 weeks. Prerequisite: BUS. 311.* Advanced Lotus 1-2-3 applications on the IBM-PC, using increasingly complex models and utilizing database functions, data query, macros, and graph applications. (To increase competency, may be repeated one time for credit.) (CSU)

313 Micro/Spreadsheet Macros (1) *Three lecture hours plus two lab hours by arrangement per week for 5-1/3 weeks. Prerequisite: BUS. 312.* Writing and using macros to automate spreadsheet keystrokes; naming and invoking techniques; preparing macro menus using Lotus 1-2-3. (To increase competency, may be repeated one time for credit.) (CSU)

321 Micro/Database Management: Beginning (1) *Three lecture hours plus two lab hours by arrangement per week for 5-1/3 weeks. Prerequisite: BUS. 300 or equivalent.* Introduction to database creation and applications for business, using dBase III Plus to create forms, edit data, search for specific information, and print reports. (To increase competency, may be repeated one time for credit.) (CSU)

322 Micro/Database Management: Advanced (1) *Three lecture hours plus two lab hours by arrangement per week for 5-1/3 weeks. Prerequisite: BUS. 321.* Advanced database applications using dBase III Plus. Includes data checking, processing and sorting, and producing reports. (To increase competency, may be repeated one time for credit.) (CSU)

323 Automated Business Databases (1) *Three lecture hours plus two lab hours by arrangement per week for 5-1/3 weeks. Prerequisite: BUS. 322 or experience in dBase III Plus; ability to create and modify databases and their reports and to use filters for conditions and indexes.* Uses a computerized database as a tool for reaching business objectives and solving identified problems (accounts receivable, payroll, inventory control, etc.). Students create an automated business database, identify design issues, create and test design, document the program, evaluate it for effectiveness, and develop implementation strategies. (To increase competency, may be repeated one time for credit.) (CSU)

325 Electronic Filing and Records Management (2) *One lecture hour and two lab hours plus one lab hour by arrangement per week.* Develops record management skills – creating, maintaining, and managing data records – using alphabetic, numeric, geographic, and subject filing. Includes practice in microcomputer filing applications and data management experience. (CSU)

340 Micro/LAN Business Applications (2) *Three lecture hours plus two lab hours by arrangement per week for eleven weeks. Prerequisite: knowledge of DOS.* Explores the many aspects of an integrated program on the IBM-PC. Networking computers to share business software such as electronic mail, multi-tasking operations, telecommunication, and word processing. Includes hands-on experience in maintaining connected systems and software. (To increase competency, may be repeated one time for credit.) (CSU)

344 Micro/DOS: Beginning (1) *Three lecture hours plus two lab hours by arrangement per week for 5-1/3 weeks.* Introduction to the IBM-PC disk operating system (DOS). Includes the use of DOS commands, the editing function, processing files, and procedures for directing information to develop a basic understanding of the IBM-PC microcomputer system. (To increase competency, may be repeated one time for credit.) (CSU)

345 Micro/DOS: Advanced (1) *Three lecture hours plus two lab hours by arrangement per week for 5-1/3 weeks. Prerequisite: BUS. 344 or equivalent microcomputer experience.* Use of DOS in fixed disk and floppy disk management. Creation and uses of batch and autoexec files. Use of EDLIN and other DOS utilities. (To increase competency, may be repeated one time for credit.) (CSU)

350 Micro/Telecommunications (1) *Three lecture hours plus two lab hours by arrangement per week for 5-1/3 weeks.* Use of word processing and telecommunications software to transmit and receive data via a modem and telephone lines. Includes instruction in electronic mail, networking, protocols, and information sources. (To increase competency, may be repeated one time for credit.) (CSU)

351 Micro/Problem Solving with Software Integration (1) *Three lecture hours per week for 5-1/3 weeks. Prerequisite: BUS. 302 or 304; 312; 322; 344; or equivalent.* Introduction to use of PC technology in business problem-solving by integrating the three main software applications. Includes survey of programs and available packages, problem-solving techniques,and the integration process. (To increase competency, may be repeated once for credit.) (CSU)

360 Micro/Desktop Publishing: Beginning (1) *Three lecture hours plus two lab hours by arrangement per week for 5-1/3 weeks. Prerequisite: BUS. 301 or 303 or equivalent.* Introduction to the basic capabilities and terminology of desktop publishing. Text entering, editing, saving, and printing using an IBM-PC and a desktop publishing program. Creation of simple documents such as a newsletter. (To increase competency, may be repeated one time for credit.) (CSU)

361 Micro/Desktop Publishing: Advanced (1) *Three lecture hours plus two lab hours by arrangement per week for 5-1/3 weeks. Prerequisite: BUS. 360.* Continuation of Business 360. Planning, designing, creating, editing, and printing of business documents. Emphasizes page makeup and formatting for producing final copy printouts. Includes instruction in transferring information and graphs from other programs. (To increase competency, may be repeated one time for credit.) (CSU)

365 Micro/Word Processing (WordStar): Advanced (1) *Three lecture hours plus two lab hours by arrangement per week for 5-1/3 weeks. Prerequisite: BUS. 302 or equivalent.* Use of WordStar software advanced features such as sub-directories, macros, desktop publishing, and conversions. (To increase competency, may be repeated one time for credit.) (CSU)

366 Micro/Word Processing (WordPerfect): Advanced (1) *Three lecture hours plus two lab hours by arrangement per week for 5-1/3 weeks. Prerequisite: BUS. 304 or equivalent.* Use of WordPerfect software advanced features such as subdirectories, macros, desktop publishing,

and conversions. (To increase competency, may be repeated one time for credit.) (CSU)

368 Micro/Word Processing (WORD): Beginning (1) *Three lecture hours plus two lab hours by arrangement per week for 5-1/3 weeks. Prerequisite: BUS. 305 or equivalent.* Introduction to WORD software on the IBM AT or compatible. Emphasizes preparing and editing business documents (using insert, delete, copy and move functions), formatting, and printing. (To increase competency, may be repeated once for credit.) (CSU)

369 Micro/Word Processing (WORD): Intermediate (1) *Three lecture hours plus two lab hours by arrangement per week for 5-1/3 weeks. Prerequisite: BUS. 368 or equivalent.* Increased text-editing proficiency using WORD software on the IBM AT or compatible. Emphasizes advanced text control, page formatting, merging, and using columns. (To increase competency, may be repeated once for credit.) (CSU)

370 Micro/Word Processing (WORD): Advanced (1) *Three lecture hours plus two lab hours by arrangement per week for 5-1/3 weeks. Prerequisite: BUS. 369 or equivalent.* Use of WORD advanced features on the IBM AT or compatible. Includes footnotes, outlines, tables of contents, glossaries, line draw, and style sheets. Emphasizes desktop publishing features, including font changes and graphics. (To increase competency, may be repeated once for credit.) (CSU)

401 Business Communications (3) *Three lecture hours per week. Prerequisite: eligibility for ENGL 800; ability to type recommended.* Comprehensive review of grammar, punctuation, and vocabulary used in business. Identifies, explains, and develops the communication skills and tools that contribute to effective verbal and written communications. Instruction includes exercises using microcomputers. (CSU)

641 Cooperative Education (1-4) (See first page of Description of Courses section.) (CSU)

680 – 689 Selected Topics (1-3) (See first page of Description of Courses section.) (CSU)

690 Special Projects (1-2) (See first page of Description of Courses section.) (CSU)

701 How to Begin/Finance a Small Business (1) *(Credit/No Credit or Letter Grade Option.) Three lecture hours per week for six weeks.* For people considering opening a small business as well as for those currently in small business. Entrepreneurial qualities and fundamentals of opening and operating a successful small business. Developing a business plan; legal aspects; sources of capital; loan packages; and financing a small business. (CSU)

702 The Business Plan for Small Business (1.5) *(Credit/No Credit or Letter Grade Option.) Three lecture hours per week for eight weeks.* Development of a comprehensive business plan. Includes establishing business goals, financial projection, marketing research, product development, and personnel management. (CSU)

705 Marketing and Sales/Small Business (1) *(Credit/No Credit or Letter Grade Option) Three lecture hours per week for six weeks.* For people considering or currently operating a small business. Examines marketing and promotion techniques, sales strategies, and techniques for small businesses. (CSU)

720 Management/Motivation Strategies for Small Business (1) *(Credit/No Credit or Letter Grade Option.) Three lecture hours per week for six weeks.* Examines management techniques, motivation guidelines, and current issues relevant to opening/operating a small business: franchising, family-owned and home business, and computer selection. (CSU)

723 Computers in Small Business (.5) *(Credit/No Credit) Three lecture hours per week for three weeks.* Designed to help small business owners/managers identify computer needs, review techniques for control of business, and develop a plan for acquiring and implementing a computer system. (Units do not apply toward AA/AS degree.)

810 Business Arithmetic (3) *Three lecture hours per week. Prerequisite: score below 26 on the CSM Math Placement Test One. (See Business Division requirement for Business Mathematics.)* Fundamental arithmetic operations as applied to ordinary problems of business. Includes the basic processes, fractions, decimals, and percentages. (Units do not apply toward AA/AS degree.)

850 Beginning Microcomputers (.5) *(Credit/No credit) Two lecture hours per week for eight weeks. Prerequisite: knowledge of keyboard recommended.* Introduction to the IBM-PC for the microcomputer novice. Includes components of a microcomputer and disk operation system. Develops an understanding of business application software including basics of text editing, spreadsheets, and database management systems. Designed primarily for the Emeritus Institute. (Units do not apply toward AA/AS degree.)

851 Elementary WordStar (.5) *(Credit/No credit) Two lecture hours per week for eight weeks. Prerequisite: knowledge of keyboard recommended.* Introduction to WordStar software using an IBM-PC. Develops a basic foundation in the use of WordStar through hands-on experience in creating, filing, editing, and printing documents. Explores special features and functions. Designed primarily for the Emeritus Institute. (To increase competency, may be repeated one time for credit.) (Units do not apply toward AA/AS degree.)

853 Elementary WordPerfect: Level I (.5) *(Credit/No credit) Two lecture hours per week for eight weeks. Prerequisite: knowledge of keyboard recommended.* Introduction to WordPerfect using an IBM-PC. Editing, saving, retrieving, and printing documents. Study of special features and functions. Designed primarily for the Emeritus Institute. (To increase competency, may be repeated one time for credit.) (Units do not apply toward AA/AS degree.)

854 Elementary WordPerfect: Level II (.5) *(Credit/No credit) Two lecture hours per week for eight weeks. Prerequisite: BUS. 853.* Continued study of the WordPerfect 5.0 program using an IBM-PC. Formatting business correspondence, including letters and tables. Emphasizes special functions such as bolding text, changing font type and size, and creating macros. Designed primarily for the Emeritus Institute. (To increase competency, may be repeated one time for credit.) (Units do not apply toward AA/AS degree.)

855 Elementary Lotus: Level I (.5) *(Credit/No credit) Two lecture hours per week for eight weeks. Prerequisite: knowledge of keyboard recommended.* Introduction to Lotus 1-2-3 spreadsheet program using an IBM-PC. Fundamental formats, functions, and features; editing, saving,

retrieving, and printing files. Designed primarily for the Emeritus Institute. (To increase competency, may be repeated one time for credit.) (Units do not apply toward AA/AS degree.)

856 Elementary Lotus: Level II (.5) *(Credit/No credit) Two lecture hours per week for eight weeks. Prerequisite: BUS. 855.* Reviews the basic spreadsheet functions and features. Emphasizes creating and printing graphs; includes sorting and an application exercise for spreadsheets. Designed primarily for the Emeritus Institute. (To increase competency, may be repeated one time for credit.) (Units do not apply toward AA/AS degree.)

860 Elementary Desktop Publishing (.5) *(Credit/No credit) Two lecture hours per week for eight weeks. Prerequisite: knowledge of a word processing program is necessary and knowledge of the IBM-PC keyboard is strongly recommended.* Study of the basic capabilities of the Ventura Desktop Publishing program, including loading, saving, printing, and creating short text files. Explores the complexities of a desktop publishing program. Designed primarily for the Emeritus Institute. (To increase competency, may be repeated one time for credit.) (Units do not apply toward AA/AS degree.)

880 – 889 Selected Topics (1-3) (See first page of Description of Courses section.)

Career and Life Planning

101-102-103 College Re-Entry I, II, III (1-1-1) *(Credit/No credit.) Three lecture hours per week for six weeks.* Designed for adults whose education has been interrupted. Includes analysis of present abilities and interests; investigation of new directions and objectives; investigation of career opportunities; development of college-level study skills; and guidance and counseling for meeting new goals. (CSU)

112 Voyages: Career and Life Planning (2) *(Credit/No credit.) (Telecourse.) Prerequisite: eligibility for ENGL 800 recommended.* For those who are undecided about career goals or are changing their career direction. Stresses the significance of clearly defined values and the development of strategies and goals for life work. (CSU)

132 Job Search Strategy (1) *(Credit/No credit.) Two lecture hours per week for eight weeks. Prerequisite: defined job objective recommended.* Designed to develop practical job search skills. Emphasizes the knowledge and skills required to write a resume and develop successful employment interview techniques. Students will learn to create a plan of action for becoming a successful job applicant. (CSU)

133 Career Choices (1) *(Credit/No credit.) Forty-eight lab hours by arrangement.* An open-entry, individualized career exploration course designed for the student who prefers to work independently. Emphasis is on collecting career information which will assist in making career decisions. May be completed at the student's own pace, may include a variety of tests to appraise aptitudes, interests, and values.

137 Life and Career Planning (3) *Three lecture hours per week. Prerequisite: eligibility for ENGL 800 recommended.* A comprehensive approach to life and career planning. Emphasizes self-assessment, goal and value clarification, decision-making, and techniques for dealing with change. Explores career options and job search techniques. (CSU)

138 Skill Development for Career Growth (3) *(Credit/No Credit or Letter Grade Option.) Three lecture hours per week.* A practical, contemporary, and diversified approach to maintaining a healthy, purposeful,well-balanced life. Emphasizes the importance of developing effective personal skills for career growth. (CSU)

140 Peer Counseling (3) *Three lecture hours per week. Prerequisite: eligibility for ENGL 800 recommended.* An orientation and training course to develop peer counseling skills, emphasizing the experiential process of interpersonal communication as well as the theoretical explanation of the counseling process and behavior. Gives students an opportunity to explore and communicate feelings while learning the principles of personal counseling. (CSU)

141 Peer Relations and Community Service (1) *(Credit/ No credit.) Three lecture hours per week for six weeks. Prerequisite: eligibility for ENGL 800 recommended.* An orientation and training course to develop counseling skills, including principles of counseling and helping skills. Emphasizes the importance of group interaction, personal and interpersonal growth and understanding empathic communication skills. Students may be given the opportunity to do volunteer peer counseling work on campus or in the community. (CSU)

401 Introduction to College (1) *(Credit/No Credit or Letter Grade Option.) Two lecture hours per week for eight weeks.* Designed to instruct and assist students in skill assessment, educational planning, and career development. (CSU)

402 Honors Seminar "A" (1) *One lecture hour per week. Prerequisite: admission to Honors Program.* Introduction to college. The process and tradition of academic scholarship. The techniques of learning, research, and student skills. (Fall only.) (CSU)

404 Honors Seminar "B" (1) *One lecture hour per week. Prerequisite: admission to Honors Program.* Introduction to scholarship. An interdisciplinary course which introduces students to contemporary research and scholarship in various fields of study. Taught by college faculty from various departments. Interconnectedness of scholarship emphasized. (Spring only.) (CSU)

406 Athletic Guidance Seminar (2) *(Credit/No Credit or Letter Grade Option.) Two lecture hours per week.* Designed to assist student athletes in identifying values, educational and career goals, and transfer and eligibility requirements. Offered primarily for students competing in intercollegiate athletics and should be taken prior to or during the first semester of competition. (CSU)

410 College and Career Awareness (2) *Two lecture hours per week.* Open to all students but strongly recommended for entering freshmen enrolled in general courses with an "undecided" major or for students who wish to verify their career and educational choice. Acquaintance with campus facilities and activities, improvement of study habits and skills, educational planning toward a realistic, meaningful goal. Career planning to discover potential talents by means of tests measuring new interests and aptitudes. (CSU)

430 Career Exploration (1) *(Credit/No credit.) Three lecture hours plus one lab hour per week by arrange-*

ment for six weeks. Designed for those who wish to decide a college major, set career goals, or change careers. Self-assessment of interests, values, skills, and personality characteristics using a variety of tests and exercises. Assistance in exploration of majors and careers, effective decision making, and career planning. (CSU)

680 – 689 Selected Topics (1-3)
(See first page of Description of Courses section.) (CSU)

880 – 889 Selected Topics (1-3)
(See first page of Description of Courses section.)

Chemistry

Unless otherwise indicated, a grade of C or higher is required for all prerequisite courses.

100 Survey of Chemistry (3)
Three lecture hours per week. Prerequisite: one semester of high school level algebra or equivalent recommended. (This course is designed for non-science majors and is not open to students who have had or are taking CHEM 210.) Study of matter; survey of the chemical concepts and phenomena commonly encountered. (CSU/UC*)

192 Elementary Chemistry (4)
Three lecture and three lab hours per week. Prerequisite: MATH 110 or one year of high school algebra; concurrent enrollment in MATH 115 or MATH 120 or 122 strongly recommended. Chemical nomenclature and formula writing, and mathematical review, including logarithms and exercises in calculation relating to chemistry. (Provides preparation for students who do not have adequate preparation for CHEM 210 or 224.) Extra supplies may be required. (CSU/UC*)

210 General Chemistry I (5)
Three lecture and six lab hours per week. Prerequisites: CHEM 192 OR high school chemistry with lab and two years of high school mathematics; high school physics recommended. Basic principles of atomic and molecular structure and bonding. Chemical reactions and equations, solutions, gas laws, stoichiometry, and related calculations. Extra supplies may be required. (Intended for students majoring in science fields and chemical engineering.) Students who complete CHEM 210-220 and CHEM 224-225 will receive credit for CHEM 210-220 only. (CSU/UC*) (CAN CHEM 2)

220 General Chemistry II (5)
Three lecture and six lab hours per week. Prerequisite: CHEM 210. Descriptive chemistry of the elements and qualitative analysis. Introduction to nuclear chemistry and detailed treatment of electrochemistry, thermodynamics, coordination compounds, equilibrium, and kinetics. Extra supplies may be required. Students who complete CHEM 210-220 and CHEM 224-225 receive credit for CHEM 210-220 only. (CSU/UC*) (CAN CHEM 4)

224 Engineering Chemistry I (4)
Three lecture and three lab hours per week. Prerequisites: CHEM 192 OR high school chemistry with lab and high school mathematics through trigonometry (concurrent enrollment in trigonometry acceptable); high school physics recommended. Mole concept and stoichiometry, solutions, gas laws, phase changes, thermochemistry, and related calculations. Extensive coverage of atomic theory, intermolecular and intramolecular bonding, with emphasis on applications to materials science. Extra supplies may be required. Students who complete CHEM 210- 220 and CHEM 224-225 will receive credit for CHEM 210-220 only. (CSU/UC*)

225 Engineering Chemistry II (4)
Three lecture and three lab hours per week. Prerequisite: CHEM 224. Detailed treatment of thermodynamics, equilibrium, electrochemistry, kinetics, and chemistry of complexes; introduction to nuclear chemistry. Extra supplies may be required. Students who complete CHEM 210-220 and CHEM 224-225 receive credit for CHEM 210-220 only. (CSU/UC*)

231 Organic Chemistry I (5)
Three lecture hours, one recitation hour, and five lab hours per week. Prerequisite: CHEM 220 or 225. Introduction to basic concepts of structure and reactivity of organic compounds; reactions of major functional groups; reaction mechanisms; and synthesis. Principles and practice of laboratory techniques; methods of separation, purification, and synthesis. Theory and practice of instrumental methods, including spectroscopy. Designed as the first semester of a one-year organic course or as a one-semester survey. Extra supplies may be required. (CSU/UC)

232 Organic Chemistry II (5)
Three lecture hours, one recitation hour, and five lab hours per week. Prerequisite: CHEM 231. More rigorous treatment of mechanisms, reactions, and synthesis; structure determination using classical and spectroscopic methods. Laboratory work implements techniques and skills taught in CHEM 231, including identification of unknown compounds and mixtures. Extra supplies may be required. (CSU/UC)

250 Quantitative Analysis (4)
Two lecture and six lab hours per week. Prerequisite: CHEM 220. Theory, calculations and practice of common analytical procedures. Includes gravimetric and volumetric methods; also colorimetric, potentiometric, and other instrumental procedures. Extra supplies may be required. (Spring only.) (CSU/UC)

410 Health Science Chemistry I (4)
Three lecture and three lab hours per week. Prerequisite: MATH 110 OR high school algebra. Introduction to chemistry for the applied sciences, beginning with scientific measurement and the metric system, followed by chemical bonding, solution chemistry, acids and bases, redox reactions, gases, and general aspects of stoichiometry. Extra supplies may be required. Students who complete CHEM 210-220 and CHEM 410-420 will receive credit for CHEM 210-220 only. (CSU)

420 Health Science Chemistry II (4)
Three lecture and three lab hours per week. Prerequisite: CHEM 410. Completes the sequence, focusing on organic and biochemistry with special emphasis on the chemistry of carbohydrates, lipids, proteins, nucleic acids, and vitamins and their respective metabolism. Extra supplies may be required. Students who complete CHEM 210-220 and CHEM 410-420 will receive credit for CHEM 210-220 only. (CSU)

680 – 689 Selected Topics (1-3)
See first page of Description of Courses section. (CSU)

690 Special Projects (1-2)
See first page of Description of Courses section. (CSU)

880 – 889 Selected Topics (1-3)
See first page of Description of Courses section.

Chinese

Language Laboratory and Listening Requirement: since imitation, response, and independent practice are integral features of the study of a foreign language at the College, students enrolled in certain courses in foreign language are required to use the language laboratory as prescribed by each department.

111 Elementary Chinese I (3) *Three lecture hours and one lab hour by arrangement per week.* A beginning course in Mandarin Chinese with instruction and practice in understanding, speaking, reading, and writing. (CSU/UC)

112 Elementary Chinese II (3) *Three lecture hours and one lab hour by arrangement per week. Prerequisite: CHIN 111 or equivalent with a grade of C or higher.* A continuation of CHIN 111 with further development of the skills of understanding, speaking, reading, and writing. (CSU/UC)

121 Advanced Elementary Chinese I (3) *Three lecture hours and one lab hour by arrangement per week. Prerequisite: CHIN 112 or equivalent with a grade of C or higher.* The third course in elementary Mandarin, with continued emphasis on grammar and the spoken language. (CSU)

122 Advanced Elementary Chinese II (3) *Three lecture hours and one lab hour by arrangement per week. Prerequisite: CHIN 121 or equivalent with a grade of C or higher.* A continuation of Chinese 121 with further training in spoken and written Mandarin. (CSU)

131 Intermediate Chinese I (3) *Three lecture hours and one lab hour by arrangement per week. Prerequisite: CHIN 122 or equivalent with a grade of C or higher.* Approximately the first half of the semester's work in intermediate Mandarin Chinese as taught at four-year institutions. (CSU)

132 Intermediate Chinese II (3) *Three lecture hours and one lab hour by arrangement per week. Prerequisite: CHIN 131 or equivalent with a grade of C or higher.* Approximately the second half of the semester's work in intermediate Mandarin Chinese as taught at four-year institutions. (CSU)

680 – 689 Selected Topics (1-3) (See first page of Description of Courses section.) (CSU)

690 Special Projects (1-2) (See first page of Description of Courses section.) (CSU)

880 – 889 Selected Topics (1-3) (See first page of Description of Courses section.)

Computer and Information Science

Unless otherwise indicated, a grade of C or higher is required for all prerequisite courses.

100 Computers and Society (2) *(Telecourse). One thirty-minute television program and lab assignment per week for sixteen weeks plus three two-hour on-campus meetings.* "ComputerWorks" covers terminology, concepts, and common microcomputer applications and prepares students to understand and utilize computers in both their personal and professional lives. IBM-compatible computers used to complete lab assignments for this course. (CSU)

110 Introduction to Computer and Information Science (3) *Three lecture hours plus one lab hour per week by arrangement.* Introduction to information systems exploring the use of computers and the development of computer systems: hardware, software, common PC and Macintosh applications, and programming in BASIC. (CSU/UC)

115 Introduction to Program Design (3) *Three lecture hours per week. Prerequisite: concurrent enrollment in CIS 116.* Introduction to design of computer programs. Emphasizes top-down design, structured programming, and modularity. Includes algorithm development, tools for program design (pseudocode, structure charts, IPO charts, flowcharts, decision tables), data representation, control structures, procedures, documentation, and program checkout. Uses Pascal in classroom examples and laboratory exercises. (CSU/UC)

116 Open Computer Lab (1) *(Credit/No credit.) Three lab hours per week. Prerequisite: concurrent enrollment in CIS 115.* Use of microcomputers to complete lab assignments for CIS 115. (CSU/UC)

120 Business Computer Systems and Applications (3) *Three lecture hours per week. Prerequisite: CIS 110 OR CIS 115/116.* In-depth study of a few applications: general/detailed objectives, flow/control of data from source transaction through database updating and reporting, managerial implications and integration into a total system, followed by survey of applications/systems as implemented on stand-alone/networked computers. (CSU)

130 Introduction to Expert Systems (2) *Two lecture hours per week. Prerequisites: CIS 115/116 or knowledge of a programming language and concurrent enrollment in CIS 131.* Introduction to fundamental principles, terms, and concepts of expert systems. Includes Artificial Intelligence, a survey of expert systems, user-oriented shells, natural language processing, knowledge acquisition, rule-based programming, and construction of a simple expert system. (CSU)

131 Open Computer Lab (1) *(Credit/No credit.) Three lab hours per week. Prerequisite: concurrent enrollment in CIS 130.* Use of microcomputers to complete lab assignments for CIS 130. (CSU)

150 Networks and Data Communications (3) *Three lecture hours plus one lab hour per week by arrangement. Prerequisite: CIS 110 OR 115/116.* Basic principles of data communications and network concepts. Survey of common protocols and key elements needed to configure network systems, including local area networks. Also includes the use of data codes and their implications. (CSU)

152 Principles of Network Design and Management (3) *Three lecture hours per week plus one lab hour per week by arrangement. Prerequisites: CIS 150 OR BUS. 340 and 350.* Basic concepts of network architecture, topology, design, implementation and management. Covers connectivity standards, network security issues, and network administration responsibilities. Also includes LAN, WAN, bridging, gateways and micro-to-mainframe links. (CSU)

160 Introduction to Macintosh (1) *(Credit/No Credit or Letter Grade Option.) Total of twelve lecture and twelve lab hours.* Introduction to Macintosh operating system and user interface, with a sur-

vey of common applications, including word processing, graphics, and spreadsheet. (CSU)

170 HyperCard on the Macintosh I (1)
(Credit/No Credit or Letter Grade Option.) Total of twelve lecture and twelve lab hours. Prerequisite: CIS 160 or familiarity with Macintosh computer. Introduction to typical applications of HyperCard and authoring of HyperCard stacks. (CSU)

171 HyperCard on the Macintosh II (1)
(Credit/No Credit or Letter Grade Option.) Total of twelve lecture and twelve lab hours. Prerequisite: CIS 170 (or equivalent). Continuation of CIS 170. Design and creation of HyperCard stacks and introduction to scripting with HyperTalk. (CSU)

210 COBOL Programming (3)
Three lecture hours per week. Prerequisites: CIS 115/116 and concurrent enrollment in CIS 211. Emphasizes structured programming techniques and basic language elements and syntax used in typical business applications. Also includes debugging techniques, use of reference manuals, and program documentation standards. Students design, code, test, and run COBOL programs. (CSU/UC) (Completion of CIS 210 and 211 = CAN CSCI 8)

211 Open Computer Lab (1)
(Credit/No credit.) Three lab hours per week. Prerequisite: concurrent enrollment in CIS 210. Use of microcomputers to complete lab assignments for CIS 210. (CSU/UC) (Completion of CIS 210 and 211 = CAN CSCI 8)

216 Programming for CICS I (3)
Three lecture hours per week. Prerequisites: CIS 210/211 and concurrent enrollment in CIS 217; CIS 150 recommended. Customer Information and Communication Systems (CICS) architecture, program design and development, screen and file design, use of CICS facilities, error handling, and problem diagnosis. (CSU)

217 Open Computer Lab (1)
(Credit/No credit.) Three lab hours per week. Prerequisite: concurrent enrollment in CIS 216. Use of microcomputers to complete lab assignments for CIS 216. (CSU)

218 Programming for CICS II (3)
Three lecture hours per week. Prerequisites: CIS 216\217 OR equivalent knowledge of CICS and COBOL AND concurrent enrollment in CIS 219. Multifile and database access; use of the screen painting facility; and advanced debugging, programming, and performance techniques. (CSU)

219 Open Computer Lab (1)
(Credit/No credit.) Three lab hours per week. Prerequisite: concurrent enrollment in CIS 218. Use of microcomputers to complete lab assignments for CIS 218. (CSU)

230 BASIC Programming (3)
Three lecture hours per week. Prerequisites: CIS 115/116 OR MATH 120 AND concurrent enrollment in CIS 231. Introduction to programming: BASIC syntax for I/O, assignment, and transfer of control statements; techniques for writing interactive programs; program documentation; file processing; string manipulation; use of functions and subroutines; matrix operations; and a variety of elementary applications. (CSU/UC)

231 Open Computer Lab (1)
(Credit/No credit.) Three lab hours per week. Prerequisite: concurrent enrollment in CIS 230. Use of microcomputers to complete lab assignments for CIS 230. (CSU/UC)

240 FORTRAN Programming (3)
Three lecture hours per week. Prerequisites: MATH 130 OR high school preparation including one semester of Trigonometry AND concurrent enrollment in CIS 241. Introduction to FORTRAN and its use in the solution of problems which can be modeled algebraically. Includes introduction to programming; algorithm development; representation of data; the syntax of specification, assignment, control, and I/O statements; arrays; and subprograms. (CSU/UC) (Completion of CIS 240 and 241 = CAN CSCI 4)

241 Open Computer Lab (1)
(Credit/No credit.) Three lab hours per week. Prerequisite: Concurrent enrollment in CIS 240. Use of microcomputers to complete lab assignments for CIS 240. (CSU/UC) (Completion of CIS 240 and 241 = CAN CSCI 4)

250 Pascal Programming (3)
Three lecture hours per week. Prerequisites: CIS 115/116 and MATH 120; OR MATH 120 and knowledge of a programming language; OR Math 222; AND concurrent enrollment in CIS 251. Introduction to Pascal, a language which emphasizes the concepts of structured programming. Data types, input/output, control structures, functions and procedures, recursion, arrays, records, and pointers. (CSU/UC)

251 Open Computer Lab (1)
(Credit/No credit.) Three lab hours per week. Prerequisite: concurrent enrollment in CIS 250. Use of microcomputers to complete lab assignments for CIS 250. (CSU/UC)

270 Programming in C Language I (3)
Three lecture hours per week. Prerequisites: CIS 115/116 OR knowledge of a programming language AND Math 120 AND concurrent enrollment in CIS 271. Introduction to C: data types, input/output, operators, expressions, control structures, functions, arrays, records, pointers, recursion, structures, and structured design. (CSU/UC)

271 Open Computer Lab (1)
(Credit/No credit.) Three lab hours per week. Prerequisite: concurrent enrollment in CIS 270. Use of microcomputers to complete lab assignments for CIS 270. (CSU/UC)

272 Programming in C Language II (3)
Three lecture hours per week. Prerequisites: CIS 270/271 OR familiarity with elementary concepts of programming in C AND concurrent enrollment in CIS 273. Continuation of CIS 270: C operators and control structures, structured programming, structures, files, data structures, bitwise operators, and programming environments. (CSU/UC)

273 Open Computer Lab (1)
(Credit/No credit.) Three lab hours per week. Prerequisite: concurrent enrollment in CIS 272. Use of microcomputers to complete lab assignments for CIS 272. (CSU/UC)

280 Ada Programming I (3)
Three lecture hours per week. Prerequisites: CIS 115/116 OR knowledge of a programming language AND MATH 120 AND concurrent enrollment in CIS 281. Introduction to Ada, a language which emphasizes the concepts of structured programming. Includes data types, packages, compilation units, input/output, control structures, arrays, files, records, and access types. (CSU/UC)

281 Open Computer Lab (1) *(Credit/No credit.) Three lab hours per week. Prerequisite: concurrent enrollment in CIS 280.* Use of microcomputers to complete lab assignments for CIS 280. (CSU/UC)

282 Ada Programming II (3) *Three lecture hours per week. Prerequisites: CIS 280/281 AND concurrent enrollment in CIS 283.* Introduction to the advanced features of Ada. Includes data encapsulation and abstract data objects, private types and generic types, tasks, blocks, and exception handlers. (CSU/UC)

283 Open Computer Lab (1) *(Credit/No credit.) Three lab hours per week. Prerequisite: concurrent enrollment in CIS 282.* Use of microcomputers to complete lab assignments for CIS 282. (CSU/UC)

290 Microcomputer Assembly Language Programming (3) *Three lecture hours per week. Prerequisites: knowledge of a programming language AND concurrent enrollment in CIS 291.* Includes computer organization, data representation, data structures, machine and assembly language programming, addressing techniques, subroutine linkage, assembly process, assembly directives, and macro definition and use. (CSU/UC) (Completion of CIS 290 and 291 = CAN CSCI 10)

291 Open Computer Lab (1) *(Credit/No credit.) Three lab hours per week. Prerequisite: concurrent enrollment in CIS 290.* Use of microcomputers to complete lab assignments for CIS 290. (CSU/UC) (Completion of CIS 290 and 291 = CAN CSCI 10)

302 Microsoft Windows Programming I (1) *(Credit/No Credit or Letter Grade Option.) Two lecture and two lab hours per week for six weeks. Prerequisite: basic knowledge of C programming recommended.* Introduction to Microsoft Windows Graphical User Interface (GUI) concepts, terminology, and operations; human interface design issues for GUI programming; accessing the Windows programming environment. Students study the operation of Microsoft Windows and write several simple Windows programs in C. (CSU)

303 Microsoft Windows Programming II (1) *(Credit/No Credit or Letter Grade Option.) Two lecture and two lab hours per week for six weeks. Prerequisites: basic knowledge of C; basic familiarity with Windows/GUI concepts, terminology, and operations.* C is used as the main programming language for classroom discussions and assignments. Use of the Microsoft Windows Software Development Kit; controlling windows; customizing icons, cursors, and bitmaps; menus and dialog boxes; techniques for interactive graphical programming in the Windows environment. Students study basic Windows programming techniques and write several Windows programs in C. (CSU)

306 Operating Systems Concepts (3) *Three lecture hours per week. Prerequisites: CIS 290/291 OR a high-level programming language AND concurrent enrollment in CIS 307.* The operating system as a manager of resources on micro, mini, and mainframe computers. Includes file systems, memory management, resource allocation, virtual machines, protection, and process communication. Lab assignments use commands and utility programs from common operating systems, such as CP/M, MS-DOS, UNIX, OS, DOS, and CMS. (CSU)

307 Open Computer Lab (1) *(Credit/No credit.) Three lab hours per week. Prerequisite: concurrent enrollment in CIS 306.* Use of microcomputers to complete lab assignments for CIS 306. (CSU)

320 Systems Analysis and Design (3) *Three lecture hours per week. Prerequisite: knowledge of a programming language; CIS 210/211 recommended.* Analysis of manual and computer-based systems from inception to implementation and evaluation. Includes data gathering, problem definition, cost/benefit analysis, I/O design, oral and written management presentations, hardware and software alternatives, and introduction to database concepts. Students analyze and design a system for a typical business application. (CSU)

350 Fundamentals of Data Structures (3) *Three lecture hours per week. Prerequisites: CIS 115/116 and 250/251 AND concurrent enrollment in CIS 351.* Includes arrays, stacks, queues, linked lists, trees and tree traversals, graphs, internal sorting, file structures, and application of these techniques. (CSU/UC)

351 Open Computer Lab (1) *(Credit/No credit.) Three lab hours per week. Prerequisite: concurrent enrollment in CIS 350.* Use of microcomputers to complete lab assignments for CIS 350. (CSU/UC)

360 Introduction to Database Management (3) *Three lecture hours per week. Prerequisites: CIS 115/116 and a CIS 200- or 300-level course OR two CIS 200- or 300-level courses AND concurrent enrollment in CIS 361.* Database management concepts focusing on the relational model. Covers data manipulation techniques based on the SQL standard, database design methodologies to handle any set of data requirements, and database administration issues with regard to control of centralized and distributed databases. Includes extensive use of a microcomputer DBMS to apply the theory to practical examples of database design, implementation, and manipulation. (CSU)

361 Open Computer Lab (1) *(Credit/No credit.) Three lab hours per week. Prerequisite: concurrent enrollment in CIS 360.* Use of microcomputers to complete lab assignments for CIS 360. (CSU)

370 Object-Oriented Programming (3) *Three lecture hours per week. Prerequisites: CIS 272/273 OR 350/351 or experience with data structures such as stacks, queues, and trees AND concurrent enrollment in CIS 371.* Introduction to object-oriented programming. Includes objects, data encapsulation, data abstraction, methods, classes, and inheritance. C++ is the language used. (CSU/UC)

371 Open Computer Lab (1) *(Credit/No credit.) Three lab hours per week. Prerequisite: concurrent enrollment in CIS 370.* Use of microcomputers to complete lab assignments for CIS 370. (CSU/UC)

641 Cooperative Education (1-4) See first page of Description of Courses section. (CSU)

680 – 689 Selected Topics (1-3) See first page of Description of Courses section. (CSU)

690 Special Projects (1-2) See first page of Description of Courses section. (CSU)

880 – 889 Selected Topics (1-3) See first page of Description of Courses section.

Consumer Arts and Science

310 Nutrition (3)
Three lecture hours per week. Carbohydrates, proteins, fats, vitamins and minerals as related to optimal health. Personalized nutritional assessment based on food intake records. (May be used to waive HSCI 113.) (CSU/UC) (CAN H EC 2)

412 Consumer Issues (3) *Three lecture hours per week.* Study of problems facing the consumer; relationship of quality and cost to food, clothing, housing; resource management, legislation and agencies protecting the consumer. (CSU)

641 Cooperative Education (1-4)
(See first page of Description of Courses section.) (CSU)

680 – 689 Selected Topics (1-3)
(See first page of Description of Courses section.) (CSU)

690 Special Projects (1-2)
(See first page of Description of Courses section.) (CSU)

880 – 889 Selected Topics (1-3)
(See first page of Description of Courses section.)

Cooperative Education

Cooperative work experience education is offered in two basic programs: (1) the parallel plan, in which the student works and attends college classes during the same semester; and (2) the alternate semester plan, wherein the student can alternate between semesters of work and study. Under the parallel plan, students can earn up to four units of Cooperative Education credit per semester. Alternate semester students can earn up to eight units of Cooperative Education credit per semester of work. Students may choose between letter grading and Credit/No Credit grading. Cooperative Education is offered in the following fields: administration of justice, aeronautics, apprenticeship, architecture, business, broadcasting arts, building inspection, cosmetology, dental assisting, drafting technology, fashion merchandising, filmmaking, floristry, fire science, government, horticulture, medical assisting, nursing, physical education, real estate, technical arts and graphics, transportation, as well as other major fields of study.

641 Cooperative Education (1-4)
(Credit/No Credit or Letter Grade option.) Work must be in a field related to a career goal or major, supplemented by individual counseling from an instructor/coordinator. Students may be eligible for up to 4 units of credit per semester and the course may be repeated up to 4 semesters to earn up to 16 units. The student must have new learning opportunities in order to repeat the course. Seventy-five hours of work (approximately 5 hours per week) is equivalent to one unit of credit. Enrollment in 7 units (of which Cooperative Education may be four of the seven) is mandatory. (CSU)

645 Cooperative Education/Alternate Semester (1-8) *(Credit/No Credit or Letter Grade option.)* Work must be in a field related to a career goal or major, supplemented by individual counseling from an instructor/coordinator. Students in the alternate semester program may earn up to 8 units of Cooperative Education credit per semester. The program may be repeated for credit up to a total of 16 units. Students must have earned at least 7 units of credit in other course work before re-enrolling in the alternate plan. The student must have new learning opportunities in order to re-enroll. (CSU)

647 Dental Assisting Cooperative Education (2.5) *Open to dental assisting students only.* Supervised work experience. A practical application of skills learned in the academic classroom as applied to the areas of specialization to be selected by the student. Offered during spring semesters only. (CSU)

For Veterans Only: The parallel plan qualifies for "institutional course" pay rates; the alternate plan qualifies for "Cooperative course" pay rates, as designated by the Veterans Administration. Students who are interested should contact the Cooperative Education Office, 574-6171, Building 5, Room 128.

Real Estate Internship: See catalog Real Estate listings.

Honors Internship: Check with the Co-op Office or the Honors Program to see if you are eligible to earn transferable honors credit for your Co-op Internship.

Cosmetology

The courses described below are open only to those students accepted in the Cosmetology Program. Completion of the tenth grade or equivalent required by California Board of Cosmetology; completion of the twelfth grade is recommended. A grade of C or higher is necessary for progression in sequence. Upon successful completion of the program with a C or higher, including satisfactory performance on a comprehensive "mock board" examination including both theory and practical performance, the candidate receives a Certificate in Cosmetology and is eligible to write the California Board of Cosmetology examination. Note: applicants for the California State Board of Cosmetology must be 17 years of age or older.

641 Cooperative Education (1-4)
(See first page of Description of Courses section.)

712 Fundamentals of Cosmetology I (.5-10)
722 Fundamentals of Cosmetology II (.5-10) *Five lecture and fifteen lab hours per week. Prerequisites: Admission to and registration in the Cosmetology program; COSM 712 and 722 must be taken concurrently.* All subjects covered in COSM 712 and 722 are required for licensing as a cosmetologist by the California State Board of Cosmetology. (May be repeated for a maximum of 18 units.)

732 Advanced Cosmetology I (.5-10)
742 Advanced Cosmetology II (.5-10)
Five lecture and fifteen lab hours per week. Prerequisites: minimum of 10 units with a grade of C or higher in COSM 712 and 722; COSM 732 and 742 must be taken concurrently. Continuation of Cosmetology 712 and 722. Cosmetology 732 and 742 are required for licensing as a cosmetologist. (May be repeated for a maximum of 30 units.)

750 Brush-Up (.5-10)
Up to five lecture and fifteen lab hours per week by arrangement for a total of 400 hours per year. Prerequisite: Cosmetology license or COSM 732 and 742 with a grade of C or higher. For supplemental training requirements or out-of-state requirements. Course requirements must be met satisfactorily prior to state examination. (May be repeated for credit.)

754 Manicuring (.5-10)
Up to five lecture hours and fifteen lab hours per week. Prerequisite: completion of 10th grade or equivalent; applicants for the California State Board of Cosmetology exam must be 17 years of age or older. Training in the theory and practice of the art of manicuring, pedicuring, and artificial nails in preparation for licensing by the California State Board of Cosmetology in that field only. (May be repeated to meet State requirement of total of 350 hours training.)

760 Cosmetology Instruction Preparation (.5-20) *Up to ten lecture and thirty lab hours per week by arrangement for a total of 600 hours. Prerequisites: satisfactory completion of an approved program of Cosmetology training with a minimum of 1600 hours; California Cosmetologist license; and approval of department chair.* Preparatory course of teaching techniques designed to qualify the student for the California State Board of Cosmetology Instructor examination. Requires the student to complete a 600-hour instructor training certificate program. Up to 150 hours may be added to the training, if necessary, to correct deficiencies.

793 Current Hair Fashion and Techniques (1.5) *Two lecture and three lab hours per week for nine weeks. Prerequisite: California Cosmetologist license or completion of 600 hours of Cosmetology with a grade of C or higher.* Study of current hair fashions as presented by the National Hair Fashion Committee. Provides the cosmetologist with the skills to create the latest hair styles. (To increase competency, may be repeated for a maximum of 4.5 units of credit.)

880 – 889 Selected Topics (1-3)
(See first page of Description of Courses section.)

Dance

The classes listed below are identical to Physical Education classes with the same title. Dance classes may be used to satisfy the P.E. requirement for graduation.

121 Contemporary Modern Dance (1.5)
Three lab hours per week. Fundamentals of contemporary dance technique, body alignment, and basic movements. (CSU/UC*)

130 Jazz Dance I (1.5)
Three lab hours per week. Beginning techniques in jazz-stage, jazz movements, fast jazz, jazz rock, jazz blues, and various other jazz combinations. (CSU/UC*)

132 Jazz Dance II (1.5)
Three lab hours per week. Prerequisite: DANC 130. Continuation of Dance 130 with more complex routines and refining of basic skills. (CSU/UC*)

141 Beginning Ballet I (1.5)
Three lab hours per week. Beginning study of ballet techniques and style, including barre, center floor, and dance variations. Explores modern ballet works. (CSU/UC*)

143 Intermediate Ballet II (1.5)
Three lab hours per week.Prerequisite: DANC 141. Continuation of Dance 141, concentrating on barre, center floor, and dance variations. Explores classic ballet works. (CSU/UC*)

148 Beginning Ballet and Modern Dance (1) *Two lab hours per week.* Movement skills; rhythmic structure of dance; qualities of movement; and special design and appreciation of dance. Emphasizes modern ballet and modern dance styles in the creation of individual compositions. (CSU/UC*)

411 Dance Production I (1)
Two lab hours plus two hours of individual practice by arrangement per week. Choreographic principles of dance composition and stage presentation in primitive, medieval, expressionist, cerebralist, jazz, improvisational, impressionist, formal ballet, modern ballet, Broadway musical, Americana, and folk dances. (If students wish to repeat this course, they may petition to audit. See Index: "Audit Policy.") (CSU/UC*)

412 Dance Production II (2)
Two lab hours plus two hours by arrangement per week, including concerts and individual practice hours. Prerequisite: DANC 121 or 141 or permission of instructor. A public stage dance performance, with the creation of new works by students for large groups, trios, duets, and solos. Participation in the technical and business aspects of student production. (CSU/UC*)

641 Cooperative Education (1-4)
(See first page of Description of Courses section.) (CSU)

680 – 689 Selected Topics (1-3)
(See first page of Description of Courses section.) (CSU)

690 Special Projects (1-2)
(See first page of Description of Courses section.) (CSU)

880 – 889 Selected Topics (1-3)
(See first page of Description of Courses section.)

Dental Assisting

The courses described below are open only to those students accepted in the Dental Assisting Program. A grade of C or higher is necessary for progression in sequence. Upon completion of the program, the candidate receives a Certificate in Dental Assisting and is eligible to write the National Certification Examination and the California Registered Dental Assistant Examination. The program is open to part-time students.

647 Cooperative Education (1-4)
(See first page of Description of Courses section.)

711 Office Procedures I (3)
Two lecture and three lab hours per week. Dental patient records and history. Patient psychology, public relations, office management responsibilities, telephone and written communications, office manual, recall system, office billing, and dental jurisprudence and malpractice. (Fall only.)

712 Office Procedures II (1.5)
Two lecture and three lab hours per week for nine weeks. Appointment control, daily production records and bookkeeping systems, case presentation, and computer experience. Collection methods, pre-paid dental insurance, expenses and disbursements, office machines, and payroll and banking procedures. Employment. (Spring only.)

713 Office Procedures III (1)
Two lecture hours per week for eight weeks. Continuation of Dental Assisting 712. (Spring only.)

721 Dental Materials I (3)
Two lecture and three lab hours per week. Equipment and safety procedures neces-

sary in the dental laboratory and operatory. Physical properties, with study in dental cements, restorative impression materials, and gypsum products. Designed to develop skills necessary for manipulation in both the dental operatory and laboratory. Study of the principles of prosthodontics. (Fall only.)

722 Dental Materials II (2)
One lecture hour and three lab hours per week. Study of thermoplastic impression materials, dental casting alloys, removable prosthodontics, with special emphasis on dental assisting and registered dental assisting duties pertaining to dental materials. (Spring only.)

731 Dental Science I (3)
Three lecture hours per week. Basic introduction to the hard and soft tissues of the oral cavity, tooth morphology, oral embryology, and oral histology. Pathological disturbances and pharmacology, with an introduction to oral health principles including nutrition.

732 Dental Science II (3)
Three lecture hours per week. Further study in the hard and soft tissues of the oral cavity and anatomy of the head and neck. Introduction to the body systems, blood supply of the head and neck, and innervation of the teeth. (Spring only.)

735 Communication in Allied Health Professions (1) *One lecture hour per week.* Prepares allied health students to work and communicate effectively with patients, auxiliaries, practitioners, and other health professionals. (Fall only.)

741 Chairside Procedures I (3.5)
Two lecture hours and three lab hours plus seven lab hours per week by arrangement in preparation for DENT 751. Introduction to clinical chairside procedures to be performed at the University of California and the University of the Pacific Schools of Dentistry. Beginning clinical application of chairside assisting techniques. Preparation of the patient and operatory area. Study of instrumentation, dental armamentarium, operative and fixed prosthodontic procedures, microbiology, sterilization procedures, dental office emergencies, and public health dentistry. (Fall only.)

742 Chairside Procedures II (3)
Two lecture and three lab hours per week for duration of DENT 752; two lecture and one and one-half lab hours per week for duration of Cooperative Education enrollment, plus a total of six lecture and six lab hours by arrangement. Further study in chairside procedures. Emphasizes students' individual development. Study of dental specialties; instrumentation, application, procedure, and patient instruction. Introduction to intra-oral functions. DA and RDA levels. Coronal Polish by arrangement. (Spring only.)

751 Dental Clinic I (1.5)
Seven lab hours per week for twelve weeks. Prerequisite: completion of or concurrent enrollment in DENT 711, 721, 731, 741, and 761. Introduction to and application of chairside skills; manipulation of dental materials and care of the dental patient. Held at local dental schools. (Fall only.)

752 Dental Clinic II (1)
Seven lab hours per week for nine weeks. Prerequisites: completion of DENT 711, 721, 731, 741, 751, and 761, each with a grade of C or higher; and completion of or concurrent enrollment in DENT 712, 713, 722, 732, 742, and 762. Continuation of Dental Assisting 751. Applies chairside theory to practical experience at local dental schools and community health centers. (Spring only.)

761 Dental Radiology I (2)
One lecture hour and three lab hours per week. Study of radiation: history, terminology, legislation, characteristics, effects of exposure, protection and monitoring, types of dental film, and developing and processing procedures. Exposing techniques using the parallel technology; mounting and filing of X-ray and identification, and correction of faulty films. (Extra supplies may be required.) (Fall only)

762 Dental Radiology II (2)
One lecture hour and three lab hours per week. Prerequisite: DENT 761. Continuation of Dental Assisting 761. Further study of and practice in dental radiography. Emphasizes students' individual development. Study of pedodontic, occlusal, and edentulous exposures. Bisection-of-the-angle technique, normal structures, anatomical landmarks, and extra-oral films. Continued practice in exposing, developing and processing, mounting, and evaluating films. (Spring only.)

880 – 889 Selected Topics (1-3)
(See first page of Description of Courses section.)

Developmental Skills

811 Specific Learning Skills Assessment (.5) *(Credit/No credit.) (Open entry/open exit) Eight lecture hours by arrangement.* Use of an assessment battery to determine specific learning capacity as well as academic skill levels in reading, spelling, and mathematics. Following assessment, students will design and implement, with the assistance of instructors, individual learning programs. (Units do not apply toward AA/AS degree.)

817 Adapted Computer-Assisted Instruction (.5-3) *(Credit/No credit.) (Open entry/open exit) One and one-half to nine lab hours per week. Prerequisite: eligibility for Disabled Student Program and Services.* Adapted computer access and specialized computer-assisted instruction for students with visual, physical, or language impairments, learning disabilities, acquired brain injuries, or deafness. Provides disabled students with the opportunity to enlarge their learning potential and increase academic efficiency. No previous computer experience required. (Units do not apply toward AA/AS degree.)

819 Study Skills for Academic Success (1.0) *(Credit/No credit.) Two lecture hours per week for eight weeks.* Designed to assist students with specific learning problems to obtain study skills and develop learning strategies to reach their educational objectives. Includes understanding learning styles, intervention strategies, time management, note taking, test preparation, memory techniques, critical thinking, and problem solving. (Units do not apply toward AA/AS degree.)

880 – 889 Selected Topics (1-3)
See first page of Description of Courses section.

Drafting Technology

(Also see Machine Tool Technology and Manufacturing and Industrial Technology.)

Equipment required in all Drafting Technology courses.

100 Introduction to Computer-Aided Drafting (2) *One lecture hour and three lab hours per week. Prerequisite: one semester of college drafting (Drafting, Engineering Graphics, or Technical Arts and Graphics with a grade of C or higher).* Introduction to computer-aided drafting for students majoring in technical arts and graphics, architecture, engineering, and related majors. Basic operations of a personal computer and the application of CAD software. (CSU)

102 Applied Drafting Mathematics (3) *Three lecture hours per week. Prerequisite: MANU 101 or MATH 110 or equivalent.* Geometry review, applied trigonometry, strength of materials, gears, and use of electronic calculators. (CSU)

120 Principles of Technical Drawing (3) *Two lecture and four lab hours per week.* Basic mechanical drawing with instruction surveying the field of graphic communications. Technical sketching, visualization, descriptive geometry, orthographic projection, geometric construction, pictorial drawing methods, and sectional views; electromechanical and computer-aided drafting. (CSU)

201 Technical Drafting/CAD I (7) *Four lecture and nine lab hours per week plus one lab hour per week by arrangement.* Multi-view drawing, lettering, geometric shape description, sections, descriptive geometry, sketching, dimensioning, reproduction processes, charts, graphs, and an introduction to computer-aided drafting. (CSU)

202 Technical Drafting/CAD II (7) *Four lecture and nine lab hours per week plus one lab hour per week by arrangement. Prerequisites: DRAF 201 with a grade of C or higher.* Working drawings, detail and assembly drawings, threads and fasteners, gears, tolerancing, pictorial projections, intersections, developments, and basic CAD. (CSU)

301 Advanced Technical Drafting I (7) *Four lecture and nine lab hours per week plus one lab hour per week by arrangement. Prerequisite: DRAF 202 with a grade of C or higher.* Electrical and electronic drafting, logic diagrams, P.C. designs, pipings, and computer-aided drafting applications. (CSU)

302 Advanced Technical Drafting II (7) *Four lecture and nine lab hours per week plus one lab hour per week by arrangement. Prerequisite: DRAF 301 with a grade of C or higher.* Geometric and true-position tolerancing, cams, hydraulics, assembly drawings, jigs and fixture design, welding, structural drawings, and computer-aided drafting applications. (CSU)

400 Basic Technical Design (3) *Three lecture hours per week. Prerequisites: MANU 120 and concurrent enrollment in DRAF 301.* Application of the materials covered in MANU 120 to the solution of design problems. Includes principles of design, mechanics, producibility, value engineering, computer-aided drafting, and resumes. (CSU)

401 Computer-Aided Drafting for Mechanical Drafting (3) *Two lecture and four lab hours per week. Prerequisite: one semester of college drafting.* A beginning computer-aided drafting course for students who have completed one semester of college drafting. Covers computer hardware configurations, disk operating systems (DOS), and computer-aided drafting features such as basic entities, edit commands, display controls, layering, text, dimensioning, isometric drawing, and wire-frame modeling. (CSU)

402 Computer-Aided Drafting: Advanced Topics (3) *Two lecture and four lab hours per week. Prerequisite: a computer-aided drafting course at College of San Mateo.* Advanced computer-aided drafting course for students who have completed a basic course in AutoCad. Includes plotting, printing, digitizing, and advanced applications in computer-aided drafting. (CSU)

641 Cooperative Education (1-4) (See first page of Description of Courses section.) (CSU)

680 – 689 Selected Topics (1-3) (See first page of Description of Courses section.) (CSU)

690 Special Projects (1-2) (See first page of Description of Courses section.) (CSU)

880 – 889 Selected Topics (1-3) (See first page of Description of Courses section.)

Economics

100 Principles of Macro Economics (3) *Three lecture hours per week.* The American economy; the price system; the role of business, labor, and government; the money and banking system; trends of national income and factors in its determination; problems and policies for stabilization and growth in an international economy. (CSU/UC) (CAN ECON 2)

102 Principles of Micro Economics (3) *Three lecture hours per week.* Supply, demand, and price determination in a market economy; business firm's costs, revenues, and price policies under conditions of competition through monopoly; role of government in cases of market failure; determination of wages, rent, interest, and profits; international trade and finance; comparative economic systems of other nations. (CSU/UC) (CAN ECON 4)

123 Business-Economic Statistics (4) *Four lecture hours per week. Prerequisite: MATH 120 or equivalent with a grade of C or higher, or high school preparation including one and one-half years of algebra with grades of C or higher.* Designed for the Business and Economics major. Graphic presentation, measures of central tendency, dispersion, index numbers, time series, seasonal indexes, probability, hypotheses testing, type I and type II error, Chi-square goodness-of-fit test, contingency tables, regression and correlation analysis. Introduction to using a computer. (CSU/UC*)

680 – 689 Selected Topics (1-3) (See first page of Description of Courses section.) (CSU)

690 Special Projects (1-2) (See first page of Description of Courses section.) (CSU)

880 – 889 Selected Topics (1-3) (See first page of Description of Courses section.)

Education

100 Introduction to Education (3) *Three lecture hours per week.* Integrates psychological, sociological, and philosophical foundations of education. Explores career opportunities and new directions in education. Includes planning of effective classroom environments. (CSU)

101 Field Experience in Education (3) *Three lecture hours per week.* Directed field experience in education for high school, secondary school, and elementary school teaching. Provides forty-eight hours of observation (participation in guided field experience for students interested in a career in teaching). (CSU)

680 – 689 Selected Topics (1-3) (See first page of Description of Courses section.)

690 Special Projects (1-2) (See first page of Description of Courses section.)

880 – 889 Selected Topics (1-3) (See first page of Description of Courses section.)

Electronics Technology

Extra supplies/lab fee may be required in all Electronics Technology courses.

100 Introduction to Electronics (3) *Three lecture hours per week. Open to all students except those who are currently enrolled in or have completed a college electronics course.* Study of basic electronics with a descriptive presentation and a non-mathematical approach. Stresses the influence of electronics in all phases of business, science, and daily life. (CSU)

110 Introduction to Fundamentals of Electronics (3) *Two lecture and three lab hours per week plus one lab hour per week by arrangement.* Reading simple schematic diagrams and constructing elementary electrical/electronics circuits; making measurements with multimeter and oscilloscopes; using DC power supplies and AC power sources; basic digital principles. Emphasizes laboratory experiments and techniques. (CSU)

115 Introduction to Electronics Soldering (1) *One lecture hour and three lab hours per week for eight weeks.* Soldering techniques and skills applied to wire, components, and printed circuits. Proper choice, use, and care of hand tools. Emphasizes neatness as well as workmanship. (CSU)

200 Passive Circuits and Analysis (5) *Three lecture and six lab hours per week plus one lab hour per week by arrangement. Prerequisite: MATH 110 or 111 and 112 or one year of high school algebra with a grade of C or higher.* Study of the circuit behavior of various combinations of resistance, capacitance, and inductance. Experiments and procedures parallel lecture material. Emphasizes the use of basic electronic measuring equipment. (CSU)

201 D.C. Electronics (3) *Two lecture and three lab hours per week. Prerequisite: concurrent enrollment in or completion of ELEC 231 with a grade of C or higher.* Study of direct current and its effect on resistors, inductors, and capacitors. The nature of electricity, resistance, basic circuit laws, Ohm's Law, magnetism, inductance, capacitance, and the use of power supplies, multimeters, and oscilloscopes. (CSU)

202 A.C. Electronics (3) *Two lecture and three lab hours per week. Prerequisite: ELEC 201 or equivalent with a grade of C or higher.* Study of alternating current and its effect on resistors, inductors, and capacitors. The nature of AC, AC and resistance, inductive and capacitive reactance, transformers, resonance, and the use of power supplies, multimeters, and oscilloscopes. (CSU)

210 Introduction to Digital Electronics (1.5) *Two lecture and three lab hours per week for eight weeks plus one lab hour per week by arrangement. Prerequisite: concurrent enrollment in ELEC 110 or equivalent.* Study of the theory and operation of basic digital logic gates and combinational logic circuits. Analysis techniques include truth tables, Karnaugh maps, and basic Boolean algebra. Emphasizes older as well as state-of-the-art hardware techniques. Hands-on lab experience with TTL, CMOS, and ECL IC devices. Includes common number systems and arithmetic methods emphasizing decimal, hexadecimal and binary concepts. (CSU)

215 Introduction to PC Hardware and Troubleshooting (2) *Three lecture and three lab hours per week for eight weeks. Prerequisite: ELEC 110 and 210 with a grade of C or higher.* Study of the installation, configuration, troubleshooting, and maintenance of the board-level electronic systems that make up an IBM compatible personal computer. Includes motherboard geography, power supplies, single- and multi-function peripheral cards, floppy and hard disk systems, BIOS, keyboards and mice, and monochrome and color video systems. (CSU)

230 Applied Electronics Mathematics (3) *Three lecture hours per week. Prerequisite: one year of high school algebra with a grade of C or higher within the last three years.* Basic applications of algebra to the solution of problems involving direct-current circuits. Elements of trigonometry, logarithms, complex numbers, and vector methods as applied to alternating current circuits and high-transmission lines. (CSU)

231 Basic Applied Electronic Mathematics (2) *Two lecture hours per week. Prerequisite: one year of high school mathematics with a grade of C or higher within the past three years.* Basic principles: algebra, trigonometry, logarithms, graphing, and scientific calculator use as applied to DC/AC circuits. (This course will transfer to CSU upon successful completion of ELEC 232.) (CSU)

232 Advanced Electronics Mathematics (1) *One lecture hour per week. Prerequisite: ELEC 231 with a grade of C or higher and concurrent enrollment in ELEC 302.* In-depth study of algebra, trigonometry, logarithms, and graphing, as applied to amplifier, oscillator, and microwave circuits. (CSU)

240 Aircraft Math and Physics (2) *Two lecture hours per week. Prerequisites: concurrent enrollment in AERO 130 and ELEC 241, 242, and 243.* Basic applications of arithmetic and algebra to the solution of problems involving direct-current circuits, alternating current circuits, power supplies, amplifiers, and oscillators found in avionics systems. (CSU)

241 Aircraft Math and Physics Lab (1) *Three lab hours per week. Prerequisites: concurrent enrollment in ELEC 240.* Uses actual avionics circuits, circuit models, and computer-based training programs to apply the arithmetic and algebra reviewed in Electronics 240 to real avionics systems

involving direct-current circuits, alternating current circuits, power supplies, amplifiers, and oscillators. (CSU)

242 Aircraft Electricity (3) *Three lecture hours per week. Prerequisite: completion (with a grade of C or higher) or concurrent enrollment in AERO 130, ELEC 240, 241, and 243.* A study of resistance, inductance, capacitance, direct current, alternating current, switches, wire, fuses, basic active devices and circuits, and aviation electrical fabrication techniques as they apply to aircraft electrical/electronics systems. (CSU)

243 Aircraft Electricity Lab (3) *Nine lab hours per week. Prerequisite: concurrent enrollment in ELEC 242.* The construction and investigation of circuits and devices which include resistance, inductance, capacitance, direct current, alternating current, switches, wire fuses, and basic active devices and circuits as they apply to aircraft electrical/electronics systems. Hands on skill development in the fabrication techniques and processes used in avionics including wiring terminals, connectors, lead dress, wire wrap, crimping, soldering, use of tools, and cable fabrication/routing. (CSU)

246 Aircraft Digital and Computer Systems (5) *Ten lecture hours per week for eight weeks. Prerequisites: AERO 130; ELEC 240, 241, 242, and 243 with a grade of C or higher; concurrent enrollment in AERO 300/301 and ELEC 247.* Basic digital and computer systems in avionics systems, emphasizing data buses and ARINC 429 and 629. (CSU)

247 Aircraft Digital and Computer Systems Lab (3.5) *Twenty-one lab hours per week for eight weeks. Prerequisite: concurrent enrollment in ELEC 246.* Practical experience in working with basic digital and computer systems found in avionics systems, emphasizing data buses and ARINC 429 and 629. (CSU)

250 Active Electronic Devices and Circuits (5) *Three lecture and six lab hours per week plus one lab hour per week by arrangement. Prerequisites: ELEC 200 and 231 or equivalent with a grade of C or higher.* Analysis and testing of the characteristics and simple circuit applications of active solid state electronic devices such as diodes and bi-polar and field-effect transistors and thyristors. (CSU)

252 Instruments and Systems Measurements (2) *One lecture hour and three lab hours per week. Prerequisites: ELEC 200 or equivalent qualification; concurrent enrollment in ELEC 250.* Study of measuring equipment and techniques as applied to electronic devices, linear circuits, audio, telecommunications, and other electronic systems. (CSU)

260 Digital Logic Circuits I (3) *Two lecture and three lab hours per week plus one lab hour per week by arrangement. Prerequisites: ELEC 110 and 210 with a grade of C or higher or equivalent qualification.* Application of digital gates in combinational logic to produce the common digital-logic functions, including adders/subtractors, multiplexers/demux magnitude comparators, parity generators/checkers, encoders/decoders, flip-flops counters, registers, memories, data transmission systems, and A-to-D and D-to-A conversions. (CSU)

280 Electrical/Mechanical Assembly Technology I (3) *Two lecture and three lab hours per week plus one lab hour per week by arrangement. Prerequisite: concurrent enrollment in ELEC 250 or 720 or equivalent background.* Basic hand skills required of electronics technicians. Fabrication and assembly techniques typical of the electronics industry, emphasizing industrial standards. (CSU)

300 Analysis of Linear Circuits (4) *Two lecture and six lab hours per week plus one lab hour per week by arrangement. Prerequisite: ELEC 250 or equivalent with a grade of C or higher and completion of or concurrent enrollment in ELEC 232 or higher level math course.* Analysis of single stage bi-polar and FET amplifiers, including frequency response techniques. Analysis of discrete and monolithic multistage audio voltage and power amplifiers, operational amplifiers, and active filters. (CSU)

302 Modulation/Demodulation and Signal Processing Systems (3) *Two lecture and three lab hours per week plus one lab hour per week by arrangement. Prerequisite: ELEC 250 with a grade of C or higher or equivalent qualification and concurrent enrollment in ELEC 232.* Study of the signal-processing functions in modulation and demodulation of intelligence signals as used in audio and video communications systems. (CSU)

310 Introduction to Microprocessors (3) *Two lecture and three lab hours per week plus one lab hour per week by arrangement. Prerequisite: ELEC 260 with a grade of C or higher or equivalent qualification.* Covers the 8-bit microprocessor: the CPU instructional set, basic system hardware, chip select systems, memory, and direct I/O. Emphasizes assembly language programming and software control of hardware. (CSU)

330 Electrical/Mechanical Assembly Technology II (3) *Two lecture and three lab hours per week plus one lab hour per week by arrangement. Prerequisites: ELEC 280 and 250 or 720 with a grade of C or higher or equivalent industrial experience.* Electronics symbols, designations, and hardware; research, identification, and use of industrial sources and literature; designing and developing master artwork for processing printed circuit boards; developing a prototype for a project and supporting it with documentation. (CSU)

340 Aircraft Audio, Radio, and Radar Systems (5) *Ten lecture hours per week for eight weeks. Prerequisites: ELEC 246/247 with a grade of C or higher or equivalent experience; concurrent enrollment in ELEC 341.* Audio, radio, and radar systems used in modern aircraft electronic systems. Emphasizes basic theory and principles. Transducers, antennae, communications systems, and system interconnections used to demonstrate interrelationships. Modern aircraft documentation and equipment used for examples of systems. (CSU)

341 Aircraft Audio, Radio, and Radar Systems Lab (2.5) *Fifteen lab hours per week for eight weeks. Prerequisite: concurrent enrollment in ELEC 340.* Hands-on study of basic principles of aircraft communications systems. (CSU)

342 Aircraft Navigation and Flight Control Systems (5) *Ten lecture hours per week for eight weeks. Prerequisites: ELEC 340/341 with a grade of C or higher or equivalent experience; concurrent enrollment in ELEC 343.* Basic principles of aircraft navigation and flight control. (CSU)

343 Aircraft Navigation and Flight Control Systems Lab (2.5) *Fifteen lab hours per week for eight weeks. Prerequisite: concurrent enrollment in ELEC 342.*

Hands-on study of the basic principles of aircraft navigation and flight control. (CSU)

344 Basic Radiotelephone Principles (5) *Ten lecture hours per week for eight weeks. Prerequisites: ELEC 342/343 with a grade of C or higher or equivalent experience; concurrent enrollment in ELEC 345.* Basic theories and principles of radiotelephone operation. (CSU)

345 Basic Radiotelephone Principles Lab (2.5) *Fifteen lab hours per week for eight weeks. Prerequisite: concurrent enrollment in ELEC 344.* Hands-on investigation of the basic theories and principles of radiotelephone operation. (CSU)

350 Advanced Circuit Applications (4) *Two lecture and six lab hours per week plus one lab hour per week by arrangement. Prerequisites: ELEC 232 and 300 with a grade of C or higher or equivalent qualifications.* Discrete and monolithic applications of fixed and variable regulated power supplies, sine and non-sine wave RC oscillators, phase-locked loop circuits, and RF amplifiers. (CSU)

351 Advanced RF Circuits (2) *One lecture hour and three lab hours per week. Prerequisites: ELEC 350 or 740 AND ELEC 232 or higher level math course with a grade of C or higher or equivalent qualifications.* Study and application of RF circuits, emphasizing impedance matching, Class C amplifiers/multipliers, crystal oscillators, and AM/FM modulators/demodulators. (CSU)

360 Microcomputer Interfacing (3) *Two lecture and three lab hours per week plus one lab hour per week by arrangement. Prerequisite: ELEC 310 with a grade of C or higher or equivalent qualification.* Programmable microprocessor compatible support chips. Interrupts, parallel data transfer techniques,serial data communications, A-to-D and D-to-A conversion, and software diagnostics. (CSU)

362 Radio-Frequency Communication (4) *Three lecture and three lab hours per week plus one lab hour per week by arrangement. Prerequisites: ELEC 232 or higher level math course, 300 and 302 with a grade of C or higher or equivalent qualification.* Principles and techniques of radio frequency/microwave transmission and reception, including transmission lines and antennas. (CSU)

386 Advanced Digital Systems (3) *Two lecture and three lab hours per week. Prerequisite: ELEC 360 with a grade of C or higher or equivalent qualification.* Study of 16- and 32-bit digital systems including hardware and software. (CSU)

641 Cooperative Education (1-4) (See first page of Description of Courses section.) (CSU)

680 – 689 Selected Topics (1-3) (See first page of Description of Courses section.) (CSU)

690 Special Projects (1-2) (See first page of Description of Courses section.) (CSU)

710 DC and AC Electronics Fundamentals (4) *Three lecture and three lab hours per week. Prerequisite: one year of high school algebra with a grade of C or higher.* Theory and practice of DC and AC circuit behavior in various combinations of resistance, capacitance, and inductance. (CSU)

720 Active Circuits and Devices (4) *Three lecture and three lab hours per week. Prerequisite: ELEC 230 and 710 with a grade of C or higher.* Analysis and testing of the characteristics and simple circuit applications of active solid-state electronic devices such as diodes, bi-polar and field-effect transistors, and thyristors. (CSU)

721 Basic Semiconductors Circuits (4) *Three lecture and three lab hours per week. Prerequisites: ELEC 200 and 231 or equivalent qualification.* Testing and simple evaluation of the characteristics of active solid-state electronic devices such as diodes, bipolar, and field effect transistors and thyristors.

730 Applied Linear Amplifier Analysis (4) *Three lecture and three lab hours per week. Prerequisite: ELEC 720 with a grade of C or higher or equivalent qualification.* Review of single-stage bi-polar and fet amplifiers, including frequency response techniques. Analysis of discrete and monolithic multistage audio voltage and power amplifiers, operational amplifiers, and active filters. (CSU)

740 Applied Electronics Circuit Analysis (4) *Three lecture and three lab hours per week. Prerequisite: ELEC 730 with a grade of C or higher.* Discrete and monolithic applications of fixed and variable regulated power supplies, sine and non-sine wave RC oscillators, phase locked-loop circuits, RF amplifiers and oscillators, and AM-FM modulation circuits. (CSU)

760 Microwave Principles (3) *Three lecture hours per week. Prerequisite: ELEC 730 with a grade of C or higher or equivalent industrial experience.* Transmission lines; active and passive microwave devices and their applications that operate in the microwave region. (CSU)

880 – 889 Selected Topics (1-3) (See first page of Description of Courses section.)

Engineering

Unless otherwise indicated, a grade of C or higher is required for all prerequisite courses.

111 Engineering Surveying (3) *Two lecture and three lab hours per week. Prerequisite: MATH 130.* Theory of measurements in surveying, measurement of distance, differential leveling and measurements of angles and directions; stadia techniques and topographic mapping; field astronomy; and theory of state plane coordinate systems. Extra supplies may be required. (CSU/UC*) (CAN ENGR 10)

210 Engineering Graphics (4) *Three lecture and four lab hours per week. Prerequisites: One year of high school mechanical drawing or DRAF 120 AND concurrent enrollment in or completion of MATH 241 or 251 or 260.* Fundamental principles of descriptive geometry with applications. Graphic mathematics, nomography, and graphical calculus. Introduction to Computer-Aided Design (CAD using IBM-PC/AT-type computers and CADKEY software. (CSU/UC*)

230 Engineering Statics (3) *Three lecture hours per week. Prerequisites: ENGR 210 and PHYS 250 AND concurrent enrollment in or completion of MATH 252 or 262.* Plane and space force-moment systems, equivalent systems, and couples; equilibrium problems covering

structures, machines, distributed force systems, and friction; free body diagrams and design concepts analyzed on CAD. (CSU/UC*) (CAN ENGR 8)

260 Circuits and Devices (4)
Three lecture and three lab hours per week. Prerequisites: PHYS 260 AND concurrent enrollment in or completion of MATH 253 or 263. Introduction to circuits. Natural and forced response, network theorems; characteristics and circuit models of electronic devices and transistor amplifiers. Laboratory assignments include both standard bench techniques and computer- aided analysis. (CSU/UC*) (CAN ENGR 6)

270 Materials Science (3)
Two lecture and three lab hours per week. Prerequisites: MATH 241 or 251 or 260 AND CHEM 210 or 224; PHYS 250 recommended. Introduction to mechanics of solids with theory and ASTM standard tests. Atomic and crystal structure, imperfections, and resulting physical and chemical properties; phase transformations, microstructures, and heat treating. Structure and properties of metals, ceramics, polymers, semiconductors, and composites. Crystal modeling including interstitial sites and slip systems using CAD. Computer treatment of lab data and microstructural analysis. (CSU/UC*) (CAN ENGR 4)

641 Cooperative Education (1-4)
(See first page of Description of Courses section.) (CSU)

666 Careers in Engineering (1)
(Credit/No credit.) Two lecture hours per week for eight weeks. An intensive introduction to the problems faced by beginning engineering students; academic and professional requirements, opportunities, available areas of specialization, and alternatives. (CSU/UC)

680 – 689 Selected Topics (1-3)
(See first page of Description of Courses section.) (CSU)

690 Special Projects (1-2)
(See first page of Description of Courses section.) (CSU)

880 – 889 Selected Topics (1-3)
(See first page of Description of Courses section.)

English

(Also see Film, Literature, Reading, and Speech.)

The English Placement Test is required of all entering freshmen. Students transferring to College of San Mateo with credit in college English (a course equivalent to English 100, Composition and Reading) will not be required to take the test. Designed to measure the entrant's ability in reading, the mechanics of writing, and composition, the test is used (in addition to other information) to determine placement of students in English 100 and other English courses.

The English Program

The English program consists of transfer and nontransfer courses in composition, film, language, literature, reading, and speech. Entering students should enroll first in one of the following courses in composition:

Transfer Courses	*Nontransfer Courses*
English 100	English 800 or 801
English 400	English 841, 842, 843, or 844

The English requirement for the AA/AS may be completed with additional units chosen from the following courses:

Transfer courses	*Nontransfer Courses*
English 110, 120, 130, or 140	English 875
English 400	Speech 801
Speech 100 or 120	Speech 844

Note that English 100 with a grade of C or higher is the prerequisite for English 110, 120, 130, and 140. English 800 with a grade of C or higher is the prerequisite for English 100, except for students who placed in English 100 on the placement test. Reading courses may be taken concurrently with any of the other courses in the English/Literature program.

Other English/Literature transfer courses are those numbered below 800; other English/Literature nontransfer courses are those numbered 800 or above.

The following English courses are credit-bearing but not degree-applicable, which means that the units count for the purposes of financial aid and veterans' benefits but not toward the AA/AS degree: 801, 830, 841, 842, 843, 844, 850, 853, 855, 856, 860, 875.

Concurrent enrollment in reading is **strongly recommended** for all students whose reading levels are below grade 11.0 as measured by the comprehension section of the Nelson Denny Reading Test or subsequent course work.

100 Composition and Reading (3)
Three lecture hours per week. Prerequisite: ENGL 800 or 400 with a grade of C or higher or appropriate score on placement test. (All ENGL 100 students who received a grade of C in ENGL 800 or 400 are strongly advised to enroll concurrently in ENGL 850.) Intensive reading and writing based on a study of primarily nonfiction materials. Students write a minimum of 8,000 words; writing emphasizes expository forms. (CSU/UC) (CAN ENGL 2)

110 Composition and Literature (3)
Three lecture hours per week. Prerequisite: ENGL 100 with a grade of C or higher. Study of fiction, drama, and poetry with extensive critical writing (a minimum of 8,000 words). (CSU/UC)

120 Composition and Poetry (3)
Three lecture hours per week. Prerequisite: ENGL 100 with a grade of C or higher. Study of selected poetry with extensive critical writing (a minimum of 8,000 words). (CSU/UC)

130 Composition and Fiction (3)
Three lecture hours per week. Prerequisite: ENGL 100 with a grade of C or higher. Study of the short story and the novel with extensive critical writing (a minimum of 8,000 words). (CSU/UC)

140 Composition and Drama (3)
Three lecture hours per week. Prerequisite: ENGL 100 with a grade of C or higher. Study of selected dramatic works with extensive critical writing (a minimum of 8,000 words). (CSU/UC)

161 Creative Writing I (3)
Three lecture hours per week. Prerequisite: ENGL 110, 120, 130 or 140. The craft of writing short fiction and poetry. Students write a minimum of two short stories and complete a poetry project. (CSU/UC*) (CAN ENGL 6)

162 Creative Writing II (3)
Three lecture hours per week. Prerequisite: ENGL 161. Further instruction in the craft of fiction, with emphasis on writing for publication. (CSU/UC*)

163 Creative Writing III (3)
Three lecture hours per week. Prerequisite: ENGL 162. Instruction in the writing of long fiction for the prospective professional writer. (To increase competency, may be repeated for a maximum of 12 units of credit.) (CSU/UC*)

165 Advanced Composition (3)
Three lecture hours per week. Prerequisite: ENGL 100 with a grade of C or higher. Designed for students who already have some experience with writing both formal and informal essays and want to go further into the techniques of essay and article writing, with particular emphasis on critical thinking, persuasive strategies, and the attendant concerns of style and audience. (Fulfills critical thinking requirement for transfer students.) (CSU/UC)

195 Term Paper (1)
(Credit/No credit.) Two lecture hours per week for eight weeks. Prerequisite: Eligibility for ENGL 100. A short course designed to assist the student who has never had the experience of writing a documented or research paper. Emphasizes the process and techniques involved in the actual production of a term paper. (CSU)

210 Word Study (3)
Three lecture hours per week. Prerequisite: ENGL 860 or eligibility for ENGL 100. Study of the word stock of standard English, with emphasis on the vocabulary essential to academic work. Includes instruction in etymology, roots, dialects, context clues, semantics, and strategies for continual independent acquisition of vocabulary. (CSU/UC)

400 Composition for Non-Native Speakers (5) *Five lecture hours per week. Prerequisite: 66-75 on the C.E.L.T. Test and/or placement writing sample or ENGL 844 with a grade of C or higher and concurrent enrollment in READ 802. Transfer-level SPCH 100, 120, or 150 recommended.* Intensive practice in the writing of expository essays based on the analysis of complex pieces of writing, both fiction and non-fiction. The student is expected to conform to the conventions of standard English by demonstrating an ability to use proper punctuation, mechanics, structures, and grammar and to employ a variety of sentence patterns. (Meets the competency standards required for the AA/AS degree and for entrance into English 100.) (CSU/UC)

411 Intermediate Composition (4)
Five lecture hours per week. Prerequisite: ENGL 801 with a grade of B or higher or appropriate score on the placement test. Intensive reading and writing of essays, plus a thorough review of sentence structure. (Note: The student will receive one unit of credit for ENGL 411; the other three units will appear on the transcript as credit for either ENGL 100 or 800, depending upon the quality and quantity of the student's writing. This course fulfills the writing competency standards for the AA/AS degree.)

641 Cooperative Education (1-4)
(See first page of Description of Courses section.) (CSU)

680 – 689 Selected Topics (1-3)
(See first page of Description of Courses section.) (CSU)

690 Special Projects (1-2)
(See first page of Description of Courses section.) (CSU)

800 Writing Development (3)
Three lecture hours per week. Prerequisites: ENGL 801 with a grade of C or higher or appropriate score on the placement test. Practice in writing to develop and refine specific composition skills. Includes instruction in the composing process, elements of the essay, rhetorical strategies, analytical reading, grammar, and mechanics. Designed mainly to prepare students to meet competency standards required for entrance into English 100.

801 Basic Writing Skills (3)
Five lecture hours per week. Prerequisite: appropriate score on the placement test and at least tenth-grade comprehension on the Nelson-Denny Reading Test or concurrent enrollment in a reading class. Sentence structure, punctuation, paragraph development, and the composition of brief essays. Practice in writing based on the study of essays and other reading material. (Units do not apply toward AA/AS degree.)

811 Intermediate Reading, Interpreting, and Composition (4). *Three lecture hours and two hours of writing practicum per week. Prerequisite: appropriate score on the placement test.* Practice in writing based on the reading and study of essays and other prose. (Note: The student will receive one unit of credit for ENGL 811; the other three units will appear on the transcript as credit for either ENGL 800 or 801, depending upon the quality and quantity of the student's writing.)

820 Technical Report Writing (3)
Three lecture hours per week. Prerequisite: eligibility for ENGL 800 or higher. Training in writing for students in Aeronautics, Electronics, Computer & Information Science, Drafting, Engineering, Welding, Nursing, Machine Tool Technology, and other occupational fields. (Course may be substituted for ENGL 800 to meet competency requirement for AA/AS degree.)

825 Writing for Careers: Law Enforcement Personnel (3) *Three lecture hours per week. Prerequisite: eligibility for ENGL 800 or higher.* Training in writing for students in Administration of Justice program. (Course may be substituted for ENGL 800 to meet competency requirement for the AA/AS degree.)

830 Writing for Dental Assistants (1.5)
One and one-half lecture hours per week. Prerequisite: admission to the Dental Assisting Program. Training of dental assistants in the basic principles of technical and business writing; review of grammar, usage, and composition skills. (Units do not apply toward AA/AS degree.)

835 Writing for Careers: Fire Science (3) *Three lecture hours per week. Prerequisite: eligibility for English 800 or higher.* Training in writing for Fire Science students and personnel. (Course may be substituted for ENGL 800 to meet competency requirement for the AA/AS degree.)

841 Writing for Non-Native Speakers I (2.5-5) (Credit/No Credit or Letter Grade option.) *Five lecture hours per week. Prerequisite: 15-22 on the C.E.L.T. Test and/or placement writing sample and concurrent enrollment in READ 841 or higher course. SPCH 841 or higher course and READ 807 also recommended.* Designed to initiate the study of written academic English. Introduces, explains, and offers practice in the following: simple present, past, future, and the progressive tenses in statement/question formats; adverbs of frequency; SOME and ANY; articles; count and noncount nouns; quantity expressions; demonstratives; possessives; OTHER and ANOTHER; object pro-

nouns; prepositional phrases; contractions; and punctuation. (Units do not apply toward AA/AS degree.)

842 Writing for Non-Native Speakers II (2.5-5) *(Credit/No Credit or Letter Grade option.) Five lecture hours per week. Prerequisite: 23-37 on the C.E.L.T. Test and/or placement writing sample or five units of ENGL 841 with a grade of C or higher and concurrent enrollment in READ 841 or higher course. SPCH 841 or higher course and READ 807 recommended.* Introduces beginning rhetoric in the form of a connected series of simple sentences on topics of daily life and continues the study of English sentence types, imperatives, four basic tenses (past, present, future and progressive), modals, expletives, contractions, special verbs, count/noncount nouns, plurals (regular/irregular), articles, pronouns, prepositions, adjectives, adverbs, correct word order, punctuation, and spelling. (Units do not apply toward AA/AS degree.)

843 Writing for Non-Native Speakers III (5) *Five lecture hours per week. Prerequisites: 38-51 on the C.E.L.T. Test and/or placement writing sample or five units of ENGL 842 with a grade of C or higher and concurrent enrollment in READ 842 or higher course (843, 800, 801, or 802). SPCH 842 or higher course recommended.* Continues the study and practice of structural elements such as sentence types, tenses (past, present, future, perfect), modals, count/noncount nouns, idiomatic verbs, pronouns, prepositions, adverbs, subordinating-coordinating conjunctions, compound-complex sentences, punctuation, and spelling and rhetorical elements such as expository paragraphs. (Units do not apply toward AA/AS degree.)

844 Writing for Non-Native Speakers IV (5) *Five lecture hours per week. Prerequisites: 52-65 on the C.E.L.T. Test and/or placement writing sample or ENGL 843 with a grade of C or higher and concurrent enrollment in READ 801 or higher course (802 or 420). SPCH 843 or 844 recommended.* Covers mechanical operations such as spelling, punctuation, sentence structure, and grammatical structures in the context of the student's own writing. Practice in writing paragraphs and essays to develop composition skills. (Units do not apply toward AA/AS degree.)

850 Writing Workshop (.5-3) *(Credit/No credit) (Open entry/open exit) One and one-half to nine lab hours per week.* Includes individual appointments with a faculty member who will help students solve writing problems and correct writing errors. May include organization, development, and mechanics, with help tailored to the specific needs of the student. (May be repeated for a maximum of 9 units.) (Units do not apply toward AA/AS degree.)

853 Computer-Assisted Instruction in Composition (.5-3) *(Credit/No credit) (Open entry/open exit) One and one-half to nine lab hours per week. Prerequisite: concurrent enrollment in an English class.* Theory and practice of composition on the microcomputer. Incidental computerized study of grammar, vocabulary, and sentence structure. Emphasizes the use of the computer and suitable software in all phases of the composing process: generating, organizing, and developing ideas; drafting and revising large and small structures, including sentences, paragraphs, essays, stories, poems, etc.; proofreading, editing, and styling final drafts. No previous computer experience required; includes individual appointments with faculty. (To increase competency, may be repeated for a maximum of 9 units.) (Units do not apply toward AA/AS degree.)

855 Introduction to Creative Writing (1) *(Credit/No credit) Two lecture hours per week for eight weeks.* Writing short stories, novels, poetry, and essays. Designed primarily for the Emeritus Institute. (To increase competency, may be repeated for a maximum of 4 units.) (Units do not apply toward AA/AS degree.)

856 Memoirs and Oral History (1) *(Credit/No credit) Two lecture hours per week for eight weeks.* For students who are interested in writing or tape recording their autobiographies, this course covers techniques of presentation and documentation of oral histories and effective methods of transforming oral histories into autobiographies of personal and county-wide historical significance. Designed primarily for the Emeritus Institute. (To increase competency, may be repeated for a maximum of 4 units.) (Units do not apply toward AA/AS degree.)

860 Vocabulary (3) *Three lecture hours per week.* Use of the dictionary with emphasis on contemporary usage and practical application of vocabulary skills in the mastery of other subjects. Designed to increase and improve the student's word stock. (Units do not apply toward AA/AS degree.)

875 English Grammar (3) *Three lecture hours per week.* Study of basic grammar, including such topics as sentence structure, diction, agreement, punctuation, and troublesome verbs. (Units do not apply toward AA/AS degree.)

880 – 889 Selected Topics (1-3) (See first page of Description of Courses section.)

Environmental Hazardous Materials Technology

100 Introduction to Environmental Hazardous Materials Technology (3) *Three lecture hours per week.* Survey of pollution legislation, regulatory framework, and environmental effects; discussion of career opportunities in handling and management of hazardous materials.

110 Waste Stream Generation/Reduction Treatment (3) *Three lecture hours per week.* Study of industrial processes and associated waste streams with emphasis on regulatory compliance. Focuses on material balance and waste minimization/treatment concepts.

130 Health Effects of Hazardous Materials (3) *Three lecture hours per week. Prerequisite: BIOL 120.* Emphasizes acute and chronic health effects produced by exposure to hazardous materials. Topics include routes of entry, risks, and control methods.

150 Hazardous Waste Management Applications (4) *Three lecture and three lab hours per week. Prerequisite: EHMT 100.* Survey of hazardous waste regulation, emphasizing generator compliance, site investigation and remediation, permitting, enforcement, and liability. Lab provides hands-on application of regulations at technician level.

200 Hazardous Materials Management Applications (4) *Three lecture and three lab hours per week. Prerequisites: EHMT 100 and 130.* Practical application of federal, state, and local laws and regulations relating to hazardous materials. Includes practical exercises in applying standards and completing necessary permits.

230 Safety and Emergency Response (4) *Three lecture and three lab hours per week. Prerequisite: EHMT 130.* Hands-on instruction in chemical and physical exposures. Includes hazard analysis, housekeeping and safety practices, and use and selection of PPE and instruments. Course satisfies OSHA 1910.120 requirement.

880-889 Selected Topics (1-3) See first page of Description of Courses section.

Ethnic Studies

101 Introduction to Ethnic Studies I (3) *Three lecture hours per week.* Study of the historical and cultural presence of Native and Latin Americans in the United States, with special emphasis on their contributions to California's social, political, and economic institutions. Studies the roots of these groups from California and national perspectives. Provides the student with the general background of two of California's oldest ethnic groups and stimulates dialogue related to contemporary issues in California's institutional processes. (Satisfies State and Local Government requirement.) (CSU/UC)

102 Introduction to Ethnic Studies II (3) *Three lecture hours per week.* Study of the historical and cultural presence of African-Americans and Asians in the United States, with special emphasis on their contributions to California's social, political, and economic institutions. Studies their roots in California and in the United States. Provides the student with general background of these two California groups and stimulates dialogue related to contemporary issues in California's institutional processes. (Satisfies State and Local Government requirement.) (CSU/UC)

150 Social Dynamics of People of Color (3) *Three lecture hours per week.* Social structure and dynamics of Third World institutions, with emphasis upon development and effectiveness of these institutions among Third World communities in the United States. Concentrates on the family, education, religion, and business. (CSU/UC)

151 Patterns of Prejudice and Racism I (3) *Three lecture hours per week.* Analyzes patterns of prejudice and racism from a social-psychological perspective. Focuses on the prejudiced personality and how it develops, functions, and affects both the prejudiced individual and the victim. Examines both external and internal dynamics of prejudice and its manifestation in discriminatory behavior. (CSU/UC*)

152 Patterns of Prejudice and Racism II (3) *Three lecture hours per week.* Sociological analysis of how major American institutions create, facilitate, support, and systematically reinforce patterns of racism and discrimination. Specifically, how these institutions function, are organized, and operate against Asians, African-Americans, Hispanics, Native Americans, women, and other oppressed groups in the U.S. and how they can be modified structurally and functionally to eliminate instead of foster racism. (CSU/UC)

160 Psychology of People of Color (3) *(Credit/No Credit or Letter Grade Option.) Three lecture hours per week.* Psychological theories that provide viable alternative methods of analyzing the ideational and behavioral mechanisms operative among Third World persons. Explores methods of treatment of the major mental illnesses affecting each culture. (CSU/UC)

261 African-American Culture I (3) *Three lecture hours per week.* Relevance of African culture to the study of African-American life, including the African diaspora and its impact on contemporary African-American cultural institutions. (CSU/UC)

262 African-American Culture II (3) *Three lecture hours per week.* Emergence of modern African-American social movements in the United States, their leaders and philosophies, and contemporary issues, including the African-American consciousness movement, Pan-Africanism, counter-cultural forms of expression, and social problems. (CSU/UC)

288 African-American Cinema (3) *Three lecture hours per week.* Contributions of African-Americans in the film industry and their historical relationship to the industry. Extensive use of films, supplemented by lecture and presentations by African-Americans involved in the film industry. (CSU/UC)

290 Law and the African-American Community (3) *Three lecture hours per week.* Nature and extent of crime among African-Americans in the U.S. Seeks to understand crime, suggest methods of control, and predict criminality within the African-American community. Covers crimes against persons and property, conviction rates among African-Americans, and application of penal codes. (CSU/UC)

350 Native American Way of Life (3) *Three lecture hours per week.* Study of Native American philosophy, customs, and spiritual practices based on the works of Dr. Carlos Castaneda. Introduces the mystical knowledge of the Yaqui Indians and comparative study of Hindu vedas, Buddhism, Heraclitus, and Sufism. (CSU/UC)

351 The Primal Mind of the American Indian (3) *Three lecture hours per week.* Advanced study of ancient religious philosophy among Native Americans that flourished before the Conquest and is still practiced; comparative analysis of the development of the magical mind of the early American people and the evolution of the logical European mind. Psychological evaluation of consciousness in the primal mind compared to the child's. (CSU/UC)

425 The History of Asian People in the United States (3) *Three lecture hours per week.* Asian-American history from 1840 to the present, with special attention to the contemporary issues and problems prevalent in Asian-American communities. (CSU/UC)

430 Asian-American Communities in the United States (3) *Three lecture hours per week.* Introduction to Asian-American communities in the United States. Includes community structure and social institutions; comparison of Asian-

American community with other minorities and with the majority society. (CSU)

585 Third World Cinema (3)
Three lecture hours per week. Survey of the history of film by and about Third World people and their contributions to the development of cinema. Focus on films by and about Third World people in Africa, Asia, the Caribbean, and the Americas. (CSU/UC)

680 – 689 Selected Topics (1-3)
(See first page of Description of Courses section.) (CSU)

690 Special Projects (1-2)
(See first page of Description of Courses section.) (CSU)

880 – 889 Selected Topics (1-3)
(See first page of Description of Courses section.)

Fashion Merchandising

113 Textiles (3)
Three lecture hours per week. Natural and synthetic fibers, yarns, fabric construction, and finishes. Care, cost, and labeling as related to consumer use. (CSU/UC) (CAN H EC 6)

117 Fashion Image (3)
Three lecture hours per week. Analysis of figure types and problems; coordination of fashionable styles, colors, textures, and accessories; individualized assistance for developing a creative wardrobe on a budget. (CSU) (CAN H EC 20)

118 Fashion Design (3)
Three lecture hours per week. Construction and use of flat patterns to create designs suitable for the individual and to enhance fabric performance. (CSU/UC)

151 Fashion Merchandising (3)
Three lecture hours per week. Structure of ready-to-wear apparel industry, including the functions and policies of the various types of retail stores as they relate to the promotion of fashion merchandising; also considers the factors that affect the merchandising of fashion apparel. (CSU)

154 Fashion Promotion (3)
Three lecture hours per week. Principles of fashion promotion, including the psychology of fashion and the function of the public relations office. Techniques for presenting special events, exhibits, and retail store promotion. (CSU)

155 Fashion Buying and Management (3) *Three lecture hours per week. Prerequisite: FASH 151.* Principles of buying for resale in stores. Selection, planning, trade regulations, pricing, management and control. (CSU)

157 Visual Merchandising (3)
Three lecture hours per week. Principles of display, use of equipment, and planning for window, showcase, and other display. (CSU)

641 Cooperative Education (1-4)
(See first page of Description of Courses section.) (CSU)

680 – 689 Selected Topics (1-3)
(See first page of Description of Courses section.) (CSU)

690 Special Projects (1-2)
(See first page of Description of Courses section.) (CSU)

880–889 Selected Topics (1-3)
(See first page of Description of Courses section.)

Film

451 Film History I (3)
Three lecture hours per week. Survey of the evolution of the motion picture from the earliest efforts of European and American filmmakers through post-World War II productions. Emphasizes film appreciation, the language of film, and analysis for full film enjoyment. (CSU/UC)

452 Film History II (3)
Three lecture hours per week. Prerequisite: FILM 451. Further study of the evolution of the motion picture. Emphasizes film appreciation, the language of film, and analysis for full film enjoyment. (CSU/UC)

461 Filmmaking I (4)
Three lecture and six lab hours per week. Introduction of film theory, aesthetics, and 8mm production; includes screenplay writing and pre-production as well as crew work on super-8mm motion picture productions. (CSU/UC*)

462 Filmmaking II (4)
Three lecture and six lab hours per week. Prerequisite: FILM 461. Advanced theory, aesthetics, critical writing and 8mm production. Students work on a production crew as well as write and produce their own motion pictures. (To increase competency, may be repeated for a maximum of 16 units of credit, after which students may petition to audit. See Index: "Audit Policy.") (CSU/UC*)

463 Screenwriting (1)
Three lecture hours per week for five and one-half weeks. Prerequisite: FILM 462 or equivalent. A sixteen-hour module on devising film ideas, developing a film premise, preparing character biographies, developing scenes, structuring a story, and preparing a professional film script. (To increase competency, may be repeated for a maximum of 2 units of credit.) (CSU)

464 Advanced Production (1)
Three lecture hours per week for five and one-half weeks. Prerequisite: FILM 463 or equivalent. A sixteen-hour module on how to shoot motion pictures from a script, including scheduling and budgeting a film, translating a script into visuals, preparing a storyboard, and insuring that an editor has all the footage needed for continuity. (To increase competency, may be repeated for a maximum of 2 units of credit.) (CSU)

465 Video Editing (1)
Three lecture hours per week for five and one-half weeks. Prerequisite: FILM 464 or equivalent. A sixteen-hour module on how to transfer raw film footage onto video; how to cut and arrange the footage into a finished motion picture, using state- of-the-art video-editing equipment; how to cut raw film to match the video edit; and how to add a soundtrack. (To increase competency, may be repeated for a maximum of 2 units of credit.) (CSU)

680 – 689 Selected Topics (1-3)
(See first page of Description of Courses section.) (CSU)

690 Special Projects (1-2)
(See first page of Description of Courses section.) (CSU)

850 Film Appreciation (1)
(Credit/No credit) Two lecture hours per week for eight weeks. Study and discussion of the language of film, the function of film in cultural life, and what to look for in a film. Class explores a variety of genres

and directors. Designed primarily for the Emeritus Institute. (May be repeated for a maximum of 4 units.) (Units do not apply toward AA/AS degree.)

880 – 889 Selected Topics (1-3)
See first page of Description of Courses section.

Fire Science Technology

641 Cooperative Education (1-4)
(See first page of Description of Courses section.) (CSU)

680 – 689 Selected Topics (1-3)
(See first page of Description of Courses section.) (CSU)

690 Special Projects (1-2)
(See first page of Description of Courses section.) (CSU)

700 Fire Fighting Tactics (3)
Three lecture hours per week. Study of facts and probabilities; the firefighter's own situation; decision and plan of operation in combating a variety of emergency fire problems. (CSU)

705 Fire Science Hydraulics (3)
Three lecture hours per week. Basic mathematics, principles of hydraulics, calculations of engine and nozzle pressures, discharge, fire streams, friction loss, and pump operation and characteristics. Application of formulas to hydraulics and water supply problems. (CSU)

707 Fire Prevention 1A (2.5)
(Credit/No Credit.) Forty lecture hours per semester by arrangement. Provides a broad technical survey of the fire prevention codes and ordinances, inspection practice, and key hazards. Covers flammable and combustible liquids and gases, explosives, fireworks, extinguishing systems, and other topics.

708 Fire Prevention 1B (2.5)
(Credit/No Credit.) Forty lecture hours per semester by arrangement. Prerequisite: FIRE 707 recommended. Focuses on codes, ordinances, and statutes pertaining to fire prevention practices in California. Includes building construction and occupancy, evacuation procedures, inspection reports, and processing plans.

715 Introduction to Fire Technology (3)
Three lecture hours per week. Introduction to and history of fire protection and specific fire protection functions; basic fire chemistry and physics. Career opportunities in fire protection and related fields. (CSU)

716 Fundamentals of Fire Protection (3) *Three lecture hours per week.* Introduction to the theory and fundamentals of fire protection laws, water systems, elementary hydraulics, fire protection in structures and open areas, and fire protection in specialized occupancies. (CSU)

718 Fundamentals of Fire Service Operations (3) *Three lecture hours per week. Prerequisite: completion of or concurrent enrollment in FIRE 715.* Fundamentals of fire department organization, management, and resources, including the use of those resources to control various emergencies. (CSU)

720 Fundamentals of Fire Prevention (3) *Three lecture hours per week.* Fundamentals of fire prevention techniques; hazards in ordinary and special occupancies; organization and functions of fire prevention bureaus; related procedures and regulations. (CSU)

730 Fire Behavior and Control (3)
Three lecture hours per week. Fundamentals of fire behavior and methods of control. Chemistry and physics of fire; fire characteristics of materials; extinguishing agents and fire control techniques. (CSU)

755 Rescue Practices (3)
Three lecture hours per week. Fundamentals of rescue practices, use of emergency tools and equipment, vehicle extrication, emergency care of accident victims, cardiopulmonary resuscitation, and emergency first aid. (CSU)

756 Cliff Rescue (1)
(Credit/No credit.) Sixteen lecture hours per semester by arrangement. Rescue problems and techniques in cliffside emergencies. Practical application of specialized emergency rescue tools and equipment under a wide variety of conditions.

757 Auto Extrication (1)
(Credit/No credit.) Sixteen lecture hours per semester by arrangement. Instruction in and practical application of the skills needed to extricate a victim safely from a vehicle involved in an accident.

783 Fire Fighter I Academy (7)
Four lecture and eight lab hours per week plus sixteen lab hours per semester by arrangement. Designed for pre-service instruction in basic fire fighting knowledge and skills. Lecture and manipulative instruction in all areas of responsibility for a fire fighter. (Certificate of completion will be issued by the Fire Science Department.)

784 Firefighter Recruit Academy (11)
(Credit/No Credit.) Twenty lecture and twenty lab hours per week for six and three-fifths weeks. Prerequisite: Fire Science Certificate or employment as a firefighter. Instruction in basic firefighting knowledge and skills for recruit firefighters. Lecture and manipulative instruction in all areas of responsibility for a firefighter except emergency medical care.

785 Emergency Medical Technician 1NA/FS I (6) *Five lecture and three lab hours per week.* Basic life support services under field emergency conditions, including cardiopulmonary resuscitation and preparation of victims for transport to an acute care hospital. (To increase competency, may be repeated for a maximum of 12 units of credit.) (Certificate of completion will be issued by the Fire Science Department.)

787 Emergency Medical Technician 1NA/FS II: Recent Advances (1.5)
(Credit/No Credit.) Twenty-four lecture and nine lab hours per semester by arrangement. Prerequisite: possession of a valid EMT-1FS Certificate. Refresher course in preparation for EMT-1FS recertification. Presents updated and new technology in the areas of emergency prehospital care. (May be repeated four times to maintain skills and certification.)

788 Recruit Emergency Medical Technician 1NA/FS (5) *(Credit/No Credit.) Twenty-seven and one-half lecture and twelve and one-half hours lab per week for two and two-fifths weeks plus eighteen lab hours by arrangement. Prerequisite: FIRE 784.* Training in prehospital basic life support services under field emergency conditions.

880 – 889 Selected Topics (1-3)
(See first page of Description of Courses section.)

Foreign Language

Students who expect to transfer to a four-year institution are strongly advised to study a foreign language at the College. Please see individual listing for offerings in Chinese, French, German, Japanese, Latin, and Spanish.

French

Language Laboratory and Listening Requirement: since imitation, response, and independent practice are integral features of the study of a foreign language at the College, students enrolled in certain courses in foreign language are required to use the language laboratory as prescribed by each department.

110 Elementary French (5)
Five lecture hours plus two lab hours by arrangement per week. Prerequisite: eligibility for ENGL 800 or a higher English course. Conversation in the language, dictation, reading, study of the fundamentals of grammar, simple oral and written exercises, and introduction to French and Francophone culture. (CSU/UC)

111 Elementary French I (3)
Three lecture hours plus one lab hour by arrangement per week. Prerequisite: eligibility for ENGL 800 or a higher English course. Covers approximately half of the semester's work in French 110. (CSU/UC*)

112 Elementary French II (3)
Three lecture hours plus one lab hour by arrangement per week. Prerequisite: FREN 111 or equivalent with a grade of C or higher. Covers approximately the second half of the semester's work in French 110. (French 111 and 112 are equivalent to French 110.) (CSU/UC*)

115 Beginning French I (3)
(Telecourse) (Credit/No Credit or Letter Grade option.) Prerequisite: ENGL 800 proficiency desirable. A televised course that introduces basic idiomatic conversation and fundamentals of grammar. Stresses oral proficiency. Written assignments and work with tapes required. (CSU/UC*)

116 Beginning French II (3)
(Telecourse) (Credit/No Credit or Letter Grade option.) Prerequisite: FREN 115 or equivalent with a grade of C or higher recommended; ENGL 800 proficiency desirable. Continuation of French 115. Further study of conversation and grammar with stress on oral proficiency; requires written assignments and work with tapes. (Completion of FREN 115/116 is equivalent to completion of FREN 111/112.) (CSU/UC*)

117 Advanced Beginning French I (3)
(Telecourse) (Credit/No Credit or Letter Grade option.) Prerequisite: FREN 116 or equivalent with a grade of C or higher. Continuation of French 116. Further study of conversation and grammar with continued emphasis on oral proficiency. Written assignments and work with tapes required. (CSU/UC*)

120 Advanced Elementary French (5)
Five lecture hours plus two lab hours by arrangement per week. Prerequisite: FREN 110 or 112 with a grade of C or higher or assignment by the Foreign Language Department on the basis of the Foreign Language Placement Test in French. Conversation in the language, dictation, further study of grammar and sentence structure, and oral and written exercises. Further study of French and Francophone culture. (CSU/UC)

121 Advanced Elementary French I (3)
Three lecture hours plus one lab hour by arrangement per week. Prerequisite: FREN 110 or 112 or equivalent with a grade of C or higher. Covers approximately the first half of the semester's work in French 120. (CSU/UC*)

122 Advanced Elementary French II (3) *Three lecture hours plus one lab hour by arrangement per week. Prerequisite: FREN 121 or equivalent with a grade of C or higher.* Covers approximately the second half of the semester's work in French 120. (French 121 and 122 are equivalent to French 120.) (CSU/UC*)

130 Intermediate French (5)
Five lecture hours plus one lab hour by arrangement per week. Prerequisite: FREN 120 or 122 with a grade of C or higher or assignment by the Foreign Language Department on the basis of the Foreign Language Placement Test in French. Reading of short stories, plays, or novels; review of grammar; conversation, composition, and dictation. (CSU/UC)

131 Intermediate French I (3)
Three lecture hours plus one-half lab hour by arrangement per week. Prerequisite: FREN 120 or 122 with a grade of C or higher. Covers approximately the first half of the semester's work in French 130. (CSU/UC*)

132 Intermediate French II (3)
Three lecture hours plus one-half lab hour by arrangement per week. Prerequisite: FREN 131 with a grade of C or higher or equivalent. Covers approximately the second half of the semester's work in French 130. (French 131 and French 132 are equivalent to French 130.) (CSU/UC*)

140 Advanced Intermediate French (3)
Three lecture hours per week. Prerequisite: FREN 130 or 132 with a grade of C or higher or assignment by the Foreign Language Department on the basis of the Foreign Language Placement Test in French. Reading of selections from French literature, including a contemporary novel; further practice in conversation and composition; continued review of principles of grammar; analysis of idioms. (CSU/UC)

161 Reading in French Literature I (3)
Three lecture hours per week. Prerequisite: FREN 140 with a grade of C or higher or assignment by the Foreign Language Department on the basis of the Foreign Language Placement Test in French. Reading and discussion of works of French literature. Continued review of principles of grammar. (CSU/UC)

162 Reading in French Literature II (3)
Three lecture hours per week. Prerequisite: FREN 161 with a grade of C or higher. Further reading and discussion of works of French literature. Continued review of principles of grammar. (CSU/UC)

680 – 689 Selected Topics (1-3)
(See first page of Description of Courses section.) (CSU)

690 Special Projects (1-2)
(See first page of Description of Courses section.) (CSU)

801 Conversational French I, Elementary (2) *(Credit/No credit.) Three lecture hours per week.* A practical course in the French language approached by way of conversation. Intensive drill in the patterns and idioms of daily speech, supported by sufficient grammar to give flexibility in the spoken language. May be considered

an excellent preparatory course for students who have not taken a foreign language before. (This course will not fulfill the language requirements at California State Universities or at the University of California.) (To increase competency, may be repeated for a maximum of 8 units of credit.)

When student demand is light, French 802, 803, and 804 may be offered as 1.5 hour modules.

802 Conversational French II, Advanced Elementary (2) *(Credit/No credit.) Three lecture hours per week. Prerequisite: FREN 801 or equivalent with credit.* Further work in conversation following the model of French 801. (This course will not fulfill the language requirements at California State Universities or at the University of California.) (To increase competency, may be repeated for a maximum of 8 units of credit.)

803 Conversational French III, Intermediate (2) *(Credit/No credit.) Three lecture hours per week. Prerequisite: FREN 802 or equivalent with credit.* More advanced work in conversation following the model of French 802. (This course will not fulfill the language requirements at California State Universities or at the University California.) (To increase competency, may be repeated for a maximum of 8 units of credit.)

804 Conversational French IV, Advanced Intermediate (2) *(Credit/No credit.) Three lecture hours per week. Prerequisite: FREN 803 or equivalent with credit.* Further advanced work in conversation following the model of French 803. (This course will not fulfill the language requirements at California State Universities or at the University of California.) (To increase competency, may be repeated for a maximum of 8 units of credit, after which students may petition to audit. See Index: "Audit Policy.")

880 – 889 Selected Topics (1-3)
(See first page of Description of Courses section.)

Geography

100 Physical Geography (3)
(Credit/No Credit or Letter Grade Option.) Three lecture hours per week plus field trips. Basic characteristics of physical features and their interrelationships; environmental systems and their interactions with man. Maps, photos, and the regional concept are the primary tools for this study. (Satisfies the General Education requirement for Physical Science.) (CSU/UC) (CAN GEOG 2)

110 Cultural Geography (3)
(Credit/No Credit or Letter Grade Option) Three lecture hours per week. Aerial distribution of the most important parts of human culture. Emphasizes the way people make a living resulting from their interaction with their environment in various parts of the world. (Satisfies Social Science requirement.) (CSU/UC) (CAN GEOG 4)

680 – 689 Selected Topics (1-3)
(See first page of Description of Courses section.) (CSU)

690 Special Projects (1-2)
(See first page of Description of Courses section.) (CSU)

880 – 889 Selected Topics (1-3)
(See first page of Description of Courses section.)

Geology

Unless otherwise indicated, a grade of C or higher is required for all prerequisite courses.

100 Survey of Geology (3)
Day: Three lecture hours per week plus two field trips; evening: three lecture hours per week plus two Saturday field trips. Not open to students who have taken or are taking GEOL 210. Earthquakes, volcanoes, drifting continents, and plate tectonics; erosion of the land by water and glaciers. A sketch of the earth's history and the origin and evolution of life. (CSU/UC*)

101 Geology Laboratory (1)
Three lab hours per week. Prerequisite: completion of or concurrent enrollment in GEOL 100. Optional introductory geology laboratory course designed to be taken concurrently with or following GEOL 100. Identification of minerals, rocks, and fossils; seismographs; and geologic interpretation of maps and aerial photographs. Extra supplies may be required. (CSU/UC*)

210 General Geology (4)
Three lecture and three lab hours per week plus two field trips. The work of wind, water, gravity, and glaciers; earthquakes, the earth's interior, drifting continents, and plate tectonics. Rocks and minerals and their identification. Interpretation of maps and aerial photographs. Extra supplies may be required. (CSU/UC*) (CAN GEOL 2)

680 – 689 Selected Topics (1-3)
(See first page of Description of Courses section.) (CSU)

690 Special Projects (1-2)
(See first page of Description of Courses section.) (CSU)

880 – 889 Selected Topics (1-3)
(See first page of Description of Courses section.)

German

Language Laboratory and Listening Requirement: since imitation, response, and independent practice are integral features of the study of a foreign language at the College, students enrolled in certain courses in foreign language are required to use the language laboratory as prescribed by each department.

110 Elementary German (5)
Five lecture hours plus two lab hours by arrangement per week. Prerequisite: eligibility for ENGL 800 or a higher English course. Study and practice (both oral and written) of basic forms and patterns of German, development of a satisfactory pronunciation, learning and using vocabulary of high frequency, and reading of simple German texts. (CSU/UC)

111 Elementary German I (3)
Three lecture hours plus one lab hour by arrangement per week. Covers approximately half of the semester's work in German 110. Recommended for those students without any background in foreign language study. (CSU/UC*)

112 Elementary German II (3)
Three lecture hours plus one lab hour by arrangement per week. Prerequisite: GERM 111 or equivalent with a grade of C or higher. Covers approximately the second half of the semester's work in German 110. (German 111 and 112 are equivalent to German 110.) (CSU/UC*)

120 Advanced Elementary German (5)
Five lecture hours plus two lab hours by arrangement per week. Prerequisite: GERM 110 or 112 or equivalent with a grade of C or higher or assignment by the Foreign Language Department on the basis of the Foreign Language Placement Test in German. Continuation of work begun in German 110 with further practice in listening, speaking, reading, and writing. (CSU/UC)

121 Advanced Elementary German I (3) *Three lecture hours plus one lab hour by arrangement per week. Prerequisite: GERM 110 or 112 or equivalent with a grade of C or higher or assignment by the Foreign Language Department on the basis of the Foreign Language Placement Test in German.* Covers approximately the first half of the semester's work in German 120. (CSU/UC*)

122 Advanced Elementary German II (3) *Three lecture hours plus one lab hour by arrangement per week. Prerequisite: GERM 121 or equivalent with a grade of C or higher.* Covers approximately the second half of the semester's work in German 120. (German 121 and 122 are equivalent to German 120.) (CSU/UC*)

130 Intermediate German (5)
Five lecture hours plus one lab hour by arrangement per week. Prerequisite: GERM 120 or 122 or equivalent with a grade of C or higher or assignment by the Foreign Language Department on the basis of the Foreign Language Placement Test in German. Review of grammar and syntax; reading of short works of fiction and nonfiction. (CSU/UC)

131 Intermediate German I (3)
Three lecture hours plus one lab hour by arrangement per week. Prerequisite: GERM 120 or 122 or equivalent with a grade of C or higher or assignment by the Foreign Language Department on the basis of the Foreign Language Placement Test in German. Covers approximately the first half of the semester's work in German 130. (CSU/UC*)

132 Intermediate German II (3)
Three lecture hours plus one lab hour by arrangement per week. Prerequisite: GERM 131 or equivalent with a grade of C or higher. Covers approximately the second half of the semester's work in German 130. (German 131 and 132 are equivalent to German 130.) (CSU/UC*)

140 Advanced Intermediate German (3) *Three lecture hours per week. Prerequisite: GERM 130 or 132 or equivalent with a grade of C or higher or assignment by the Foreign Language Department on the basis of the Foreign Language Placement Test in German.* Reading and discussion of selections from German literature; further practice in conversation and composition; continued review of principles of grammar. (CSU/UC)

680 – 689 Selected Topics (1-3)
(See first page of Description of Courses section.) (CSU)

690 Special Projects (1-2)
(See first page of Description of Courses section.) (CSU)

801 Conversational German I, Elementary (2) *(Credit/No credit.) Three lecture hours per week.* A practical course in the German language approached by way of conversation. Intensive drill in the patterns and idioms of daily speech, supported with sufficient grammar to give flexibility in the spoken language. May be considered an excellent preparatory course for students who have not taken a foreign language before. (This course will not fulfill the language requirement at California State Universities or at the University of California.) (To increase competency, may be repeated for a maximum of 8 units of credit.)

When student demand is light, German 802, 803, and 804 may be offered as 1.5 hour modules.

802 Conversational German II, Advanced Elementary (2) *(Credit/No credit.) Three lecture hours per week. Prerequisite: GERM 801 or equivalent with credit.* Further work in conversation following the model of German 801. (This course will not fulfill the language requirement at California State Universities or at the University of California.) (To increase competency, may be repeated for a maximum of 8 units of credit.)

803 Conversational German III, Intermediate (2) *(Credit/No credit.) Three lecture hours per week. Prerequisite: GERM 802 or equivalent with credit.* Advanced work in German following the model of German 802. (This course will not fulfill the language requirement at California State Universities or at the University of California.) (To increase competency, may be repeated for a maximum of 8 units of credit.)

804 Conversational German IV, Advanced Intermediate (2) *(Credit/No credit.) Three lecture hours per week. Prerequisite: GERM 803 or equivalent with credit.* More advanced work in conversation following the model of German 803. (This course will not fulfill the language requirement at California State Universities or at the University of California.) (To increase competency, may be repeated for a maximum of 8 units of credit, after which students may petition to audit. See Index: "Audit Policy.")

880 – 889 Selected Topics (1-3)
(See first page of Description of Courses section.)

Health Science

Two units of Health Science required for A.A./A.S. Degree. Health Science 100 or 120 or two units of Health Science 102-114 will satisfy the A.A./A.S. Degree requirement.

100 General Health Science (2)
Two lecture hours per week. Survey of today's most prevalent health problems, including heart disease, cancer, venereal disease, birth control, drug abuse, and emotional disorders. Emphasizes detection, treatment, and prevention of personal and social health problems as well as the promotion of physical and emotional well-being. (CSU/UC*)

102 Human Reproduction (1)
Two lecture hours per week for eight weeks. Emphasizes the biological aspects of human reproduction and birth control. Also covers new fertilization techniques, population dynamics, predetermination of sex, and related topics. (CSU/UC*)

103 Drugs: Use and Abuse (1)
Two lecture hours per week for eight weeks. Study of the general categories of drugs; discussion of beneficial and harm-

ful effects that selected drugs have upon the individual and society. (CSU/UC*)

105 Communicable Disease (1)
Two lecture hours per week for eight weeks. Study of the immune system and other defenses against infectious organisms. Emphasizes prevention and treatment of our most serious communicable disorders, with special consideration of AIDS and other sexually transmitted diseases. (CSU/UC*)

106 Emotional Health (1)
Two lecture hours per week for eight weeks. Study of human needs and personality development. Includes discussions of emotional disorders and their causes but emphasizes positive approaches to developing and maintaining emotional stability. (CSU)

109 Environmental Health (1)
Two lecture hours per week for eight weeks. Principles of ecology and critical appraisal of people's effect on the environment. Discussion of many types of environmental hazards and pollutants, emphasizing their effect on human health. (CSU/UC*)

111 Heart Disease and Cancer (1)
Two lecture hours per week for eight weeks. Study of the two leading causes of death in the U.S. today, emphasizing prevention. Also covers causes, symptoms and warning signs, detection, and treatment. (CSU/UC*)

112 Current Health Issues (1)
Two lecture hours per week for eight weeks. Analysis of the most important and most controversial health issues making today's headlines. Class discussions, supported by appropriate biological, medical, legal, and historical information. (CSU/UC*)

113 Selected Topics in Nutrition (1)
Two lecture hours per week for eight weeks. Practical study of the principles of nutrition. Focuses on nutritional understanding, emphasizing the role of essential nutrients; identification of affordable sources of essential nutrients; selection of diet; evaluation of nutritional claims; responding to new information; and the role of nutrition in weight control. (CSU)

114 Fitness (1)
Two lecture hours per week for eight weeks. Prerequisite: HSCI 113 recommended. Practical study of the principles of exercise in total fitness. Provides tools to promote positive changes in students' understanding and development of fitness. Includes personalized physiological profile analysis. (CSU)

120 Heredity and Health (2)
Two lecture hours per week. Survey of the fundamentals of human inheritance, looking particularly at the relationship between genetics and human health. Examines various biotechnological developments (recombinant DNA, gene therapy, in vitro fertilization, etc.) and their impact on the medical profession's ability to predict, detect, treat, and/or prevent many human disorders. (CSU)

641 Cooperative Education (1-4)
(See first page of Description of Courses section.) (CSU)

680 – 689 Selected Topics (1-3)
(See first page of Description of Courses section.) (CSU)

690 Special Projects (1-2)
(See first page of Description of Courses section.) (CSU)

880 – 889 Selected Topics (1-3)
(See first page of Description of Courses section.)

History

(Also see Humanities)

100 History of Western Civilization I
(3) *Three lecture hours per week.* The rise and decline of the civilization of the ancient world, the rise of Christianity, the growth and decline of Medieval society, the Renaissance, the Reformation, and the opening of the modern world. (HIST 100-102 fulfills American Institutions requirement.) (CSU/UC) (CAN HIST 2)

101 History of Western Civilization II
(3) *Three lecture hours per week.* The rise of modern Europe: the Enlightenment, the French Revolution, and the growth of Liberalism and nationalism. The emergence of modern society, economic problems of industrialization, development of modern ideologies, the World Wars, and international experiments of the 20th Century. (HIST 101-102 fulfills American Institutions requirement.) (CSU/UC) (CAN HIST 4)

102 History of American Civilization
(3) *Three lecture hours per week.* Social, cultural, and political development of the area of the United States from the colonial period through the age of revolution, early independence, reform and sectional crisis in the 19th Century to the problems of industrialization and the emergence of modern society. Effects of expansionism and immigration in the 19th and 20th Centuries upon the culture of America and the role of the United States in a pluralistic contemporary world. (HIST 100 or 101 plus HIST 102 fulfills American Institutions requirement.) (CSU/UC*)

110 History of England (3)
(Credit/No Credit or Letter Grade Option.) Three lecture hours per week. Surveys the more important political, constitutional, economic, social, and cultural phases of the history of the English people. (CSU/UC)

201 United States History I (3)
Three lecture hours per week. Survey of European expansionism in America, Indian-White encounters, colonial culture and institutions, the Revolution, the implementation of the Constitution, the Federalist and Jeffersonian eras, the age of Jackson, the slavery issue, and the Civil War. Covers economic, political, social, and cultural developments of the period. (HIST 201-202 fulfills American Institutions requirement.) (CSU/UC*) (CAN HIST 8)

202 United States History II (3)
Three lecture hours per week. Continues the work of History 201; explores the Reconstruction period, industrial expansion, social and economic development, and the foreign policies of the U.S. to the present. (HIST 201-202 fulfills American Institutions requirement.) (CSU/UC*) (CAN HIST 10)

242 The African-American in U.S. History (3) *Three lecture hours per week. Prerequisite: HIST 201 recommended.* Social, economic, and political facts as they relate to the African-American. Analyzes race relations, with special emphasis on the history of the African-American. (HIST 201 or 202 plus HIST 242 fulfills American Institutions requirement.) (CSU/UC)

260 Women in American History (3)
(Credit/No Credit or Letter Grade option.) Three lecture hours per week. Survey of

the role played by American women from colonial times to the present. Explores the part played by American women of different racial and local origins. Examines attitudes of women as well as attitudes about women in America. (HIST 201 or 202 plus HIST 260 fulfills American Institutions requirement.) (CSU/UC)

270 Civil War and Reconstruction (3)
Three lecture hours per week. Prerequisite: HIST 201 or 202 recommended. Survey and analysis of the political, social, and economic problems of the North and South during the antebellum, Civil War, and Reconstruction eras. (HIST 201 or 202 plus HIST 270 fulfills American Institutions requirement.) (CSU/UC)

310 California History (3)
Three lecture hours per week. Survey of major topics in California's rapid growth, including the Indian culture; discovery and Spanish colonization; the Mexican period; the mission-ranchero era; the American take-over; the Gold Rush and the vigilante eras; the constitutional, political, and economic growth of the State; and contemporary social, multi-ethnic and economic issues as the most populous state in the Union. (Satisfies the requirement in California State and Local Government.) (CSU/UC)

315 History of San Mateo County (3)
(Credit/No Credit or Letter Grade Option.) Three lecture hours per week. Survey of the county's development to the present. The natural setting; discovery and exploration; mission-ranchero era; establishment of county government; advent of railroads; lumbering; industry; growth of Bayside and Coastside communities; and the Peninsula's relation to the state and the nation. (Satisfies the requirement in California State and Local Government.) (CSU)

350 History of the American West (3)
Three lecture hours per week. The movement of Americans west of the Mississippi River, with an emphasis on fur trading, cattle raising, farming, mining, railroads, community-building, Indian problems, and the character and image of the West and Westerners. (HIST 201 or 202 plus HIST 350 fulfills American Institutions requirement.) (CSU/UC)

360 The South in American History (3)
Three lecture hours per week. Survey course of the fifteen former slave states from the Colonial through the National period, the Civil War and Reconstruction; Populism and the "New South"; the 20th Century; Southern industrialization; the New Deal; the revolution of the Civil Rights Movement; and the election of Jimmy Carter. (HIST 201 or 202 plus HIST 360 fulfills American Institutions requirement.) (CSU/UC)

680 – 689 Selected Topics (1-3)
(See first page of Description of Courses section.) (CSU)

690 Special Projects (1-2)
(See first page of Description of Courses section.) (CSU)

810 American History and World Affairs (3) *Three lecture hours per week.* Study of current issues, events, and institutional changes in the United States through analysis of their geographic and historical context and their relation to events and people at home and abroad. Lectures, films, research, and small discussion groups. (Fulfills American Institutions requirement for students working toward the Associate in Arts degree and not planning to transfer to a four-year institution.) (May be repeated for a maximum of 12 units of credit, after which students may petition to audit. See Index: "Audit Policy.")

880 – 889 Selected Topics (1-3)
(See first page of Description of Courses section.)

Horticulture

641 Cooperative Education (1-4)
(See first page of Description of Courses section.) (CSU)

680 – 689 Selected Topics (1-3)
(See first page of Description of Courses section.) (CSU)

690 Special Projects (1-2)
(See first page of Description of Courses section.) (CSU)

880 – 889 Selected Topics (1-3)
(See first page of Description of Courses section.)

Horticulture – Environmental

311 Plant and Landscape I (3)
Two lecture and three lab hours per week. Growth habits, cultural requirements, and landscape uses of ornamental trees adapted to the climates of California. Proper plant and maintenance techniques. (Fall only.) (CSU/UC)

312 Plant and Landscape II (3)
Two lecture and three lab hours per week. Growth habits, cultural requirements, and landscape; uses of ornamental shrubs and ground covers adapted to the climates of California. Proper planting and maintenance technique. (Spring only.) (CSU/UC)

315 Landscape Management (3)
Two lecture and three lab hours per week. Maintenance and management of turf areas, including golf courses, athletic fields, parks, and residential areas. Cultural requirements of trees, shrubs, vines, annuals, and ground cover. Operation of landscape maintenance equipment (Fall only.) (CSU)

320 Introductory Plant Science (3)
Two lecture and three lab hours per week. Introduction to scientific principles of higher plant structure, function, and reproduction to serve as a basis for further practical course work in the field of horticulture. (CSU/UC)

327 Plant Growing (3)
Two lecture and three lab hours per week. History of the greenhouse industry. Practical application of the principles of nursery practice, including location, greenhouse design, equipment, and accessories required in a modern nursery. Plant propagation and plant growing techniques, using the college greenhouse. Experience in the growing, care, and maintenance of plants. Field trips to outstanding nurseries. (CSU)

330 Pest, Disease, and Weed Control (3)
Two lecture and three lab hours per week. Symptoms, identification, and methods of control of the principal diseases, pests, and weeds important in California landscape industry. Chemical, biological, and cultural control and prevention. (Spring only.) (CSU)

340 Residential Landscape Design (4)
Two lecture and six lab hours per week. Graphics, drafting, perspective, surveying, environmental planning, history, and design for the residential landscape. (Fall only.) (CSU)

341 Landscape Design (3)
Two lecture and three lab hours per week. Prerequisite: HORT 340 or equivalent. Advanced graphics techniques, environmental planning and design, planting, structures, engineering, materials, and history of landscaping. (Spring only.) (CSU/UC)

342 Landscape Construction (3)
Two lecture and three lab hours per week. Planting and construction techniques: design, installation, and maintenance of sprinkler systems; cost finding and estimating for the landscape trades, including legal aspects of contracting. (Assists students in preparing for Landscape Contractor's License Examination.) (Spring only.) (CSU)

411 Basic Floristry (3)
Two lecture and three lab hours per week. Introduction to the care, identification, and mechanics of basic floral design. Surveys both historical and modern methods. Extra supplies required. (CSU)

413 Intermediate Floristry (3)
Two lecture and three lab hours per week. Prerequisite: HORT 411 or equivalent. Continuation of the study of floral design, emphasizing modern and European styles, techniques, and philosophy, and the development of speed and proficiency. Extra supplies required. (CSU)

414 Advanced Floristry (3)
Two lecture and three lab hours per week. Prerequisite: HORT 413 or equivalent. Advanced study of commercial floral design, focusing on wedding, funeral, and party arrangements. Emphasizes the development of individual design skills. Extra supplies required. (CSU)

415 Retail Floristry Management (3)
Two lecture and three lab hours per week. Procedures used in operating a florist shop, including merchandising, accounting, advertising, employee relations, planning, buying, and marketing. (CSU)

416 Commercial Floristry Display (3)
Two lecture and three lab hours per week. Prerequisite: HORT 411. Introduction to visual merchandising. Includes commercial floral design, party display, planning and layout, window and shop display, and prop-making. Extra supplies required. (CSU)

420 Dry and Silk Flower Designs (3)
Two lecture and three lab hours per week. Prerequisite: HORT 411. Study and practice of floral design, using dried and silk materials. Emphasizes identification of flowers and their uses. Also includes commercial methods of flower arranging to develop original design skills, especially in the use of dry and silk flowers in various combinations. Extra supplies required. (CSU)

Horticulture – Ornamental

701 Ornamental Horticulture I (3)
Three lecture hours per week. Soils, manures, and fertilizers; lawn establishment and management. (CSU)

702 Ornamental Horticulture II (3)
Three lecture hours per week. Landscape management: pruning training of trees and shrubs; garden color using annuals, perennials, and bulbs. Basic pest control, including safety and storage of pesticides. (CSU)

705 Soils and Plant Growing (3)
Three lecture hours per week. Fundamental principles of soils, soil management, fertility, and plant nutrition. Soil types, origins, characteristics, and biological relationships. Commercial and natural fertilizers; soil conditioners; growing media; crop rotation; and watering. (CSU)

706 Plant Propagation (3)
Three lecture hours per week. Principles and practices of propagating plants for sale for landscape use, including laboratory work in making cuttings, grafting and budding, potting, and canning. Visits to wholesale and retail nurseries. Seedage, cuttage, layerage, and plant breeding and improvement. (CSU)

709 Principles of Landscaping (3)
Three lecture hours per week. Introduction to principles of residential landscaping, emphasizing fundamental design and construction. (CSU)

711 Landscape: Trees (3)
Three lecture hours per week. Tree classification, description, nomenclature, and morphology. Study in class of trees commonly used in California parks and gardens. Emphasizes plant identification. (CSU)

712 Landscape: Shrubs (3)
Three lecture hours per week. Study of shrubs and ground covers commonly used in California. (CSU)

721 Landscape Construction I (3)
Three lecture hours per week. Study of irrigation systems. Emphasizes piping, fittings, equipment, design, installation, and maintenance. (CSU)

722 Landscape Construction II (3)
Three lecture hours per week. Emphasizes installation of lawns, decks, patios, paths, and related elements. Includes contractors' license requirements and estimating. (CSU)

731 Arboriculture: Shrubs and Fruit (3) *Three lecture hours per week.* Principles and practices of arboriculture, emphasizing care and maintenance of landscape trees. Study of the training and management of fruit trees, bush fruits, and ornamental shrubs. (CSU)

742 Glasshouse Management (3)
Three lecture hours per week. Propagation and culture of roses, carnations, chrysanthemums, orchids, potted plants, and other glasshouse crops. Pest and disease control. (CSU)

771 Pest Control: Entomology I (3)
Three lecture hours per week. Study of the common insect and mite pests that attack horticultural plants in the Bay Area. Identification, classification, life cycles, and the latest methods of control. (CSU)

772 Pest Control: Entomology II (3)
Three lecture hours per week. Continuation of Horticulture 771. (CSU)

773 Pest Control: Plant Diseases I (3)
Three lecture hours per week. Study of the common disease-causing fungi, bacteria, physiological, nematode, and virus pests that attack horticultural plants in the Bay Area. Identification, classification, life cycle, and the latest methods of control. (CSU)

774 Pest Control: Plant Diseases II (3)
Three lecture hours per week. Continuation of Horticulture 773. (CSU)

775 Pest Control: Agricultural Chemicals and Biological Controls (3)
Three lecture hours per week. History and development of pesticides and biological controls. Study of insecticides, fungicides, herbicides, and nematicides in integrated pest management. Testing and application equipment demonstrated. (CSU)

776 Pest Control: Weeds and Vertebrate Pests (3) *Three lecture hours per week.* Study of the principal garden weeds

and their control through selective and non-selective methods. Study of the principal vertebrate pests and their control, including rodents, birds, reptiles, and other animal pests in the home garden. (CSU)

Humanities

(Also see History and Philosophy)

101 Introduction to Humanities: Greece through Reformation (3) *(Credit/No Credit or Letter Grade Option.) Three lecture hours per week.* Explores the major cultural and intellectual movements of Western Civilization from Greece through the Reformation. Considers the development of literature, art, architecture, and music, along with their relationship to mythological, religious, and scientific attitudes toward man, nature, and God. (CSU/UC)

102 Introduction to Humanities: Reformation to Present (3) *(Credit/No Credit or Letter Grade Option.) Three lecture hours per week.* Explores the major cultural and intellectual movements of Western Civilization from the Reformation to the present. Considers the development of literature, art, architecture, and music, along with their relationship to mythological, religious, and scientific attitudes toward man, nature, and God. (CSU/UC)

111 Religion, Literature, and Philosophy in Ancient Greece (3) *(Credit/No Credit or Letter Grade Option.) Three lecture hours per week.* Examples drawn from Greek tragedy and philosophy focus on changing attitudes toward the gods, the hero, nature, society, and personal development. Explores concepts of justice, the significance of suffering and attitudes toward fate, human freedom, and responsibility. (CSU/UC)

112 Art and Architecture – Late Roman Empire to Renaissance (3) *Three lecture hours per week.* The development of art and architecture from the early centuries to the end of the Middle Ages. The rise of Christianity, church vs. state, Medievalism, the Renaissance, and Counter-Reformation. (CSU/UC)

113 The Social and Cultural Impact of the Scientific Revolution – 17th through 19th Centuries (3) *(Credit/No Credit or Letter Grade Option.) Three lecture hours per week.* Examines the development of modern science and the impact of the New Science on life and culture in the 17th through 19th Centuries from a humanistic perspective. Includes new conceptions of human destiny; the new scientific method and "reality"; the social and ecological effects of industrialization; the impact of technologically advanced Europe on the rest of the world; literary, artistic, philosophical, and political reactions to the new scientific culture; and the limitations of the scientific values and world view. (CSU/UC)

114 Film and Literature as Communication in the 20th Century (3) *(Credit/No Credit or Letter Grade Option.) Three lecture hours per week.* Traces the part played by literature and film in reflecting and bringing about major changes in perception, consciousness, and thought and deals with some of the problems consequent to these changes. (CSU/UC)

125 Technology/Contemporary Society/ Human Values (3) *Three lecture hours per week.* Humanistic and critical analysis of the impact of contemporary technology on the environment, economic and political systems, warfare, education, medicine, philosophy, behavior control, and human relations. Examines reasons for the rise of technological civilization in the West, the phenomenology of modern technology, and the problem of control. (CSU/UC)

127 Science and Art I: Prehistory to Renaissance (3) *(Credit/No Credit or Letter Grade Option.) Three lecture hours per week.* Changing ideas of nature and the cosmos, from prehistory to the age of Newton. Development of scientific concepts of nature and their effect on man's perceptions of the world, as reflected in changing styles of art, music, literature, and philosophy. Social and cultural values that influenced and were influenced by scientific and artistic events of the time. (Completion of HUM. 127 and 128 satisfies three units of Physical Science and three units of Humanities credit. Either course taken alone satisfies three units of Humanities credit only.) (CSU/UC)

128 Science and Art II: Renaissance to 20th Century (3) *(Credit/No Credit or Letter Grade Option.) Three lecture hours per week.* Changing ideas of nature and the cosmos, from the Scientific Revolution to the 20th Century. Development of scientific concepts of nature and their effect on man's perceptions of the world, as reflected in changing styles of art, music, literature, and philosophy. Social and cultural values that influenced and were influenced by scientific and artistic events of the time. (Completion of HUM. 127 and 128 satisfies three units of Physical Science and three units of Humanities credit. Either course taken alone satisfies three units of Humanities credit only.) (CSU/UC)

131 Cultural Achievements of African-Americans (3) *Three lecture hours per week.* Introduction to Black aesthetics, concentrating on the religious, philosophical, literary, musical, and art forms of Africa and African-Americans. Explores the relationship that philosophy, myth, religion and socio-political traditions have had with each other by examining the arts, literature, film, music, and other creative forces. (CSU/UC)

133 Cultural Achievements of Asian Americans (3) *Three lecture hours per week. Recommended: previous Ethnic Studies courses.* Develops an awareness and understanding of Asian cultures through study of the heritage in religion, family, literature, music, arts, crafts, and foods. Includes guest lecturers, tours, demonstrations, and hands-on experiences. (CSU/UC)

136 Creative Women in Modern Times (3) *Three lecture hours per week.* Explores the works and projects created by women in the Western world from the Renaissance to the present, including the achievements of women in statecraft, philosophy, the visual arts, music, photography, and film-making, especially in the 19th and 20th Centuries. (CSU/UC)

140 Cultural Heritage of San Francisco and Its Environs (3) *Three lecture hours per week.* Survey of the history, art, architecture, music, literature, and geography of San Francisco. Covers early California as well as the present but emphasizes the decades from the Gold Rush to the early part of the 20th Century. San Francisco field trips are part of the course. (CSU)

675 Honors Colloquium in Western Civilization I (1) *One lecture hour per week. Prerequisite: limited to students in the Honors Program who have completed or are concurrently enrolled in an associated non-honors course in Western Civili-*

zation or the equivalent. Readings, discussion, and lectures covering selected advanced topics in Western Civilization to be determined by the Humanities Department and the Honors Program. (CSU/UC*)

676 Honors Colloquium in Western Civilization II (1) *One lecture hour per week. Prerequisite: limited to students in the Honors Program who have completed or are concurrently enrolled in an associated non-honors course in Western Civilization or the equivalent.* Readings, discussion, and lectures covering selected advanced topics in Western Civilization to be determined by the Humanities Department and the Honors Program. (CSU/UC)

680 – 689 Selected Topics (1-3) (See first page of Description of Courses section.) (CSU)

690 Special Projects (1-2) (CSU) (See first page of Description of Courses section.)

880 – 889 Selected Topics (1-3) (See first page of Description of Courses section.)

Japanese

Language Laboratory and Listening Requirement: since imitation, response, and independent practice are integral features of the study of a foreign language at the College, students enrolled in certain courses in foreign language are required to use the language laboratory as prescribed by each department.

110 Elementary Japanese (5) *Five lecture hours plus one lab hour by arrangement per week.* A beginning course in Japanese emphasizing oral expression, reading, and written forms. (CSU/UC)

111 Elementary Japanese I (3) *Three lecture hours plus one lab hour by arrangement per week.* Covers approximately the first half of the semester's work in Japanese 110. (CSU/UC*)

112 Elementary Japanese II (3) *Three lecture hours plus one lab hour by arrangement per week. Prerequisite: JAPA 111 or equivalent with a grade of C or higher.* Covers approximately the second half of the semester's work in Japanese 110. (Japanese 111 and 112 are equivalent to Japanese 110.) (CSU/UC*)

120 Advanced Elementary Japanese (5) *Five lecture hours plus one lab hour by arrangement per week. Prerequisite: JAPA 110 or 112 or equivalent with a grade of C or higher.* Further study of basic patterns of Japanese. (CSU/UC)

121 Advanced Elementary Japanese I (3) *Three lecture hours plus one lab hour by arrangement per week. Prerequisite: JAPA 110 or 112 or equivalent with a grade of C or higher.* Covers approximately half of the semester's work in Japanese 120. (CSU/UC*)

122 Advanced Elementary Japanese II (3) *Three lecture hours plus one lab hour by arrangement per week. Prerequisite: JAPA 121 or equivalent with a grade of C or higher.* Covers approximately the second half of the semester's work in Japanese 120. (Japanese 121 and 122 are equivalent to Japanese 120.) (If students wish to repeat this course, they may petition to audit. See Index: "Audit Policy.") (CSU/UC*)

680 – 689 Selected Topics (1-3) (See first page of Description of Courses section.) (CSU)

690 Special Projects (1-2) (See first page of Description of Courses section.) (CSU)

880 – 889 Selected Topics (1-3) (See first page of Description of Courses section.)

Journalism

110 Introduction to Journalism (3) *Three lecture hours per week.* Study of the historical background and modern functioning of the press (newspaper, radio, magazine, and television) in a democratic society, and its values and shortcomings. Covers the rights and duties of journalists and the legal limits of the freedom of the press. (CSU/UC) (CAN JOUR 4)

120 Newswriting (4) *Three lecture and three lab hours per week. Prerequisite: eligibility for ENGL 800.* Techniques of news gathering, judging news values, and writing the news story. For practical experience, students write for the college paper, *The San Matean,* thus preparing them for future newspaper work. (CSU/UC*) (CAN JOUR 2)

300 Newspaper Production (2) *Six lab hours per week.* Production of the student newspaper, *The San Matean.* Discussion and criticism of staff organization and newspaper content. (To increase competency, may be repeated for a maximum of 6 units of credit.) (CSU)

641 Cooperative Education (1-4) (See first page of Description of Courses section.) (CSU)

680 – 689 Selected Topics (1-3) (See first page of Description of Courses section.) (CSU)

690 Special Projects (1-2) (See first page of Description of Courses section.) (CSU)

880 – 889 Selected Topics (1-3) (See first page of Description of Courses section.)

Latin

111 Elementary Latin I (3) *Three lecture hours per week. Prerequisite: Eligibility for ENGL 100.* Introductory course in Latin dealing with pronunciation, reading, and writing. Study of English cognates and derivatives. (CSU/UC)

112 Elementary Latin II (3) *Three lecture hours per week. Prerequisite: LAT. 111 or equivalent with a grade of C or higher.* Continued study of basic Latin vocabulary, grammar, and syntax. Reading of short prose selections. (CSU/UC)

680 – 689 Selected Topics (1-3) (See first page of Description of Courses section.) (CSU)

690 Special Projects (1-2) (See first page of Description of Courses section.) (CSU)

Library Studies

100 Introduction to Library Studies (1) *(Open entry\open exit) Three lab hours per week.* A self-paced course in the use and mastery of standard library tools and resources. Provides practical, hands-on introduction to library organization, access tools (card catalogs and indexes), and reference materials. Outlines research strategies. (CSU/UC)

Life Science

(See Biology)

Literature

101 Twentieth-Century Literature (3) *Three lecture hours per week. Prerequisite: ENGL 110, 120, 130, or 140 or equivalent.* Study of selected fiction, poetry, and drama of the 20th Century. Lectures, discussions, related reading, and writing of critical papers. (CSU/UC)

105 The Bible as Literature (3) *Three lecture hours per week. Prerequisite: ENGL 110, 120, 130, or 140 or equivalent.* Study of the significant writings of the Old and New Testaments and of the Apocrypha. (CSU/UC)

111 The Short Story (2) *Two lecture hours per week. Prerequisite: ENGL 110, 120, 130, or 140 or equivalent.* Study of short stories. Class discussion and occasional writing, both analytical and creative. (CSU/UC)

113 The Novel (3) *Three lecture hours per week. Prerequisite: ENGL 110, 120, 130, or 140 or equivalent.* Study of novels of the late 19th and the 20th Century and of various aspects of literary criticism. Reading, discussion, and critical papers. (CSU/UC)

115 Introduction to Poetry (3) *Three lecture hours per week. Prerequisite: ENGL 110, 120, 130, or 140 or equivalent.* Study of poetry from the time of Chaucer to the present. Lectures, discussions, related reading, and critical papers. (CSU/UC)

143 Modern Drama (3) *Three lecture hours per week. Prerequisite: ENGL 110, 120, 130, or 140 or equivalent.* Study – from a theatrical as well as a literary point of view – of the outstanding masterpieces of the modern theatre. Lectures, discussions, critical papers, and recorded performances by professional actors. (CSU/UC)

151 Shakespeare (3) *Three lecture hours per week. Prerequisite: ENGL 110, 120, 130, or 140 or equivalent.* Study of representative plays and poems. Reading, discussion, critical papers, tests. (CSU/UC)

153 Shakespeare (1-3) *(Credit/No credit.) Three lecture hours per week. Prerequisite: ENGL 110, 120, 130, or 140 or equivalent.* Offered in three one-unit modules per semester. Study of representative plays and poems, with emphasis on Shakespeare's poetic and dramatic skills and techniques and his understanding of human nature. Reading, discussion, critical papers, tests. (CSU/UC*)

201 American Literature I (3) *Three lecture hours per week. Prerequisite: ENGL 110, 120, 130, or 140 or equivalent.* Study of American literature from the beginning through the period of Mark Twain. Lectures, reading, analysis and discussion of selected works, and critical papers. (CSU/UC) (CAN ENGL 14)

202 American Literature II (3) *Three lecture hours per week. Prerequisite: ENGL 110, 120, 130, or 140 or equivalent.* Study of American literature since Mark Twain. Lectures, reading, analysis and discussion of selected works, and critical papers. (CSU/UC)

231 Survey of English Literature I (3) *Three lecture hours per week. Prerequisite: ENGL 110, 120, 130, or 140 or equivalent.* Study of the typical works of major English writers from the time of Chaucer to the end of the 18th Century. Lectures, discussions, recorded readings, and critical papers. (Recommended for English majors.) (CSU/UC) (CAN ENGL 8)

232 Survey of English Literature II (3) *Three lecture hours per week. Prerequisite: ENGL 110, 120, 130, or 140 or equivalent.* Study of the typical works of major English writers of the 19th and 20th Centuries. Lectures, discussions, recorded readings, and critical papers. (Recommended for English majors.) (CSU/UC) (CAN ENGL 10)

251 Women in Literature (3) *Three lecture hours per week. Prerequisite: ENGL 110, 120, 130, or 140 or equivalent.* Images of women in literature from 1600 to the present. Study of selected women writers. Reading, discussion, and critical papers. (CSU/UC)

301 World Literature Masterpieces I (3) *Three lecture hours per week. Prerequisite: ENGL 110, 120, 130, or 140 or equivalent.* Study of selected works of world literature from Oriental and Occidental classical periods through the 17th Century. Reading, discussion, lectures, and critical papers. (CSU/UC)

302 World Literature Masterpieces II (3) *Three lecture hours per week. Prerequisite: ENGL 110, 120, 130, or 140 or equivalent.* Study of selected works of world literature by African, Asian, European, and South American authors writing in periods from the 18th Century to the present. Readings, discussion, lectures, and critical papers. (CSU/UC)

430 Mythology and Folklore (3) *Three lecture hours per week. Prerequisite: ENGL 110, 120, 130, or 140 or equivalent.* Survey of major gods and heroes, recurring mythological themes, and relationships between man and his gods, primarily in the Greek and Roman cultures. (CSU/UC)

680 – 689 Selected Topics (1-3) (See first page of Description of Courses section.) (CSU)

690 Special Projects (1-2) (See first page of Description of Courses section.) (CSU)

840 Poetry Appreciation (1) *(Credit/No credit) Two lecture hours per week for eight weeks.* Reading, discussing, analyzing traditional as well as contemporary poetry. Designed primarily for the Emeritus Institute. (Units do not apply toward AA/AS degree.)

880 – 889 Selected Topics (1-3) (See first page of Description of Courses section.)

Machine Tool Technology

110 Introduction to Machine Tool Theory for the Lathe (1.5) *Three lecture hours per week for eight weeks. Prerequisite: concurrent enrollment in MTT 111 and MANU 101 or 102.* Basic theory of metal removal with emphasis on lathe operation, measurement, cutting tools, safety, and other related subjects. (CSU)

111 Introduction to Machine Tool Practice for the Lathe (1.5) *Nine lab hours per week for eight weeks plus one lab hour per week by arrangement. Prerequisite: concurrent enrollment in MTT 110.* Lab experience in lathe set-ups, tool grinding,

surface finish, precision measurement, cutting tools, safety, and other related subjects. (CSU)

120 Advanced Machine Tool Theory for the Lathe (1.5) *Three lecture hours per week for eight weeks. Prerequisites: MTT 110/111; concurrent enrollment in MTT 121 and MANU 101 or 102.* Advanced machining processes with emphasis on thread specifications, surface finishes, metric measurements, tapers, and applied math problems. (CSU)

121 Advanced Machine Tool Practice for the Lathe (1.5) *Nine lab hours per week for eight weeks plus one lab hour per week by arrangement. Prerequisite: concurrent enrollment in MTT 120.* Lathe operations to cut threads and tapers and perform advance work in surface finishes and measurements. (Lab supplies required.) (CSU)

200 Introduction to Machine Tool Technology (2) *One lecture hour and three lab hours per week.* Survey course for the manufacturing technology student who requires a generalized experience in machine tools. Includes instruction in bench work, measurement, threads, cutting tools, lathe, mill, grinding, saws and, others. (Lab supplies required.) (CSU)

210 Introduction to Machine Tool Theory for the Mill (1.5) *Three lecture hours per week for eight weeks. Prerequisite: concurrent enrollment in MTT 211 and MANU 101 or 102.* Basic theory of metal removal with emphasis on milling operation, cutter applications, and measurements. (CSU)

211 Introduction to Machine Tool Practice for the Mill (1.5) *Nine lab hours per week for eight weeks plus one lab hour per week by arrangement. Prerequisites: concurrent enrollment in MTT 210.* Milling machine operations with emphasis on set-ups, layouts, and precision measurements. (Lab supplies required.) (CSU)

220 Advanced Machine Tool Theory for the Mill (1.5) *Three lecture hours per week for eight weeks. Prerequisites: MTT 210/211; concurrent enrollment in MTT 221 and MANU 101 or 102.* Theory of advanced milling machine processes with emphasis on indexing, boring, measuring, precision machining, and metallurgy. (CSU)

221 Advanced Machine Tool Practice for the Mill (1.5) *Nine lab hours per week for eight weeks plus one lab hour per week by arrangement. Prerequisite: concurrent enrollment in MTT 220.* Advanced milling machine set-ups, including indexing, timing measurement, coordinate calculations and other related processes. (Lab supplies required.) (CSU)

641 Cooperative Education (1-4) (See first page of Description of Courses section.) (CSU)

680 – 689 Selected Topics (1-3) (See first page of Description of Courses section.) (CSU)

690 Special Projects (1-2) (See first page of Description of Courses section.) (CSU)

701 Applied CNC Mathematics (3) *Three lecture hours per week plus one lab hour per week by arrangement. Prerequisite: basic machine tool training or equivalent industrial experience; three units of MATH 811 or satisfactory score on Math Placement Test 1 recommended.* Applied mathematics focusing on skills needed for programming CNC machine tools. Includes algebra, geometry, trigonometry and some analytic geometry. Emphasizes using math to solve the practical problems faced in the work world of a computer numerical control programmer/machinist. (CSU)

702 Introduction to Numerical-Control Programming (3) *Six lecture hours per week for eight weeks plus one lab hour per week by arrangement. Prerequisite: MTT 701. Designed for experienced machinists or advanced technical students.* Continuation of MTT 701. Basic concepts in programming machine tools. Covers cutter path (points of transition), motion commands, set ups, miscellaneous functions, canned cycles, program input, sub routines, program editing and debugging. (CSU)

703 Introduction to Computer-Assisted Programming (3) *Six lecture hours per week for eight weeks plus one lab hour per week by arrangement. Prerequisite: MTT 702.* Instruction in Computer Aided Machining (CAM). Basic instruction in the use of software designed to help in programming CNC tools. Instruction also in the use of DOS, computer operation, program planning, use of basic word processors, and computer peripherals. Use of Smart Cam is the main source of CAM instruction with additional computer aids included. (CSU)

704 Advanced Computer-Control Programming for Production (3) *Six lecture hours per week for eight weeks plus one lab hour per week by arrangement. Prerequisite: MTT 703.* Combines the full use of all programming methods with job planning, machine operation, and set-ups. Emphasizes problem solving and operational sequence along with program management at the machine tool. Students will be responsible for developing the complete sequence of processes from planning to completed project. (CSU)

705 Advanced Computer Numerical-Control Programming (2) *One lecture hour and three lab hours per week plus one lab hour per week by arrangement. Prerequisite: MTT 704 or equivalent experience.* Advanced techniques of programming computer numerical controls. Includes computer-assisted programming, computer operating systems, MACRO routines, mirror imaging, special effects of the control, advanced set-ups, custom code generation, communication, and CAD/CAM links. (CSU)

710 Grinding Processes (1) *One lecture hour and three lab hours per week for eight weeks.* Basic principles of grinding, including wheel nomenclature, abrasives applications, and grinding machines. Geometry of cutters and other tool grinding applications. Surface finishes and inspection techniques. Recommended for those with prior machining experience or students enrolled in the machine tool program. (CSU)

720 Tool and Die Theory and Practice (1) *One lecture hour and three lab hours per week for eight weeks. Prerequisite: concurrent enrollment in MTT 210 or 211 or prior machine experience.* Fundamentals of tool and die manufacturing, with emphasis on nomenclature and die design for the basic processes: punches, blanking, piercing, and bending. Recommended for those with prior machining experience or students enrolled in the machine tool program. (CSU)

750 Machine Tool Theory and Practice I (3) *Two lecture and four lab hours per week plus two lab hours per week by arrangement. Prerequisite: completion of or*

concurrent enrollment in MANU 101 or MTT 701. Instruction in basic machine tool procedures. This course is equivalent to MTT 200. Designed for the serious machine technology student. Instruction in the use, operation, set up of conventional machine tools. Topics covered include lathes, mills, grinders, tool geometry, physics of metal removal, measurement, and job planning. (CSU)

755 Machine Tool Theory and Practice II (2) *One lecture hour and three lab hours per week. Prerequisite: MTT 750.* Intermediate studies in machine tool. Allows skill development in individual areas of interest: tool and cutter grinding, E.D.M., tool design, numerical-control programming, thread cutting, and others. (Lab supplies required.) (CSU)

760 Machine Tool Theory and Practice III (2) *One lecture hour and three lab hours per week. Prerequisite: MTT 755.* Advanced studies in machine tool. Allows skill development in individual areas of interest: tool and cutter grinding, E.D.M., tool design, numerical-control programming, thread cutting, and others. (Lab supplies required.) (CSU)

880 – 889 Selected Topics (1-3)
(See first page of Description of Courses section.)

Management

100 Introduction to Business Management (3) *Three lecture hours per week.* Study of the principal functions of modern management, including planning, organizing, staffing, actuating, controlling, and decision-making. (CSU)

105 Financial Management (3)
Three lecture hours per week. Prerequisite: ACTG 121 or equivalent. Survey of the concepts of financial management. (CSU)

110 Report Writing (3)
Three lecture hours per week. Principles of effective communication in a variety of business and industrial applications; emphasizes clarity, accuracy, and logic in the presentation of written, oral, and statistical materials. (CSU)

120 Management Communications (3)
Three lecture hours per week. Communication processes, both oral and written. Lectures, discussion, case studies, and oral presentations on such topics as the relationship between communication and organizational climate, perception and motivation, and the causes and patterns of miscommunication. (CSU)

215 Management of Human Resources (3) *Three lecture hours per week.* Line supervision and personnel function in industry: selection and placement; wage and salary procedures; training and evaluation. (CSU)

220 Organizational Behavior (3)
Three lecture hours per week. Individual motivation, interpersonal communication, organizational influence, group dynamics, and decision-making in the organization; the relationship between culture, structure, and technology; leadership and the managing of organization conflict. (CSU)

235 Techniques of Supervision (3)
Three lecture hours per week. Role of the manager: understanding and motivating employees; leadership, communications, problem solving, and decision-making; employee training, performance evaluation, and labor relations; supervising different types of workers; delegation; improving work methods; reducing costs; planning and managing time. (CSU)

641 Cooperative Education (1-4)
(See first page of Description of Courses section.) (CSU)

680 – 689 Selected Topics (1-3)
(See first page of Description of Courses section.) (CSU)

690 Special Projects (1-2)
(See first page of Description of Courses section.) (CSU)

880 – 889 Selected Topics (1-3)
(See first page of Description of Courses section.)

Manufacturing and Industrial Technology

100 Science for Technology (3)
Three lecture hours per week. Prerequisite: one semester of high school algebra recommended. Study of applied physics phenomena as related to simple devices, including forces, stress, motion acceleration, velocity, friction, energy, and basic thermodynamics. (CSU)

101 Applied Technical Mathematics I (3) *Three lecture hours per week. Prerequisites: satisfactory score on Math Placement Test One or MATH 811 with a grade of C or higher.* Required of all Machine Tool Technology, Drafting, and Welding Technology students. Use of elementary algebra and applied geometry in the solution of technical problems. (CSU)

102 Advanced Applied Technical Mathematics (3) *Three lecture hours per week. Prerequisites: MANU 101.* Continuation of MANU 101. Application of more advanced techniques in technical mathematics. Includes instruction in geometry and trigonometry problem analyses, especially as applied to programming computer numerical-control machines. (CSU)

120 Industrial Materials and Processes (3) *Three lecture hours per week.* The study of metals common to industry and related industrial manufacturing processes. Includes the removing, shaping, and joining of metals as well as the processing of plastics, rubber, glass, and some exotic materials currently used in local industries. (CSU)

210 Introduction to Technology (1)
Two lecture hours per week for eight weeks. Survey course for technology students. Defines various employment classifications and training requirements. Focuses on changes in the industrial environment, job possibilities, educational demands, and career choices.

641 Cooperative Education (1-4)
(See first page of Description of Courses section.) (CSU)

680 – 689 Selected Topics (1-3)
(See first page of Description of Courses section.) (CSU)

690 Special Projects (1-2)
(See first page of Description of Courses section.) (CSU)

880 – 889 Selected Topics (1-3)
(See first page of Description of Courses section.)

Mathematics

(Also see Business 115, 810)

The normal sequence of mathematics courses at CSM is 110, 115, 120, 130, 222, 251, 252, 253 (or 260, 261, 262, 263), 275. A student who qualifies for a particular mathematics course is eligible for any course lower in sequence. If the student has not taken a mathematics course during the previous two years, it is strongly recommended that the student enroll in a course below the one for which he or she would normally be eligible.

Unless otherwise indicated, a grade of C or higher is required for all prerequisite courses.

110 Elementary Algebra (5)
Day: five lecture hours per week; evening: six lecture hours per week. Prerequisite: three units of MATH 811 at one of the SMCCCD Colleges (MATH 810 at Skyline College) OR satisfactory score on Math Placement Test One. Study of elementary algebra through quadratic equations.

111 Elementary Algebra I (FIRST HALF) (3) *Three lecture hours per week. Prerequisite: three units of MATH 811 at one of the SMCCCD colleges (MATH 810 at Skyline College) OR satisfactory score on Math Placement Test One.* Covers the first half of the semester's work of MATH 110. MATH 111-112 provides a two-semester study of MATH 110, a study of elementary algebra through quadratic equations.

112 Elementary Algebra II (SECOND HALF) (3) *Three lecture hours per week. Prerequisite: MATH 111.* Covers the second half of the semester's work of MATH 110.

115 Geometry (5)
Day: five lecture hours per week; evening: six lecture hours per week. Prerequisite: MATH 110 or 112 at one of the SMCCCD colleges OR a course equivalent to MATH 110 or 112 and a satisfactory score on Math Placement Test Two. Study of the properties of plane and solid figures, using formal logic and the real number system. Includes some non-Euclidean, projective, and topological elements.

120 Intermediate Algebra (5)
Day: five lecture hours per week; evening: six lecture hours per week. Prerequisite: MATH 110 or 112 at one of the SMCCCD colleges OR a course equivalent to MATH 110 or 112 and a satisfactory score on Math Placement Test Two; MATH 115 OR one year of high school geometry recommended. A comprehensive review of elementary algebra with certain topics studied in greater depth. Extension of fundamental algebraic concepts and operations, equations in two variables, graphs, systems of equations, exponential and logarithmic functions, sequences, and series.

122 Intermediate Algebra I (FIRST HALF) (3) *Three lecture hours per week. Prerequisite: MATH 110 or 112 at one of the SMCCCD colleges OR a course equivalent to MATH 110 or 112 and a satisfactory score on Math Placement Test Two.* Covers the first half of the semester's work of MATH 120. MATH 122-123 provides a two-semester study of the material in MATH 120, a comprehensive review of elementary algebra with certain topics studied in greater depth.

123 Intermediate Algebra II (SECOND HALF) (3) *Three lecture hours per week. Prerequisite: MATH 122.* Covers the second half of the semester's work of MATH 120.

125 Elementary Finite Mathematics (3)
Three lecture hours per week. Prerequisite: MATH 120 or 123 at one of the SMCCCD colleges OR a course equivalent to MATH 120 or 123 and a satisfactory score on Math Placement Test Three. Introduction to finite mathematics. Includes systems of linear equations and inequalities, matrices, set theory, logic, combinatorial techniques, elementary probability, linear programming, and mathematics of finance. Places particular emphasis on applications. (CSU/UC) (CAN MATH 12)

130 Analytic Trigonometry (3)
Three lecture hours per week. Prerequisites: MATH 115 and 120 or 123 at one of the SMCCCD colleges OR courses equivalent to MATH 115 and 120 or 123 and a satisfactory score on Math Placement Test Three. Trigonometric functions of real numbers and angles, their graphs and periodicity; reduction formulas; function of multiple angles; identities and equations; radian measure; inverse functions; and solution of triangles. (CSU) (CAN MATH 8)

200 Elementary Probability and Statistics (4) *Day: four lecture hours per week; evening: five lecture hours per week. Prerequisite: MATH 120 or 123 at one of the SMCCCD colleges OR a course equivalent to MATH 120 or 123 and a satisfactory score on Math Placement Test Three.* Representation of data, use and misuse of statistics, measures of central tendency and dispersion, probability, sampling distributions, statistical inference, regression and correlation, contingency tables, and nonparametric methods. (CSU/UC*) (CAN STAT 2)

222 Precalculus (5)
Day: five lecture hours per week; evening: six lecture hours per week. Prerequisite: MATH 130 at one of the SMCCCD colleges OR a course equivalent to MATH 130 and a satisfactory score on Math Placement Test Three. Study of more advanced algebra including the theory of equations, complex numbers, logarithmic and exponential functions, matrices, determinant function, binomial theorem, sequences, and mathematical induction; review of trigonometry; topics of analytic geometry. (CSU/UC*)

231 Symbolic Logic and Mathematical Proof (1) *(Credit/No Credit or Letter Grade option.) Two lecture hours per week for eight weeks. Prerequisite: MATH 222 OR concurrent enrollment in MATH 222. Strongly recommended for students enrolled in or planning to take MATH 251 and math courses with numbers higher than 251.* Propositions, arguments and validity, truth-functional equivalence, axiomatic systems, quantifiers, direct and indirect proof, and proof strategy. (CSU/UC)

241 Applied Calculus I (5)
Day: five lecture hours per week; evening: six lecture hours per week. Prerequisites: MATH 120 or 123 at one of the SMCCCD colleges OR a course equivalent to MATH 120 or 123 and a satisfactory score on Math Placement Test Three. Recommended for Business Majors: MATH 200. Selected topics from analytic geometry, plus basic techniques of differential and integral calculus. (This sequence may not be substituted for the MATH 251 or 260 sequence for mathematics, physics or engineering majors.) (CSU/UC*) (CAN MATH 30)

242 Applied Calculus II (3)
Three lecture hours per week. Prerequisites: MATH 130 and 241. Further work in differentiation and integration, trigonometric functions, calculus of functions of several variables, and selected topics from differential equations. (CSU/UC*) (CAN MATH 32)

251 Calculus with Analytic Geometry I (5) *Day: five lecture hours per week; evening: six lecture hours per week. Prerequisites: completion of Precalculus/College Algebra at one of the SMCCCD colleges OR completion of a course equivalent to Precalculus/College Algebra and a satisfactory score on Math Placement Test Four.* Study of limits, continuity, the derivative, applications of the derivative, and the definite integral. (CSU/UC*)

252 Calculus with Analytic Geometry II (5) *Day: five lecture hours per week; evening: six lecture hours per week. Prerequisite: MATH 251.* Study of the antiderivative, techniques of integration, applications of the definite integral, exponential and logarithmic functions, parametric equations, polar coordinates, conic sections, and vectors. (CSU/UC*)

253 Calculus with Analytic Geometry III (5) *Day: five lecture hours per week; evening: six lecture hours per week. Prerequisite: MATH 252.* Study of Taylor polynomials and Taylor's formula, infinite series, the calculus of functions of several independent variables, partial derivatives, multiple integration, and vector calculus to include Green's theorem, Stokes' theorem, and the divergence theorem. (CSU/UC*)

260 Calculus with Analytic Geometry I (4) *Day: four lecture hours per week; evening: five lecture hours per week. Prerequisites: Precalculus/College Algebra at one of the SMCCCD colleges OR a course equivalent to Precalculus/College Algebra AND a satisfactory score on Math Placement Test Four.* Limits of functions, derivatives, and their applications, vectors. (CSU/UC*)

MATH 261/262/263 are open only to those students who started this sequence prior to Fall 1990.

261 Calculus with Analytic Geometry II (4) *Day: four lecture hours per week; evening: five lecture hours per week. Prerequisite: MATH 260.* Introduction to differential equations, the definite integral and its applications; logarithmic, exponential, trigonometric, and inverse trigonometric functions. (CSU/UC*)

262 Calculus with Analytic Geometry III (4) *Day: four lecture hours per week; evening: five lecture hours per week. Prerequisite: MATH 261.* Techniques of integration, polynomials and infinite series, power series, conic sections, and polar coordinates. (CSU/UC)

263 Calculus with Analytic Geometry IV (4) *Day: four lecture hours per week; evening: five lecture hours per week. Prerequisite: MATH 262.* Vector-values functions, differentiation for functions of several variables, double and triple integrals, and vector analysis. (CSU/UC) (CAN MATH 22)

268 Discrete Mathematics (4)
Day: four lecture hours per week; evening: five lecture hours per week. Prerequisite: MATH 251 or 260. Topics in discrete mathematics with particular emphasis on applications to computer science. Includes logic, sets, Boolean algebra, switching circuits, recursion, induction, graphs, trees, counting, and combinatorics. (CSU/UC)

270 Linear Algebra (3)
Three lecture hours per week. Prerequisite: MATH 252 or 261. Vectors and matrices applied to linear equations and linear transformations; real and inner product spaces. (CSU/UC) (CAN MATH 26)

275 Ordinary Differential Equations (3)
Three lecture hours per week. Prerequisite: MATH 253 or 263. With permission of the instructor, may be taken concurrently with MATH 253 or 263. Differential equations of first, second, and higher order; simultaneous, linear and homogeneous equations; solutions by power series; numerical methods, Fourier series, Laplace transforms, and applications. (CSU/UC) (CAN MATH 24)

680 – 689 Selected Topics (1-3)
(See first page of Description of Courses section.) (CSU)

690 Special Projects (1-2)
(See first page of Description of Courses section.) (CSU)

811 Arithmetic Review (1-3)
(Credit/No credit.) (Open Entry/Open Exit) Three hours per week of individualized instruction. Basic arithmetic facts and operations of whole numbers, fractions, and decimals with applications. (Units do not apply toward AA/AS degree.)

812 Elementary Algebra Review (1)
(Credit/No credit.) Three hours per week of individualized instruction. Prerequisite: MATH 110 or 111/112. A review of elementary algebra. (Units do not apply toward AA/AS degree.)

880 – 889 Selected Topics (1-3)
(See first page of Description of Courses section.)

Medical Assisting

100 Introduction to Medical Assisting (3) *Three lecture hours per week.* Duties and responsibilities of a medical assistant in a physician's office, clinic, hospital, or other medical facility. Emphasizes desirable personality traits and human relationships as well as medical ethics, specialties in the medical field, and office maintenance.

110 Basic Medical Terminology (3)
Three lecture hours per week. Prerequisite: eligibility for English 800 or higher. Development of a medical vocabulary through the study of the principles of word construction and word analysis, with emphasis on spelling and pronunciation. Medical abbreviations and symbols. (CSU)

115 Medical Word Processing (3)
Three lecture hours per week plus two lab hours per week by arrangement. Prerequisite: knowledge of keyboard and BUS 301 or 303 or equivalent.. Training in production typing of medical letters, reports, and forms using the microcomputer.

120 Clinical Procedures I (4)
Three lecture and three lab hours per week. Prerequisites: BIOL 130 and MEDA 110. Examination room techniques; asepsis and sterilization procedures; laboratory procedures and techniques of specimen collection; electrocardiograms; and injections and venipuncture. (Extra supplies may be required.) (Fall only.)

121 Clinical Procedures II (4)
Three lecture and three lab hours per week. Prerequisite: MEDA 120 with a grade of C or higher. Administering medications; eye and ear lavage; electroencephalograms; removal of sutures and

staples; bandaging and dressings; and other examination and clinical procedures. (Extra supplies may be required.) (Spring only.)

140 Medical Transcription: Basic (3) *Three lecture hours per week plus two lab hours per week by arrangement. Prerequisites: MEDA 110 and 115; BIOL 130 recommended.* Machine transcription of medical reports. (CSU)

141 Medical Transcription: Advanced (3) *Three lecture hours per week plus two lab hours per week by arrangement. Prerequisites: MEDA 140; MEDA 190 and BIOL 130 recommended.* Intensive transcription of hospital-type medical reports, including history and physical examinations, surgeries, discharge summaries, and radiologic and nuclear medicine reports.

150 Medical Office Procedures (3) *Three lecture hours per week plus two lab hours per week by arrangement. Prerequisites: MEDA 100, 110 and 115.* Fundamental office procedures applied to the medical field. Decision-making, setting priorities, finding information, coping with interruptions, and producing under pressure in medical office simulations.

160 Medical Insurance Procedures (3) *Three lecture hours per week plus two lab hours per week by arrangement. Prerequisites: MEDA 100 and 115.* Covers Blue Cross, Blue Shield, Medicare, Medi-Cal, Worker's Compensation, and other insurance programs. Coding resources used in claims preparation. Billing and bookkeeping methods using the microcomputer.

161 ICD (International Classification of Diseases)-9-CM (Clinical Modification) Beginning Coding (1) *(Credit/No Credit or Letter Grade Option.) Four lectures hours per week for four weeks.* Development of nomenclature and classification systems of diseases. Basic coding principles of diseases and symptoms according to ICD-9-CM with emphasis on the coding of medical records. Use of indexes, sequencing of code numbers, and preparation of documents. (To increase competency, may be repeated one time.)

164 CPT (Current Procedural Terminology) Beginning Coding (1) *(Credit/No Credit or Letter Grade Option.) Four lecture hours per week for four weeks.* Basic coding principles of medical procedures according to CPT and an introduction to ICD-9-CM procedural coding. Use of CPT, modifiers, appendices, and preparation of documents. (To increase competency, may be repeated one time.)

190 Introduction to Pharmacology (3) *Three lecture hours per week.* Designed for medical assistants, medical transcribers, and other allied health personnel. Includes recognition and identification of commonly used drugs; classification of drugs according to action; modes of administration of drugs; and care and storage of drugs according to regulations of the Food and Drug Administration. (Fall only.)

641 Cooperative Education (1-4) (See first page of Description of Courses section.) (CSU)

680 – 689 Selected Topics (1-3) (See first page of Description of Courses section.) (CSU)

880 – 889 Selected Topics (1-3) (See first page of Description of Courses section.)

Meteorology

100 Elementary Meteorology (3) *Three lecture hours per week.* Basic course in descriptive meteorology. Includes the atmosphere's structure, the earth's heat budget, cloud forms and precipitation, pressure systems and wind, and air mass and frontal weather. Leads to a better understanding of the obvious and subtle ways of the weather. (CSU/UC)

680 – 689 Selected Topics (1-3) (See first page of Description of Courses section.) (CSU)

690 Special Projects (1-2) (See first page of Description of Courses section.) (CSU)

880 – 889 Selected Topics (1-3) (See first page of Description of Courses section.)

Military Science

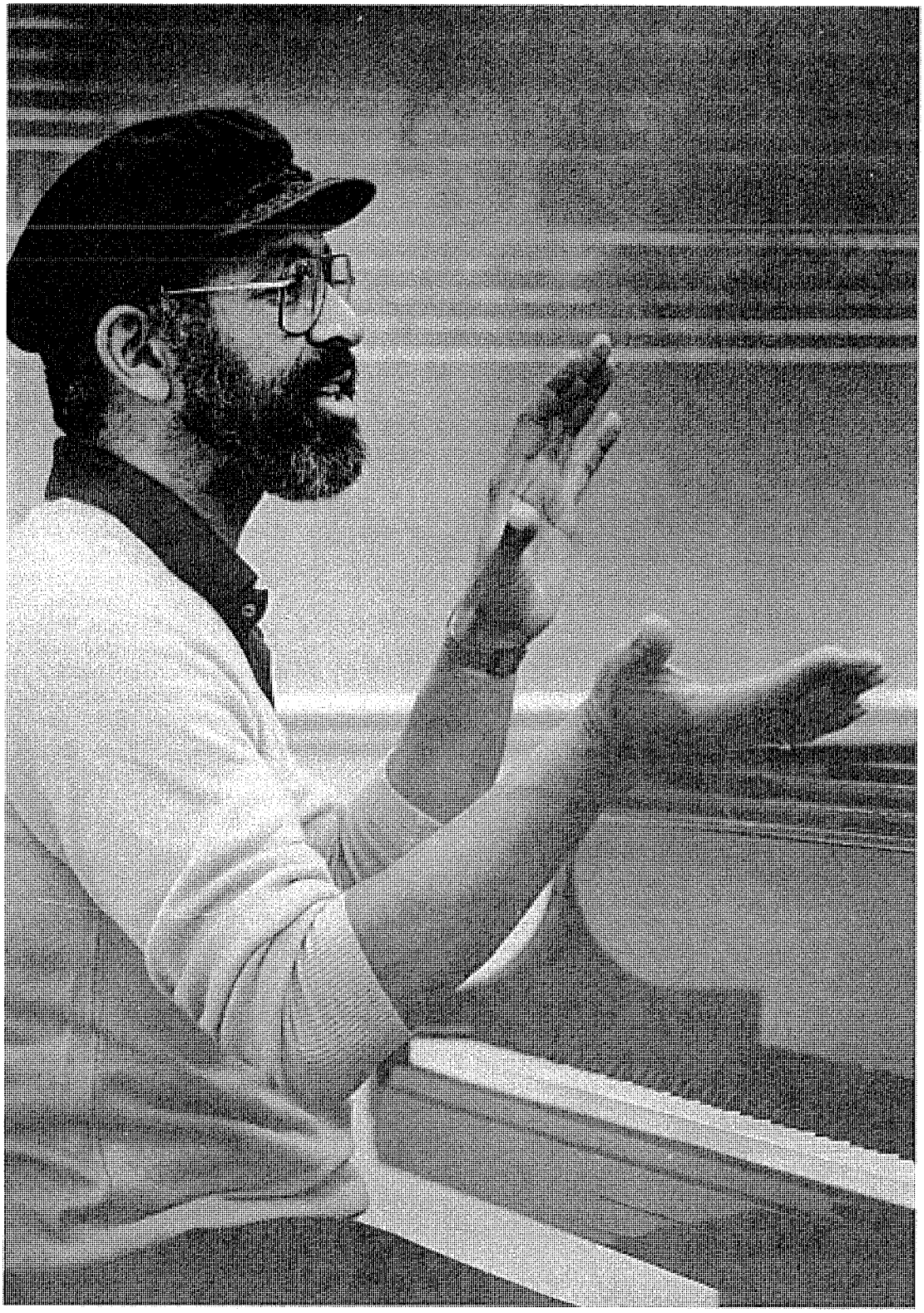
(Air Force ROTC classes held at UC Berkeley.)

MSCI 1-2 U.S. Air Force and National Security; Growth and Development of Air Power (1-1) *One and one-half lecture hours per week.* Introductory survey. Examines current U.S. defense needs and the Air Force in terms of theory, function, mission, and organization. Traces historical evolution of air power. Emphasizes the impact of changing technology and the contribution of specific historical figures. (CSU/UC*)

(Army ROTC classes held at San Jose State University.)

1a-1b Fundamentals of Leadership; the U.S. Defense Establishment (2-2) *One lecture hour and one leadership lab bi-weekly.* First year basic course. Provides orientation concerning organization, management, and leadership fundamentals in formal organizations. Exams role of the citizen-soldier, foundations of national power, and causes of conflict. Includes oral reports and written requirements to improve communicative abilities. (CSU/UC*)

12a-12b Map and Aerial Photograph Reading; Applied Leadership and Management (2-2) *One lecture hour and one leadership lab bi-weekly. Prerequisite: Military Science 1a-1b.* Second year basic course. Functions, duties, and responsibilities of junior leaders; mission, organization, and composition of the basic military team; study of the basic principles of map and aerial photograph reading to include military geography, map symbols, military grid systems, resection techniques, and use of compass. Instruction in military operations and basic tactics; continuing development of leadership through practical exercises. (CSU)



Music

100 Fundamentals of Music (3)
Three lecture hours per week. Designed for students who wishes to learn how to read music and perform it at sight. Recommended for students with limited musical background who wish to begin the formal study of music theory. Also recommended for education majors. (CSU/UC)

101 Musicianship I (3)
Three lecture hours per week. Prerequisites: MUS. 100 or equivalent and concurrent enrollment in MUS. 131. Study of notations, keys, and intervals. Performance at sight of melodic and rhythmic examples. Dictation of melodic, harmonic, and rhythmic examples. Fundamentals of keyboard harmony. (CSU/UC)

102 Musicianship II (3)
Three lecture hours per week. Prerequisites: MUS. 101 or equivalent and concurrent enrollment in MUS. 132. Continuation and advanced study of topics introduced in Music 101. (Nine units of Musicianship are recommended for students majoring in Music.) (CSU/UC)

103 Musicianship III (3)
Three lecture hours per week. Prerequisites: MUS. 102 or equivalent and concurrent enrollment in MUS. 133. Continuation of Music 101-102. (CSU/UC)

104 Musicianship IV (3)
Three lecture hours per week. Prerequisites: MUS. 103 and concurrent enrollment in MUS. 134. Continuation of Music 103. (CSU/UC)

131 Harmony I (3)
Three lecture hours per week. Prerequisites: MUS. 100 or equivalent and concurrent enrollment in MUS. 101. Principles of scale, mode, and interval construction; triads in first, second, and third inversions; melodic and harmonic rhythm; root progressions and voice leading; seventh chords and secondary dominants; introduction to common harmonic practice through exercises, analysis, and creative work. (CSU/UC)

132 Harmony II (3)
Three lecture hours per week. Prerequisites: MUS. 131 and concurrent enrollment in MUS. 102. Continuation and advanced study of topics introduced in MUS. 131. (CSU/UC)

133 Harmony III (3)
Three lecture hours per week. Prerequisites: MUS. 132 and concurrent enrollment in MUS. 103. Continuation of the study of tonal and formal procedures; contextual investigations of diminished seventh, Neapolitan sixth, and augmented sixth chords; tonicization, modulation, and sequence; introduction to Impressionism and to 20th Century melody, harmony, and form. (CSU/UC)

134 Harmony IV (3)
Three lecture hours per week. Prerequisites: MUS. 133 and concurrent enrollment in MUS. 104. Continuation and advanced study of topics introduced in Music 133. (CSU/UC)

170 Improvisation (3)
Three lecture hours per week. Prerequisite: MUS. 131 or equivalent. Study of improvisatory styles and techniques and the historical perspective of the practices; rhythmic, harmonic, and melodic foundations; and improvisatory ensemble. (To increase competency, may be repeated for a maximum of 12 units of credit, after which students may petition to audit. See Index: "Audit Policy.") (CSU/UC*)

202 Music Listening and Enjoyment (3)
Three lecture hours per week plus selected listening. No musical experience required. Survey of the music of Western civilization. Enhances enjoyment and appreciation of the world's great music and develops an understanding of today's concert music in a historical context. (CSU/UC)

275 History of Jazz (3)
Three lecture hours per week. Study of jazz since 1900, with emphasis on instrumental styles; the development of jazz since 1940 and contemporary trends. Attendance required at four jazz performances. (CSU/UC)

301 Piano I (1)
Three lab hours plus two individual practice hours per week. Study in the techniques of piano playing. Individual attention, assignments, and performance in a class situation. (CSU/UC*)

302 Piano II (1)
Three lab hours plus two individual practice hours per week. Prerequisite: MUS. 301 or equivalent. Continuation of study in the techniques of piano playing. Individual attention, assignments, and performance in a class situation. (CSU/UC*)

303 Piano III (1)
Three lab hours plus two individual practice hours per week. Prerequisite: MUS. 302 or equivalent. Continuation of study in the techniques of piano playing. Individual attention, assignments, and performance in a class situation. (CSU/UC*)

304 Piano IV (1)
Three lab hours plus two individual practice hours per week. Prerequisite: MUS. 303 or equivalent. Continuation of study in the techniques of piano playing. Individual attention, assignments, and performance in a class situation. (To increase competency, may be repeated for a maximum of 4 units of credit, after which students may petition to audit. See Index: "Audit Policy.") (CSU/UC*)

320 Study of Brass Instruments (1)
Three lab hours plus two individual practice hours per week. Techniques of playing the instrument of the student's choice, with individual and class instruction. (To increase competency, may be repeated for a maximum of 4 units of credit.) (CSU/UC*)

340 Study of Woodwind Instruments (1) *Three lab hours plus two individual practice hours per week.* Techniques of playing the instrument of the student's choice, with individual and class instruction. (To increase competency, may be repeated for a maximum of 4 units of credit.) (CSU/UC*)

360 Stringed Instruments (1)
Three lab hours plus two individual practice hours per week. Techniques of playing the violin, viola, cello, or string bass, with individual and class instruction. (To increase competency, may be repeated for a maximum of 4 units of credit.) (CSU/UC*)

371 Classical Guitar I (1)
Three lab hours plus two individual practice hours per week. Techniques of guitar performance and reading music to enable students to play accompaniments to compositions written for the guitar. Students must supply their own instruments. (CSU/UC*)

372 Classical Guitar II (1)
Three lab hours plus two individual practice hours per week. Prerequisite: MUS. 371. Continuation of Music 371 with emphasis on solo performances. Students must supply their own instruments. (To

increase competency, may be repeated for a maximum of 4 units of credit.) (CSU/UC*)

402 Vocal Techniques I (1)
Three lab hours plus two individual practice hours per week. Elementary vocal problems analyzed and corrected through exercises and songs. (CSU/UC*)

403 Vocal Techniques II (1)
Three lab hours plus two individual practice hours per week. Prerequisite: MUS. 402 or equivalent. Advanced songs and recital performance as ability merits. (To increase competency, may be repeated for a maximum of 4 units of credit.) (CSU/UC*)

430 Symphonic Band (1)
Three lecture-critique hours per week. Prerequisite: MUS. 320, 340, or 360 as applicable or the equivalent; demonstration of proficiency. Study and performance of music for concert band. Performance required (band does not perform at athletic events). (To increase competency, may be repeated for a maximum of 4 units of credit, after which students may petition to audit. See Index: "Audit Policy.") (CSU/UC*)

451 Jazz Workshop (1)
Three lecture-critique hours per week. Prerequisite: minimum performance ability. Workshop in jazz interpretation and styles. Ensemble experience from "blues" to present-day jazz. (To increase competency, may be repeated for a maximum of 4 units of credit.) (CSU/UC*)

452 Repertory Jazz Band (1)
Three lecture-critique hours per week. Prerequisite: demonstration of proficiency in advanced reading and interpretation of jazz styles. Evening jazz ensemble for the experienced musician. Emphasizes advanced improvisational techniques. Performance required. (To increase competency, may be repeated for a maximum of 4 units of credit, after which students may petition to audit. See Index: "Audit Policy.") (CSU/UC*)

453 Jazz Band (2)
Five lecture-critique hours per week. Prerequisite: demonstration of proficiency. All phases of jazz performance, starting with beginner ensemble experience. Performance required. (To increase competency, may be repeated for a maximum of 8 units of credit, after which students may petition to audit. See Index: "Audit Policy.") (CSU/UC*)

460 Instrumental Ensemble (1)
Three lecture-critique hours per week. Prerequisite: demonstration of proficiency. Provides group experience for various kinds of instruments in a variety of combinations. (To increase competency, may be repeated for a maximum of 4 units of credit, after which students may petition to audit. See Index: "Audit Policy.") (CSU/UC*)

470 Choir (1)
Three lecture-critique hours per week. Prerequisite: MUS. 402 or equivalent; demonstration of proficiency. Study and performance of choral literature for accompanied and unaccompanied choir. Performance required. (To increase competency, may be repeated for a maximum of 4 units of credit, after which students may petition to audit. See Index: "Audit Policy.") (CSU/UC*)

490 Masterworks Chorale (1)
(Credit/No credit.) Three lecture-critique hours per week plus two hours by arrangement. Prerequisite: MUS. 470 or equivalent; demonstration of proficiency. Study and performance of representative choral literature appropriate for a large chorus. Introduces different works each semester, providing a succession of new curriculum. (To increase competency, may be repeated for a maximum of 4 units of credit, after which students may petition to audit. See Index: "Audit Policy.") (CSU/UC*)

641 Cooperative Education (1-4)
(See first page of Description of Courses section.) (CSU)

680 – 689 Selected Topics (1-3)
(See first page of Description of Courses section.) (CSU)

690 Special Projects (1-2)
(See first page of Description of Courses section.) (CSU)

880 – 889 Selected Topics (1-3)
(See first page of Description of Courses section.)

Nursing

Registered Nursing

The courses described are open only to those students accepted in the Associate Degree Nursing Program (see Index: Nursing, A. S. Degree for admission requirements). A grade of C or higher is necessary for progression in the sequence. Upon graduation, the candidate receives an Associate in Science degree and is eligible to write the California Board of Registered Nursing Licensing examination. Satisfactory completion of Nurs. 211, 212, 221, and 222 will satisfy the 2 units of Health Science General Education requirement for an A.A./A.S. degree.

Unless otherwise indicated, a grade of C or higher is required for all prerequisite courses.

211 Introduction to Nursing (4.5)
Four lecture and fifteen lab hours per week for eight to nine weeks. Prerequisite: Admission to the A.S. Degree Nursing Program. Human health needs and the principles, facts, concepts and skills basic to nursing care. Supervised learning experiences corresponding with classroom instruction in off-campus health care facilities. (CSU)

212 Concepts of Homeostasis in Nursing (4.5) *Four lecture and fifteen lab hours per week for eight to nine weeks. Prerequisite: NURS 211.* Continuation of the study of human health needs and the principles, facts, concepts, and skills basic to nursing care using the nursing process to promote homeostasis. Supervised learning experiences corresponding with classroom instruction in off-campus health care facilities. (CSU)

221 Pediatric Nursing (4.5)
Five lecture and twelve and one-half lab hours per week for eight to nine weeks. Prerequisites: NURS 212. Developmental levels and common health needs and problems from infancy to young adult. Supervised learning experiences corresponding with classroom instruction in off-campus health care facilities. (CSU)

222 Maternity Nursing (4.5)
Five lecture and twelve and one-half lab hours per week for eight to nine weeks. Prerequisites: NURS 221; BIOL 260 or 266; and PSYC 100 AND concurrent en-

rollment in or completion of PSYC 201. Needs and problems of the family during the maternity cycle along with identifying needs and problems of male and female reproduction. Supervised learning experiences corresponding with classroom instruction in off-campus health care facilities. (CSU)

231 Psychiatric Nursing (5)
Five lecture and fifteen lab hours per week for eight to nine weeks. Prerequisite: NURS 222. Effective and non-effective communication, equilibrium and disequilibrium in life styles and functioning in the adolescent to adult patient. Supervised learning experiences corresponding with classroom instruction in off-campus health care facilities. (CSU)

232 Medical/Surgical Nursing (5)
Five lecture and fifteen and one-half lab hours per week for eight to nine weeks. Prerequisite: NURS 231. Identification of more complex health needs and problems in the adult and special needs of the surgical patient. Supervised learning experiences corresponding with classroom instruction in off-campus health care facilities. (CSU)

241 Advanced Medical/Surgical Nursing (5) *Five lecture and sixteen and one-half lab hours per week for eight to nine weeks. Prerequisite: NURS 232.* Addressing the overt and covert needs of adult patients undergoing threats to homeostasis in a variety of complex situations. Supervised learning experiences corresponding with classroom instruction in off-campus health care facilities. (CSU)

242 Leadership/Management in Nursing (5) *Five lecture and sixteen lab hours per week for eight to nine weeks. Prerequisite: NURS 241.* Transition to the graduate role. Student initiate the nursing process with emphasis on the determination of priorities, on decision-making responsibilities, and on personal accountability. Supervised learning experiences corresponding with classroom instruction in off-campus health care facilities. (CSU)

250 Operating Room Nursing (8)
Eighty-four lecture and 368 lab hours over twelve weeks. Prerequisite: current California R.N. license or acceptance into the course by the Nursing Department; one year of recent medical/surgical nursing experience preferred. Theory and clinical experience in the basic knowledge and skills of perioperative nursing practice. (CSU)

641 Cooperative Education (1-4)
(See first page of Description of Courses section.) (CSU)

680 – 689 Selected Topics (1-3)
(See first page of Description of Courses section.) (CSU)

690 Special Projects (1-2)
(See first page of Description of Courses section.) (CSU)

811 Review: Introduction to Nursing (2) *(Credit/No credit.) Four lecture hours per week for eight to nine weeks. Prerequisite: NURS 242 or equivalent.* Review of principles, facts, concepts and skills basic to nursing care.

812 Review: Concepts of Homeostasis in Nursing (2) (Credit/No credit.) Four lecture hours per week for eight to nine weeks. Prerequisite: NURS 242 or equivalent. Review of principles, facts, concepts, and skills basic to nursing care. Human needs are identified and nursing process is used to promote homeostasis.

821 Review: Pediatric Nursing (2.5) *(Credit/No credit.) Five lecture hours per week for eight to nine weeks. Prerequisite: NURS 242 or equivalent.* Review of developmental levels and common health needs and problems from infancy to young adult.

822 Review: Maternity Nursing (2.5) *(Credit/No credit.) Five lecture hours per week for eight to nine weeks. Prerequisite: NURS 242 or equivalent.* Review of needs and problems of the family during the maternity cycle along with identifying needs and problems of male and female reproduction.

831 Review: Psychiatric Nursing (2.5) *(Credit/No credit.) Five lecture hours per week for eight to nine weeks. Prerequisite: NURS 242 or equivalent.* Review of effective and non-effective communication, equilibrium and disequilibrium in life styles, and functioning in the adolescent to adult patient.

832 Review: Medical/Surgical Nursing (2.5) *(Credit/No credit.) Five lecture hours per week for eight to nine weeks. Prerequisite: NURS 242 or equivalent.* Review of more complex health needs/ problems in the adult.

841 Review: Advanced Medical/Surgical Nursing (2.5) *(Credit/No credit.) Five lecture hours per week for eight to nine weeks. Prerequisite: NURS 242 or equivalent.* Review of overt and covert needs of adult patients undergoing threats to homeostasis in a variety of complex situations.

842 Review: Leadership/Management in Nursing (2.5) *(Credit/No credit) Five lecture hours per week for eight to nine weeks. Prerequisite: NURS 242 or equivalent.* Review of meeting overt and covert needs of adult patients undergoing threats to homeostasis in a variety of complex situations. The nursing process is used with emphasis on determination of priorities, decision making responsibilities, and personal accountability.

845 Review: Registered Nurse Exam (.5) *(Credit/No credit.) One-half hour lecture and one and one-half hours lab per week for eight weeks. Prerequisite: Concurrent enrollment in NURS 242 or equivalent OR eligibility to take the State Board exam.* This course is designed to assist senior level nursing students to prepare for Nursing State Board examination through the use of a computer program and audio and video tapes which provide content review and test taking skills.

880 – 889 Selected Topics (1-3)
(See first page of Description of Courses section.)

Nutrition

(See Consumer Arts and Science)

Oceanography

Unless otherwise indicated, a grade of C or higher is required for all prerequisite courses.

100 Oceanography (3)
Two lecture hours and one recitation hour per week plus two field trips. Introduction to marine geology, chemistry, and biology. Includes the hydrologic cycle and properties of sea water and marine organisms; currents, waves, tides, coastal processes, and ecology of the ocean; continental drift; and seafloor spreading. (CSU/UC)

101 Oceanography Laboratory/Field Study (1) *Three lab hours per week. Prerequisite: Concurrent enrollment in or completion of OCEN 100.* Introductory exercises in ocean currents, sedimentation, marine life forms, materials of the oceanic crust and sea floor, physical and chemical properties of sea water, and plate tectonics. Field trips included. (CSU/UC)

680 – 689 Selected Topics (1-3) (See first page of Description of Courses section.) (CSU)

690 Special Projects (1-2) (See first page of Description of Courses section.) (CSU)

880 – 889 Selected Topics (1-3) (See first page of Description of Courses section.)

Office Administration

(See Business)

Paleontology

110 General Paleontology (3) *Two lecture and two recitation hours per week plus two one-half day field trips.* Evolution of life with emphasis on fossil apes, humans, and dinosaurs. Fossils as evidence of the history of life. Animals and plants related to modern and ancient environments. Methods of interpreting the fossil record. The impact of drifting continents on the extinctions and origins of major groups of organisms. (CSU/UC)

680-689 Selected Topics (1-3) (See first page of Description of Courses section.) (CSU)

690 Special Projects (1-2) (See first page of Description of Courses section.) (CSU)

880-889 Selected Topics (1-3) (See first page of Description of Courses section.)

Philosophy

(Also see Humanities.)

100 Introduction to Philosophy (3) *Three lecture hours per week.* Introductory survey of philosophical questions about the nature of reality; the prospects for human knowledge; and moral, political, and religious issues. Intended to help students clarify their own thinking about such questions, through learning and discussing how philosophers have dealt with them. (CSU/UC) (CAN PHIL 2)

244 Contemporary Social and Moral Issues (3) *(Credit/No Credit or Letter Grade Option.) Three lecture hours per week.* Discussion and analysis of contemporary controversial issues in medical, business, and professional ethics, law enforcement, and politics. Issues include abortion, euthanasia, truth-telling in advertising, corporate responsibilities, capital punishment, victimless crimes, freedom of the press, the uses of war and terrorism as instruments of national policy, animal rights, and world hunger. (CSU/UC)

246 Ethics in America (3) *(Telecourse) (Credit/No Credit or Letter Grade Option.)* Examines contemporary ethical conflicts in journalism, government, medicine, law, business,and the criminal justice system. Provides a grounding in the language, concepts, and traditions of ethics. (CSU)

320 Asian Philosophy (3) *(Credit/No Credit or Letter Grade option.) Three lecture hours per week.* Survey of ideas and issues that traditionally concern philosophic minds. Emphasizes *doing* philosophy as a means of *understanding* it. Critical evaluation of such philosophical topics as values and ethics, logic, political ideologies, human existence, science and religion, cosmology, and knowledge. (CSU)

680 – 689 Selected Topics (1-3) (See first page of Description of Courses section.) (CSU)

690 Special Projects (1-2) (CSU) (See first page of Description of Courses section.)

880 – 889 Selected Topics (1-3) (See first page of Description of Courses section.)

Photography

(See Art)

Physical Education

The Physical Education Division offers a wide variety of physical activities that students can participate in according to individual interests and needs, activities that have carry-over value for the students' leisure time, now and in the future. Instruction is provided in progressive levels of competency, offering opportunities for specialization. (See Index: "Physical Education Requirement.")

Courses will normally be offered for the number of units specified in this catalog. However, units allowed for a given Physical Education class may be adjusted to conform with an increase or a decrease in the number of hours for which the class will be offered. Units are earned on the basis of .5 unit per class hour per semester. Courses involving Varsity Athletics may not count for activity credit unless the number of units is at least one per semester. To increase competency, all Physical Education activity classes may be repeated a maximum of three times.

680 – 689 Selected Topics (1-3) (See first page of Description of Courses section.) (CSU)

880 – 889 Selected Topics (1-3) (See first page of Description of Courses section.)

Adapted (ADAP)

100 Adapted Aquatics (.5-1.5) *(Credit/No credit.) Two to three lab hours per week. (Open entry/open exit.) Prerequisite: physician's verification of physical limitation.* Designed for most physically limiting conditions. Students practice techniques to increase range of motion and strengthen weakened extremities through water-oriented exercises and swim instruction. (CSU/UC*)

110 Adapted General Conditioning (.5-1.5) *(Credit/No credit.) (Open entry/open exit.) Two to three lab hours per week. Prerequisite: physician's verification of physical limitation.* Prescription and implementation of adapted exercises for a number of limiting conditions, rang-

ing from stroke injuries to orthopedic problems. (CSU/UC*)

140 Adapted Circuit Weight Training (.5-1.5) *(Credit/No credit.) (Open entry/open exit.) Two to three lab hours per week. Prerequisite: physician's verification of physical limitation.* Instruction in the use of fitness equipment; individualized training to develop muscular endurance using specific exercises in circuit training. (CSU/UC*)

Aquatics (AQUA)

105 Intermediate/Advanced Swimming (1) *Two lab hours per week. Prerequisites: ability to demonstrate the basic components of the front crawl, back crawl, and breaststroke.* Individualized instruction in the stroke mechanics of front and back crawl, elementary backstroke, sidestroke, breaststroke, and butterfly. Includes techniques of the grab and flip turns. (After course has been repeated for the maximum number of times allowed, students may petition to audit. See Index: "Audit Policy.") (CSU/UC*)

109 Intermediate Swimming and Beginning Water Polo (1.5) *Three lab hours per week. Prerequisite: ability to swim comfortably in deep water. Instruction in the basic swimming strokes, water polo fundamentals, and actual competition.* Progressive skill development in picking up the ball in water, passing, receiving, shooting, dribbling, and playing water polo. Introduction to water polo rules. (CSU/UC*)

120 Aquatic Fitness (1-1.5) *Two to three lab hours per week. Prerequisite: demonstration of ability to swim the front crawl for 100 yards continuously.* Aerobic activity involving monitored heart rate. Individualized instruction in front-crawl stroke mechanics and turning techniques. (CSU/UC*)

127 Swim for Conditioning (.5-1.5) *Two or three lab hours per week. Prerequisite: ability to swim.* Endurance swimming for all swimmers at all levels of fitness. Interval training using all strokes. (CSU/UC*)

Combatives (COMB)

101 Beginning Self-Defense (1) *Two lab hours per week.* Philosophy and methods of self-defense. Basic kicks, blocks, punches, and escape techniques. Home, car, and outside security precautions. Rape prevention. (CSU/UC*)

103 Intermediate Self-Defense (1) *Two lab hours per week. Prerequisite: COMB 101.* Review of skills learned in Beginning Self-Defense. Advanced skills, including controlled sparring,that lead to the next rank in self-defense. Home, car, and outside security precautions. Rape prevention. (CSU/UC*)

104 Intermediate/Advanced Self-Defense (1-2) *(Open entry/open exit.) Four lab hours per week. Prerequisite: COMB 101 or demonstration of ability.* Advanced skills in self-defense for students working for red or black belt rank. Individual work in sparring, throws, and attack techniques. (After course has been repeated for the maximum number of times allowed, students may petition to audit. See Index: "Audit Policy.") (CSU/UC*)

Dance (DANC)

Descriptions of the following courses are listed under DANCE.

121 Contemporary Modern Dance (1)

130 Jazz Dance I (1)

132 Jazz Dance II (1)

141 Beginning Ballet I (1)

143 Intermediate Ballet II (1)

148 Beginning Ballet & Modern Dance (1)

380 Theatre Dance and Movement (2)

411 Dance Production I (1)

412 Dance Production II (2)

Fitness (FITN)

100 Adult Fitness (1) *Two lab hours per week.* Designed to reacquaint the adult with exercise and to increase cardiovascular and physical fitness. Exercise for flexibility, strength, and agility; running for conditioning of the muscular, vascular, and respiratory systems. Emphasizes working at own pace. (After course has been repeated for the maximum number of times allowed, students may petition to audit. See Index: "Audit Policy.") (CSU/UC*)

110 Adult Conditioning Activities (1) *Two lab hours per week.* A series of coordinated exercises designed for cardiovascular, muscular, and physical fitness. Exercises for flexibility, strength, and agility; jogging; volleyball and badminton for relaxation. Designed to allow students to progress at their own pace. (After course has been repeated for the maximum number of times allowed, students may petition to audit. See Index: "Audit Policy.") (CSU/UC*)

116 Body Conditioning (1-1.5) *Two to three lab hours per week.* Individual flexibility, agility, strength, aerobic fitness, and relaxation. (CSU/UC*)

127 Aerobic Dance (.5-2) *(Open entry/open exit.) One to four hours per week. Prerequisite: recent physical examination recommended.* Dance and exercise to music to increase cardiovascular efficiency, flexibility, and coordination; strengthen heart muscle; lower resting hear rate; and tone the body. (CSU/UC*)

201 Beginning Weight Conditioning (1-1.5) *Two to three lab hours per week. Prerequisite: recent physical examination recommended.* Designed to increase strength and flexibility and to improve coordination and endurance through instruction in various lifts and exercises and associated safety procedures using free weights and/or weight machines. (CSU/UC*)

203 Intermediate Weight Conditioning (1-1.5) *Two to three lab hours per week. Prerequisite: FITN 201 or equivalent.* Progressive skills and weight development in various weight-conditioning exercises using free weights and/or weight machines; opportunities to specialize in different areas of the body; development of individual programs. (CSU/UC*)

212 Circuit Weight Conditioning (.5-1.5) *One to three lab hours per week.* Use of UNIVERSAL weight-training equipment in a multi-station exercise circuit. Designed to develop strength and improve muscle tone and flexibility. Stretching calisthenics precede lifting activities. (After course has been repeated for the maximum number of times allowed, students may petition to audit. See Index: "Audit Policy.") (CSU/UC*)

215 Weight Conditioning for Varsity Track (1-2) *(Open entry/open exit.) Two to four lab hours per week. Prerequisite: participation in intercollegiate Track and*

Field. Weight-conditioning course designed for the individual development of the eighteen different events in Track and Field. (CSU/UC*)

220 Weight Conditioning for Varsity Football (1-3) *Two to six lab hours per week. Prerequisite: Varsity Football candidacy.* Designed to teach students to use overload weight training to build bulk and strength. Students work on major muscle groups, emphasizing leg and upper-body development. (CSU/UC*)

Individual Sports (INDV)

120 Badminton (1-1.5)
Two to three lab hours per week. Skill techniques, proper footwork, rules of play, strategies, and doubles and singles play for various skill levels of ability. Tournaments in singles and doubles. (After course has been repeated for the maximum number of times allowed, students may petition to audit. See Index: "Audit Policy.") (CSU/UC*)

121 Beginning Badminton (1-1.5)
Two to three lab hours per week. Rules and strategies of badminton; fundamentals of grip, strokes, and footwork; drills and competition. Tournaments in singles and doubles. (CSU/UC*)

123 Intermediate Badminton (1-1.5)
Two to three lab hours per week. Prerequisite: beginning badminton course in high school or college with a grade of C or higher. Emphasizes strategy, tactics, footwork, doubles teamwork, and the singles game. Tournaments in singles and doubles. (CSU/UC*)

150 Beginning/Intermediate/Advanced Fencing (1-1.5) *Two to three lab hours per week.* Prerequisite: recent physical examination recommended. Techniques of and practice in form, attacks, parries, counterattacks, bouting, and timing; strategy; history; safety; etiquette; rules; terminology; judging, directing; scorekeeping; and tournaments. (CSU/UC*)

161 Beginning Golf (1-1.5)
Two to three lab hours per week. Techniques, rules, etiquette, and philosophy for the beginning golfer; stance, grip, and swing as associated with iron and wood shots. (After course has been repeated for the maximum number of times allowed, students may petition to audit. See Index: "Audit Policy.") (CSU/UC*)

251 Beginning Tennis (1-1.5)
Two to three lab hours per week. Rules and strategies of tennis, including the fundamentals of grip, strokes, footwork, and court coverage through drills and competition. Testing on rules and the various techniques taught. Class play in singles and doubles. (CSU/UC*)

252 Beginning/Intermediate Tennis (.5-1.5) *Two to three lab hours per week.* Emphasizes service, forehand, and backhand strokes. Includes rules of play, net play, and doubles and singles strategy. (CSU/UC*)

253 Intermediate Tennis (1-1.5)
Two to three lab hours per week. Prerequisite: beginning tennis or demonstration of ability in forehand, backhand, and service. Emphasizes net play and doubles and singles strategy. Includes volley, lob, and smash. Singles and doubles tournaments. Testing in skills, techniques, and rules. (CSU/UC*)

254 Intermediate/Advanced Tennis (.5-1.5) *Two to three lab hours per week. Prerequisite: Beginning Tennis or comparable skill ability.* Techniques and skills of basic tennis strokes used in playing doubles and singles. Philosophy and strategy of playing doubles and singles. (After course has been repeated for the maximum number of times allowed, students may petition to audit. See Index: "Audit Policy.") (CSU/UC*)

255 Advanced Tennis (1-1.5)
Two or three lab hours per week. Prerequisites: Beginning and Intermediate Tennis or equivalent. Advanced aspects of tennis play. Instruction in advanced strategy, philosophy, and techniques; tournament play in singles and doubles. (CSU/UC*)

Team Sports (TEAM)

105 Advanced Baseball (.5-5)
(Open entry/open exit.) Four to fourteen lab hours per week. Prerequisite: high school baseball or equivalent. Training class for students seeking to participate in Varsity Baseball. Practice in fundamental as well as advanced skills and techniques in baseball. Written and practical testing. (CSU/UC*)

115 Advanced Basketball (.5-1.5)
One to three lab hours per week. Prerequisite: high school team play or demonstration of competency. Basketball play for students with superior skills and knowledge of basketball. Permanent teams participate in round-robin league concluded by tournament play. Advanced drills to work on and improve skills. Advanced techniques in strategy, team play, and defenses. (CSU/UC*)

118 Advanced Basketball: Women (1-3) *(Open entry/open exit.) Six to nine lab hours per week. Prerequisite: demonstration of competency; competition at high school level recommended.* Required class for women wishing to compete on Women's Varsity Basketball Team. Advanced skills of basketball play; development of team play. (CSU/UC*)

135 Advanced Football and Conditioning (.5-3) *Three to seven and one-half lab hours per week. Prerequisite: varsity football experience in high school or college or demonstration of competency.* Review of basic skills and introduction to advanced techniques and strategies in offensive and defensive football. Stresses conditioning necessary to play the game and to achieve life-long health goals. Includes weight training. (CSU/UC*)

151 Beginning Softball (1-1.5)
Two to three lab hours per week. Basic skills, strategy, and practice in softball. Includes batting, catching, throwing, rules of play, and team strategy through round-robin competition. (CSU/UC*)

158 Advanced Softball: Women (1-3) (Open entry/open exit.) *Four to six lab hours per week. Prerequisite: demonstration of competency; competition at the high school level recommended.* Required training class for women interested in participating on the Women's Varsity Softball team. Emphasizes advanced skills of softball, including team play, offense, and defense. (CSU/UC*)

165 Advanced Track and Field: Men and Women (1-3) *Two to six hours per week. Prerequisite: participation in high school or college Track or Cross Country program or demonstration of competency.* Designed to increase conditioning through weight training, with emphasis on individual needs in specific track events. Includes running and instruction in all aspects of track and field. Designed for athletes planning to participate in Varsity Track and Field in the spring semester. (CSU/UC*)

171 Beginning Volleyball (.5-1.5)
One to three lab hours per week. Fundamentals of serving, passing, setting, spiking, and team play. Emphasizes knowledge of rules. Round-robin team play, including class-ending tournaments. (CSU/UC*)

173 Intermediate Volleyball (.5-1.5)
One to three lab hours per week. Prerequisite: TEAM 171 or demonstration of competency. Continuation of Team 171. Emphasizes fundamentals, team set-ups, play, and knowledge of the rules. Round-robin team play with concluding tournament. (CSU/UC*)

175 Advanced Volleyball (.5-1.5)
One to three lab hours per week. Prerequisite: TEAM 173, high school team participation, or demonstration of competency. Volleyball play for advanced students of superior ability. Continuation of fundamental skills. Emphasizes team play, advanced strategy, court coverage, and rules. Round-robin and tournament play. (CSU/UC*)

179 Tournament Volleyball (1-1.5)
Two to three lab hours per week. Prerequisite: TEAM 171 or equivalent. For advanced beginners and intermediate students in volleyball. Includes participation in organized league tournaments preceded by a brief period of stretching calisthenics and appropriate warm-up activities. (CSU/UC*)

Intercollegiate Sports (VARS)

These courses are designed for those students who wish to compete in intercollegiate athletics and may be limited to those who demonstrate the necessary physical and mental fitness. Students must pass a physical exam. Sufficient skill to reduce the likelihood of injury is also required.

Most varsity sports entail practice from 2-5 p.m. daily.

100 Varsity Baseball (.5-2)
(Open entry/open exit.) Fifteen lab hours per week by arrangement. Prerequisite: demonstration of competency. Intercollegiate varsity baseball competition in the Golden Gate Conference tournament and with other community colleges in the area. (CSU/UC*)

120 Varsity Cross Country: Men (.5-2)
(Open entry/open exit.) Fifteen lab hours per week by arrangement. Prerequisite: high school cross country or track or equivalent. Running against local and state-wide competition. Competitive distance: four miles. (CSU/UC*)

130 Varsity Football (.5-2)
(Open entry/open exit.) Fifteen lab hours per week by arrangement. Prerequisite: demonstration of competency; competition at high school level recommended. Intercollegiate varsity football competition in the Golden Gate Conference. Student athletes must be ready to start practice in August before the fall semester begins. Students enrolled in twelve or more units at either Skyline or Cañada College can also participate. Participation in pre-fall practice is a prerequisite for playing in the first and second games of the season. (CSU/UC*)

185 Varsity Track and Field: Men and Women (.5-2) *(Open entry/open exit.) Fifteen lab hours per week by arrangement. Prerequisite: Participation in high school or college track or demonstration of competency.* Varsity Track and Field competition for men and women in the Golden Gate Conference. (CSU/UC*)

300 Varsity Basketball: Women (.5-2)
(Open entry/open exit.) Fifteen lab hours per week minimum. Prerequisite: demonstration of competeny; competition at the high school level recommended. Intercollegiate competition in the Golden Gate Conference and California Championships. (CSU/UC*)

310 Varsity Cross Country: Women (.5-2) *(Open entry/open exit.) Fifteen lab hours per week by arrangement. Prerequisite: high school cross-country team experience or demonstrated running background.* Cross-country and distance running competition on an intercollegiate level in the Golden Gate Conference; participation in conference meets, invitational meets, and State Championship meets for those who qualify. Racing distance is three miles. (CSU/UC*)

320 Varsity Softball: Women (.5-2)
(Open entry/open exit.) Fifteen lab hours per week minimum. Prerequisite: TEAM 158 and demonstration of competency; competition at the high school level recommended. Intercollegiate women's varsity softball competition in the Golden Gate Conference and State championships. (CSU/UC*)

330 Varsity Tennis: Women (.5-2)
(Open entry/open exit.) Fifteen lab hours per week minimum. Prerequisite: high school team competition or demonstration of competency. Intercollegiate competition in the Golden Gate Conference, Northern California championships, and California State championships. (CSU/UC*)

Students interested in participating in the following varsity sports not offered at CSM may attend CSM and participate at Cañada or Skyline. The student must be enrolled in a minimum of 12 units to establish eligibility.

Cañada	*Skyline*
Basketball: Men	Basketball: Men
Golf: Men	Soccer: Men
Soccer: Men	Volleyball: Women
Soccer: Women	Wrestling
Tennis: Men	

Theory (P.E.)

115 Theory of Adapted Physical Education (4.5) *Three lecture and three lab hours per week.* Therapeutic practices and principles in the physical conditioning of students disabled by physical or psychological disorders. Includes practical experience in working with the disabled. (CSU)

641 Cooperative Education (1-4)
(See first page of Description of Courses section.) (CSU)

680 – 689 Selected Topics (1-3)
(See first page of Description of Courses section.) (CSU)

690 Special Projects (1-2)
(See first page of Description of Courses section.) (CSU)

810 Adapted P.E. Assistant Lab (1.5-4.5) *(Open entry/open exit.) Three to nine lab hours per week.* Designed to provide hands-on experience for pre-therapy students. Includes practical experience working with disabled students in the Adapted Physical Education Program.

880 – 889 Selected Topics (1-3)
(See first page of Description of Courses section.)

Physical Science

(Also see Humanities 127 and 128)

100 Introduction to the Physical Sciences (3) *Three lecture hours per week. Open to all students except those who are currently enrolled in or have completed a college course in physics, astronomy, or chemistry.* Survey of topics in physics, astronomy and chemistry. Emphasizes interdisciplinary aspects of science. (Intended for non-science majors.) (CSU/UC*)

675 Honors Colloquium in Physcial Science (1) *One lecture hour per week. Prerequisite: limited to students in the Honors Program who have completed or are concurrently enrolled in an associated non-honors course in physical science.* Readings, discussion, and lectures covering selected advanced topics in physical science to be determined by the Physical Science Department and the Honors Program. (CSU/UC*)

680 – 689 Selected Topics (1-3)
(See first page of Description of Courses section.) (CSU)

690 Special Projects (1-2)
(See first page of Description of Courses section.) (CSU)

880 – 889 Selected Topics (1-3)
(See first page of Description of Courses section.)

Physics

Unless otherwise indicated, a grade of C or higher is required for all prerequisite courses.

100 Descriptive Introduction to Physics (3) *Three lecture hours per week. Prerequisite: equivalent of at least one semester of high school-level algebra recommended.* Open to all students except those who have completed or are taking PHYS 210 or 250. Description with experimental demonstrations of the more important phenomena of physics. (CSU/UC*)

The Physics 210-220 sequence is designed for students majoring in some field of letters and science. It is required for students planning to enter Medicine, Dentistry, Pharmacy, Optometry, Agriculture, or Forestry.

210 General Physics I (4)
Three lecture and three lab hours per week. Prerequisite: MATH 130. Mechanics, heat, and sound. (CSU/UC*) (CAN PHYS 2)

220 General Physics II (4)
Three lecture and three lab hours per week. Prerequisite: PHYS 210. Magnetism, electricity, light, and modern physics. (CSU/UC*) (CAN PHYS 4)

Physics 250-260-270 constitute a three-semester program designed to give students majoring in Engineering, Physics or Chemistry a thorough foundation in the fundamentals of physics.

250 Physics with Calculus I (4)
Three lecture and three lab hours per week. Prerequisites: concurrent enrollment in MATH 252 or 261 OR concurrent enrollment in Math 242. Mechanics, wave motion, and special relativity. Extra supplies required. (CSU/UC*) (CAN PHYS 8)

260 Physics with Calculus II (4)
Three lecture and three lab hours per week. Prerequisites: PHYS 250; concurrent enrollment in MATH 253 or 262 OR completion of MATH 242. Electricity and magnetism. Extra supplies required. (CSU/UC*) (CAN PHYS 12)

270 Physics with Calculus III (4)
Three lecture and three lab hours per week. Prerequisites: PHYS 250; concurrent enrollment in MATH 253 or 262 OR completion of MATH 242. Heat, light, and modern physics. Extra supplies required. (CSU/UC*) (CAN PHYS 10)

680 – 689 Selected Topics (1-3)
(See first page of Description of Courses section.) (CSU)

690 Special Projects (1-2)
(See first page of Description of Courses section.) (CSU)

880 – 889 Selected Topics (1-3)
(See first page of Description of Courses section.)

Political Science

100 Introduction to Political Science (3) *Three lecture hours per week.* Introduction to the nature of politics and to political science as a field of study. Examines the nature of the state, forms of government and political institutions, political theory and ideology, public law and administration, and international relations. (CSU/UC)

110 Contemporary Foreign Governments (3) *(Credit/No Credit or Letter Grade Option.) Three lecture hours per week. Prerequisite: previous course in political science recommended.* Introduction to representative foreign political systems. Comparative analysis of how varied governments reconcile stability and change, power and responsibility, freedom and efficiency. Stresses interrelationships of social patterns, ideology, and political institutions. (CSU/UC)

130 International Relations (3) *Three lecture hours per week.* Introduction to the nature of relations among states, focusing on the analysis of the basic forces affecting the formulation of foreign policy and the dynamics of international politics. Covers the nation-state system, sources of national power, instruments of national policy, and the attempt to resolve international conflict by peaceful methods. (CSU/UC)

150 Introduction to Political Theory (3) *Three lecture hours per week.* Study of classical and modern political thought designed to develop understanding of various theoretical approaches to politics, basic political problems, and proposed solutions to these problems. (CSU/UC)

170 Introduction to Public Administration (3) *Three lecture hours per week.* Structures of Federal government organizations, the decision-making process, and focus of power within our bureaucratic system of government. Relationships among government branches, history and growth of administration in U.S., organizational theory, administrative and management theories (including leadership, personnel, and budgetary concepts) and planning and evaluation of public policies for both current and future issues. (CSU/UC)

200 National, State and Local Governments (5) *Five lecture hours per week. Not open to students who have had PLSC*

210 or 310 or a comparable course in American or state institutions. Established primarily for students whose major is political science, prelaw, criminology, or allied behavioral and social sciences. Introduction to the principles and problems of American government at the national, state, and local levels. Examines intergovernmental relationships from a functional point of view. Emphasizes American federalism, judicial review, the political process in the nation and state, civil liberties, foreign policy, and the role of the citizen at all levels of government. (Satisfies the American Institutions and California State and Local Government requirements.) (CSU/UC*) (CAN GOVT 2)

205 American Society (5)
Five lecture hours per week. Offered primarily for foreign students or recent immigrants. American society and culture, including social, political, and economic institutions as well as history. Emphasizes aspects of American life and historical development that are unique— ethnic history, patterns of voluntary association in political and non-political institutions, educational trends, and cultural characteristics. (Satisfies the American Institutions and California State and Local Government requirements.) (CSU)

210 American Politics (3)
Three lecture hours per week. Study of the Constitution and the organization and functions of the branches of the Federal government; an examination of the dynamics of the American political process. (Satisfies the American Institutions requirement.) (CSU/UC*)

215 Contemporary Issues in American Politics (3) *(Credit/No Credit or Letter Grade Option.) Three lecture hours per week.* Explores, within the institutional framework, current issues of important to well-informed citizens in a democracy, including goals and tactics of American foreign policy, nuclear weapons, civil rights, the economy, executive power and its abuses, politics and the media. (Satisfies the American Institutions requirement.) (CSU/UC)

220 The American Presidency (3)
Three lecture hours per week. Comparative critical analysis of the executive branch of American government from Franklin Roosevelt's administration to the present. Scrutinizes variations in policy-making, political activity, administrative leadership, and Executive-Legislative branch relationships. (Satisfies the American Institutions requirement.) (CSU/UC)

250 Civil Liberties and Civil Rights (3) *(Credit/No Credit or Letter Grade Option.) Three lecture hours per week.* Survey and analysis of the issues and problems considered by the U.S. Supreme Court in the area of civil liberties and civil rights. The rights of political, racial, religious, and sexual minorities and of criminal defendants; the concepts of due process and equal protection of the law; the interaction of the Supreme Court with the President, Congress, political parties, and special interest groups. (Satisfies the American Institutions requirement.) (CSU/UC)

255 Women, Politics and Power (3)
Three lecture hours per week. The changing roles of women in the political process. Emphasizes the methodology, rationale, and effect of women's participation on several levels of political activity. (Satisfies the American Institutions requirement.) (CSU/UC)

260 Contemporary Ethnic Politics (3)
Three lecture hours per week. Survey of the political perspectives, goals, and strategies of African-American, Asian, Hispanic and Native American minorities within the context of American politics. Analysis of traditional and alternative approaches to political ascendancy, with particular emphasis on the 1960's through the 1980's. (Satisfies the American Institutions requirement.) (CSU/UC)

310 California State and Local Government (2) *(Credit/No Credit or Letter Grade Option.) Two lecture hours per week.* The institutions and problems of state and local government in California. (Satisfies the California State and Local Government requirement.) (CSU/UC)

520 The Governments and Politics of Africa (3) *Three lecture hours per week.* Study of the emergent African states, examining the political factors impinging on their decision-making processes and their geopolitical consequences. Comparative analysis of non-Western institutional structures; differences in ideological orientation; and economic interdependence in the context of contemporary world politics. (CSU/UC)

680 – 689 Selected Topics (1-3)
(See first page of Description of Courses section.) (CSU)

690 Special Projects (1-2)
(See first page of Description of Courses section.) (CSU)

880 – 889 Selected Topics (1-3)
(See first page of Description of Courses section.)

Psychology

(Also see Sociology)

100 General Psychology (3)
Three lecture hours per week. Survey of major topics, theories, and research methods of contemporary psychology. Covers personality, social behavior, memory, motivation, emotion, perception, learning, and biological basis of behavior. (CSU/UC) (CAN PSY 2)

105 Experimental Psychology (3)
(Credit/No Credit or Letter Grade Option.) Three lecture hours per week. Prerequisite: PSYC 100 with a grade of C or higher; PSYC 121 recommended. Philosophy and aims of scientific inquiry and its application to questions in psychology. Students conduct experiments using the methods discussed. (CSU/UC)

108 Psychology in Practice (3)
(Credit/No Credit or Letter Grade Option.) Three lecture hours per week. Application of psychological principles to problems of everyday living, in contrast to the technical-scientific approach of Psychology 100. Intended for students who want a general picture of human psychology. (May not be taken for credit following PSYC 100.) (CSU)

110 Courtship, Marriage, and the Family (3) *(Credit/No Credit or Letter Grade Option.) Three lecture hours per week.* History and development of marriage as a social institution, including dating; courtship; love; mate selection; personality adjustment in marriage; children; parenthood; the family; anatomical, physiological, psychological, and sociological aspects of sex; religious factors; and divorce. (May not be taken for credit following SOCI 110.) (CSU/UC)

121 Basic Statistical Concepts (3)
Three lecture hours per week. Prerequisite: MATH 120 or four semesters of high

school level algebra with a C average; PSYC 100 or SOCI 100 or ANTH 110. Introduction to the basic descriptive techniques and statistical inferences used in the behavioral sciences. (CSU/UC*)

201 Child Development (3)
Three lecture hours per week. Prerequisite: PSYC 100. Study of the physical, perceptual, cognitive, linguistic, social, and emotional development of children. Emphasizes current research and theory. (CSU/UC)

300 Social Psychology (3)
Three lecture hours per week. Study of human interaction, with emphasis on social patterning and process of perception, identity, roles, and attitudes. (May not be taken for credit following SOCI 300.) (CSU/UC)

330 Sports Psychology (3)
Three lecture hours per week. Analysis of psychological and sociological elements of participation in sports. Examination of mental factors that help produce optimum performance. The personal and collective meaning of sports in our society. (CSU)

410 Abnormal Psychology (3)
(Credit/No Credit or Letter Grade Option.) Three lecture hours per week. Study of abnormal behavior and personality. Covers neuroses, psychoses, and other psychological problems, along with their etiology, dynamics, principal symptoms, and treatments. Explores the relationship between theory of personality and psychotherapy. (CSU/UC)

675 Honors Colloquium in Psychology (1) *One lecture hour per week. Prerequisite: limited to students in the Honors Program who have completed or are concurrently enrolled in an associated non-honors course in Psychology.* Readings, discussion, and lectures covering selected advanced topics in Psychology to be determined by the Psychology Department and the Honors Program. (CSU/UC*)

680 – 689 Selected Topics (1-3)
(See first page of Description of Courses section.) (CSU)

690 Special Projects (1-2) (CSU)
(See first page of Description of Courses section.)

880 – 889 Selected Topics (1-3)
(See first page of Description of Courses section.)

Reading

420 Speed and Effective Reading (.5-3) *(Credit/No Credit or Letter Grade Option.) (Open entry/open exit.) Three lecture hours plus one lab hour by arrangement per week. Prerequisite: 11th grade comprehension or higher on the Nelson-Denny Reading Test or 3 units of READ 802 with a grade of C or higher.* For advanced students who want to increase reading speed, study more efficiently, and improve comprehension and critical reading skills. Recommended for transfer students. (To increase competency, may be repeated for a maximum of 6 units of credit.) (CSU)

680 – 689 Selected Topics (1-3)
(See first page of Description of Courses section.) (CSU)

The following reading courses are credit-bearing but not degree-applicable, which means that the units count for the purpose of financial aid and Veterans' benefits but not toward the AA/AS degree: 800, 801, 802, 807, 808, 809, 812, 841, 842, and 843.

800 Developmental Reading (3) *(Credit/No Credit or Letter Grade Option.) Three lecture hours plus one lab hour by arrangement per week. Prerequisite: 5.0-6.9 grade level comprehension on the Nelson-Denny Reading Test or 3 units of READ 843 with a grade of C or higher.* A course designed to improve reading comprehension by focusing on techniques such as Main Idea, Supporting Details, Vocabulary, Study Skills, and Reading Rate. Guided practice, small group and individualized instruction will be emphasized. (To increase competency, may be repeated for a maximum of 6 units of credit.) (Units do not apply toward AA/AS degree.)

801 Reading Improvement (3) *(Credit/No Credit or Letter Grade Option.) Three lecture hours plus one lab hour by arrangement per week. Prerequisite: 7.0-8.9 grade level comprehension on the Nelson-Denny Reading Test or three units of READ 800 with a grade of C or higher or 843 with a grade of B or higher.* Improvement of reading comprehension and study techniques, using expository, narrative, and journalistic text styles as they relate to college courses. (To increase competency, may be repeated for a maximum of 6 units of credit.) (Units do not apply toward AA/AS degree.)

802 Academic Reading Strategies (3) *(Credit/No Credit or Letter Grade Option.) Three lecture hours plus one lab hour by arrangement per week. Prerequisite: 9.0 grade level or higher comprehension on the Nelson-Denny Reading Test or three units of READ 801 with a grade of C or higher.* Preparation for academic courses such as social sciences, humanities, natural sciences, and English at the college level by using a variety of readings. Emphasizes efficient reading comprehension and applied study strategies. (To increase competency, may be repeated for a maximum of 6 units of credit.) (Units do not apply toward AA/AS degree.)

807 Basic Phonic Skills for Non-Native Speakers (3) *(Credit/No Credit or Letter Grade Option.) Three lecture hours plus one lab hour by arrangement per week. Prerequisite: 28-58 on the EXESL Reading Placement Test and concurrent enrollment in ENGL 841 or higher courses, READ 841 or higher course, and SPCH 841 or higher course.* Introduction to the study of basic speech sounds and practice in techniques for pronouncing unknown words. Group and individual review of dictionary symbols, diacritical marks, syllabication, and fundamental phonic generalizations. (To increase competency, may be repeated for a maximum of 6 units of credit.) (Units do not apply toward AA/AS degree.)

808 Basic Phonic Skills (3) *(Credit/No Credit or Letter Grade Option.) Three lecture hours plus one lab hour by arrangement per week.* Introduction to basic speech sounds and practice in techniques for pronouncing unknown words. Group and individual review of dictionary symbols, diacritical marks, syllabication, and fundamental phonic generalizations. (To increase competency, may be repeated for a maximum of 6 units of credit.) (Units do not apply toward AA/AS degree.)

809 Spelling/Word Attack Strategies (.5-3) *(Credit/No credit.) (Open entry/open exit.) One and one-half to nine lab hours by arrangement per week. Prerequisite: 5.0 vocabulary grade level or higher on the Nelson-Denny Reading Test or 92-100 on the EXESL Reading Placement Test or three units of READ 807 or 808*

with a grade of C or higher. Individual spelling and/or word attack skill assistance. Self-paced programs based on individual assessment results. Emphasizes computer-assisted and audio-visual instruction. Students may enroll any time through the tenth week of the semester. (To increase competency, may be repeated for a maximum of 6 units of credit.) (Units do not apply toward AA/AS degree.)

812 Individualized Reading Improvement (.5-3) *(Credit/No credit.) (Open entry/open exit.) One and one-half to nine lab hours by arrangement per week.* Improvement of reading skills. Practice in methods of increasing speed, comprehension, and vocabulary. Emphasizes computer-assisted and audio-visual instruction. Uses self-paced programs based on individual diagnostic test results to meet specific student needs. Open to all students. Students may enroll any time through the tenth week of the semester. (To increase competency, may be repeated for a maximum of 6 units of credit.) (Units do not apply toward AA/AS degree.)

841 Reading for Non-Native Speakers I (3) *(Credit/No Credit or Letter Grade Option.) Three lecture hours plus one lab hour by arrangement per week. Prerequisite: 28-58 on the EXESL Reading Placement Test; concurrent enrollment in ENGL 841 or higher course, SPCH 841 or higher course, and READ 807 recommended.* Designed to build basic vocabulary skills, improve the understanding of written instructions, and introduce main ideas and details. (To increase competency, may be repeated for a maximum of 6 units of credit.) (Units do not apply toward AA/AS degree.)

842 Reading for Non-Native Speakers II (3) *(Credit/No Credit or Letter Grade Option.) Three lecture hours plus one lab hour by arrangement per week. Prerequisite: 60-88 on the EXESL Reading Placement Test or three units of READ 841 with a grade of C or higher; concurrent enrollment in ENGL 841 or higher course, SPCH 841 or higher course, and READ 807 recommended.* Designed to improve vocabulary, build general background knowledge, and strengthen literal and inferential reading skills. (To increase competency, may be repeated for a maximum of 6 units of credit.) (Units do not apply toward AA/AS degree.)

843 Reading for Non-Native Speakers III (3) *(Credit/No Credit or Letter Grade Option.) Three lecture hours plus one lab hour by arrangement per week. Prerequisite: 90-100 on the EXESL Reading Placement Test or 5.3-6.9 on the Nelson- Denny Reading Test or three units of READ 842 with a grade of C or higher; concurrent enrollment in ENGL 841 or higher course and SPCH 841 or higher course recommended.* Designed to emphasize higher-level vocabulary, focus on critical reading, increase basic reading speed, and introduce fiction. (To increase competency, may be repeated for a maximum of 6 units of credit.) (Units do not apply toward AA/AS degree.)

880 – 889 Selected Topics (1-3) (See first page of Description of Courses section.)

Real Estate

For licensed real estate agents, R.E. 100 and 105 may be waived as prerequisites for all real estate courses. A photocopy of license must be filed with the Office of Admissions and Records.

100 Real Estate Principles (3) *Three lecture hours per week.* Property, contracts, agency, financing, recordation, liens and encumbrances, taxes, escrows, land description, and real estate math. (Meets State requirements for the salesperson's and the broker's licenses.) (CSU)

105 Real Estate Valuation (3) *Three lecture hours per week. Prerequisite: completion of or concurrent enrollment in R.E. 100 recommended.* Development of California real estate principles; measuring changing value of money. Estimating: costs, depreciation, taxes, maintenance, and return on investment. Accounting: rules pertaining to capital gains and losses, accelerated methods of calculating depreciation charges. (Meets the State requirements for the salesperson's and the broker's licenses; certified by the National Association of Real Estate Appraisers.) (CSU)

110 Real Estate Practice (3) *Three lecture hours per week. Prerequisites: R.E. 100 and 105 or equivalent.* Comprehensive presentation of real estate brokerage skills in California, emphasizing the daily activities of agents and brokers. (Meets the State requirements for the salesperson's and broker's licenses.) (CSU)

121 Legal Aspects of Real Estate I (3) *Three lecture hours per week. Prerequisites: completion of or concurrent enrollment in R.E. 110 or equivalent.* Legal aspects of real estate brokerage, real estate sales, property management, real estate ownership, building of an estate, and related topics, along with a study of the facts and principles of California Real Estate Law. (Meets the State requirements for the salesperson's and the broker's licenses.) (CSU)

122 Legal Aspects of Real Estate II (3) *Three lecture hours per week. Prerequisite: R.E. 121 or equivalent.* Contracts, security transactions, and current developments in law. Course materials include selections of California appellate court decisions. For the serious student who will devote the required time of approximately six hours of study each week. (Meets the State requirements for the broker's license.)

131 Real Estate Finance I (3) *Three lecture hours per week. Prerequisites: R.E. 100 and 105 or salesperson's or broker's license; completion of or concurrent enrollment in R.E. 110.* Practices, customs, and laws relating to mortgage lending and the financing of real estate, with emphasis on financing private houses. (Meets the State requirements for the salesperson's and the broker's licenses.) (CSU)

132 Real Estate Finance II (3) *Three lecture hours per week. Prerequisite: R.E. 131 or equivalent.* Financing of commercial, industrial, and special-purpose properties. Financing mathematics, financial analysis, construction financing, and feasibility studies, creative financing, and government participation through social action programs. (Meets the State requirements for the broker's license.)

141 Real Estate Appraisal: Basic (3) *Three lecture hours per week. Prerequisites: R.E. 100 and 105 or equivalent.* Basic real estate appraisal, including the analysis of residential and commercial properties. Techniques for determination of loan, market, and insurance values. (Meets the State requirements for the salesperson's and broker's licenses.) (CSU)

143 Real Estate Appraisal: Urban (3) *Three lecture hours per week.* Prerequisite: R.E. 141 or equivalent. Advanced real estate appraisal of multi-family dwellings, apartment houses, commercial, and special

purpose property. (Meets the State requirements for the broker's license.) (CSU)

145 Real Estate Appraisal: Rural (3) *Three lecture hours per week. Prerequisites: R.E. 141 or 143 or equivalent.* Advanced real estate appraisal of rural properties, covering row crop, orchard, and livestock properties. (Meets the State requirements for the broker's license.) (CSU)

200 Real Estate Economics (3) *Three lecture hours per week. Prerequisites: R.E. 100 and 105 or equivalent.* Economic aspects of real estate designed to provide a grasp of the dynamic economic conditions and related factors underlying the real estate business. (Meets the State requirements for the salesperson's and broker's licenses.) (CSU)

205 Real Estate Mathematics (3) *Three lecture hours per week.* Review of the fundamentals of mathematics as they apply to real estate practice, with problems in amortization, appraising, broker's trust fund accounts, interest, and capitalization techniques.

210 Real Estate Exchanges and Taxation (3) *Three lecture hours per week. Prerequisites: R.E. 110, 121, 131, and 141 or equivalent.* Advanced course for real estate brokers and investors with experience in residential and commercial transactions. Primary emphasis on developing and analyzing exchange transactions, practical and technical aspects of completion, the correlation of exchanges, and tax matters. (Meets the State requirements for the broker's license.) (CSU)

215 Commercial and Investment Property (3) *Three lecture hours per week. Prerequisites: R.E. 110, 121, 131, and 141 or equivalent.* For licensed real estate agents and brokers, financing officials, and investors. Emphasizes the process of selecting properties for investment, including analyzing income, operating expenses, and income tax implications. (Meets the State requirements for the salesperson's and broker's licenses.) (CSU)

220 Real Estate Property Management (3) *Three lecture hours per week. Prerequisites: R.E. 110, 121, 131, and 141 or license equivalent.* Basic elements of investment property management. Covers cash flow projection and valuation, merchandising, maintenance, and evictions. Emphasizes apartment property. (Meets the State requirements for the salesperson's and broker's licenses.) (CSU)

225 Real Estate Office Administration (3) *Three lecture hours per week. Prerequisites: R.E. 110, 121, 131, and 141 or equivalent.* Introduction to management: research, personnel, and market management decisions; transition from sales associate to manager; personnel training, counseling, and compensation; trends in the industry and their implications for management. (Meets the State requirements for the salesperson's and broker's licenses.)

230 Real Estate Internship (4) *Two lecture hours and ten laboratory hours per week. Prerequisite: completion of or concurrent enrollment in R.E. 100.* Supervised work experience and seminar. Practical application of classroom skills. Intended to assist the student enrolled in the Cooperative Education program. (As of Spring 1987, will be accepted by the State Department of Real Estate as a qualification for salesperson's license and as a substitution for R.E. 110.)

235 Real Estate Sales Techniques (3) *Three lecture hours per week. Prerequisites: R.E. 100 and 105 or equivalent.* Specialized techniques required to promote an effective sales record. Coordinates the theoretical background required for State examinations into the area of property merchandising.

301 Escrow Procedures: Basic (3) *Three lecture hours per week.* Methods and techniques of escrow procedure for various types of business transactions with emphasis on real estate. (Meets the State requirements for the salesperson's and broker's licenses.)

303 Escrow Practices: Intermediate (3) *Three lecture hours per week. Prerequisites: R.E. 301 or equivalent.* Course covers unusual types of escrow and evaluating possible solutions. (Meets the State requirements for the salesperson's and broker's licenses.)

305 Escrow Problems: Advanced (3) *Three lecture hours per week. Prerequisite: R.E. 303 or equivalent.* Further study of unusual and difficult types of escrows. Presents case problems, conflicts and disputes in escrow for discussion. (Meets the State requirements for the salesperson's and broker's licenses.)

311 Title Examination Procedures I (3) *Three lecture hours per week. Prerequisite: R.E. 100.* Preliminary study of documents comprising a chain of title and evaluation of the validity of chain of title documents. Field trips required.

313 Title Examination Procedures II (3) *Three lecture hours per week. Prerequisite: R.E. 311.* Designed to supplement R.E. 311. Practical and advanced comprehensive study of title examining problems. Field trips required.

641 Cooperative Education (1-4) (See first page of Description of Courses section.) (CSU)

680 – 689 Selected Topics (1-3) (See first page of Description of Courses section.) (CSU)

690 Special Projects (1-2) (See first page of Description of Courses section.) (CSU)

880 – 889 Selected Topics (1-3) (See first page of Description of Courses section.)

Secretarial Science

(See Business)

Sign Language

821 Elementary American Sign Language (3) *Three lecture hours per week.* Basic course in American sign language taught as a second language using dialogue drills, commands, and creative ideas.

822 Intermediate American Sign Language (3) *Three lecture hours per week. Prerequisite: SIGN 821 or equivalent with a grade of C or higher.* Encoding, decoding, interaction, and acquisition techniques for skilled hearing signers and deaf people.

880 – 889 Selected Topics (1-3) (See first page of Description of Courses section.)

Social Science

111 Critical Thinking (3)
Three lecture hours per week. Designed to develop critical thinking skills and techniques for evaluating political rhetoric, advertising claims, editorials, scientific claims, and social commentary. Includes deductive and inductive arguments, questions of validity and consistency, and the relationship between evidence and conclusions. (CSU/UC)

220 British Life and Culture (3)
(Credit/No Credit or Letter Grade Option) One and one-half lecture hours and five lab hours per week. Introduction to British society and civilization through lectures and field trips offered by the London Semester program of the SMCCCD. Takes a social, historical, and cultural approach to the study of contemporary British society. Required for enrollees in the London Semester. (CSU/UC)

221 French Life and Culture (3)
(Credit/No Credit or Letter Grade Option) One and one-half lecture hours and five lab hours per week. Introduction to French society and civilization by various lecturers in the Paris Semester program of the SMCCCD. Combines lectures with visits to and briefings at several cultural and political centers. Required for enrollees in the Paris Semester. (CSU/UC)

680 – 689 Selected Topics (1-3)
(See first page of Description of Courses section.) (CSU)

690 Special Projects (1-2) (CSU)
(See first page of Description of Courses section.)

880 – 889 Selected Topics (1-3)
(See first page of Description of Courses section.)

Sociology

100 Introduction to Sociology (3)
(Credit/No Credit or Letter Grade Option.) Three lecture hours per week. Group behavior and interaction of the individual and society; personality development in different cultures as shaped by customs, attitudes and values. Study of family, politico-economic, educational, and religious institutions; social movements; population; mass society and communications; community structure; social class and status; ethnic and racial minorities; work and leisure. (CSU/UC) (CAN SOC 2)

105 Social Problems (3)
(Credit/No Credit or Letter Grade Option.) Three lecture hours per week. Theories of social problems involving sociological and psychological approaches. Theoretical and descriptive studies of crime, delinquency, mental illness, drug use, suicide, and the other social problems of mass society. (CSU/UC) (CAN SOC 4)

110 Courtship, Marriage and the Family (3) *(Credit/No Credit or Letter Grade Option.) Three lecture hours per week.* History and development of marriage as a social institution, including dating; courtship; love; mate selection; personality adjustment in marriage; children; parenthood; the family; anatomical, psychological, and sociological aspects of sex; class and religious factors; divorce; and remarriage. (May not be taken for credit following PSYC 110.) (CSU/UC)

141 Race and Ethnic Relations (3)
Three lecture hours per week. Sociological analysis of ethnic relations in the United States, concentrating on the roles, status, and efficacy of major ethnic groups. Brief socio-historical sketch of their backgrounds, ethnic group contacts, competition, conflict, acculturation, assimilation, and discrimination. (CSU/UC*)

200 Urban Sociology (3)
Three lecture hours per week. Cities, suburbs, and metropolitan areas; ecology and growth; social class and racial trends; education; crime; local government and politics; planning and experimental solutions; county history; and social patterns. (Satisfies the California State and Local Government requirement.) (CSU/UC)

300 Social Psychology (3)
(Credit/No Credit or Letter Grade Option.) Three lecture hours per week. Prerequisite: SOCI 100 or PSYC 100. Study of human interaction, with emphasis on social patterning and processes of perception, identity, roles, and attitudes. (May not be taken for credit following PSYC 300.) (CSU/UC)

340 Human Sexuality (3)
(Credit/No Credit or Letter Grade Option.) Three lecture hours per week. A look at human sexuality from a psychological, physiological, and cultural point of view. Survey of sexual research; emphasizes the need for affiliation, commitment, and intimacy. (May not be taken for credit following PSYC 340.) (CSU/UC)

391 Parent-Child Relations (3)
(Telecourse.) (Credit/No Credit or Letter Grade Option.) Analysis of problems faced by new and prospective parents. Study of parent-child interaction and perception of attitudes, roles, and identity. Explores alternative solutions and coping strategies to assist parents in the process of guiding their children's growth and development. Partial focus on Black and Latino families. (CSU)

680 – 689 Selected Topics (1-3)
(See first page of Description of Courses section.) (CSU)

690 Special Projects (1-2) (CSU)
(See first page of Description of Courses section.)

880 – 889 Selected Topics (1-3)
(See first page of Description of Courses section.)

Spanish

Language Laboratory and Listening Requirement: since imitation, response, and independent practice are integral features of the study of a foreign language at the College, students enrolled in certain courses in foreign language are required to use the language laboratory as prescribed by each department.

110 Elementary Spanish (5)
Five lecture hours plus two lab hours by arrangement per week. Prerequisite: eligibility for ENGL 811 or higher English course. Spanish structures and active vocabulary based on oral and written pattern drills. Conversation based on short readings containing only the structures already practiced. (CSU/UC)

111 Elementary Spanish I (3)
Three lecture hours plus one lab hour by arrangement per week. Prerequisite: eligibility for ENGL 811 or higher English course. Covers approximately the first half of the semester's work in Spanish 110. (CSU/UC*)

112 Elementary Spanish II (3)
Three lecture hours plus one lab hour by arrangement per week. Prerequisite: SPAN 111 with a grade of C or higher or

assignment on the basis of the Foreign Language Placement Test in Spanish. Covers approximately the second half of the semester's work in Spanish 110. (Spanish 111 and 112 are equivalent to Spanish 110.) (CSU/UC*)

120 Advanced Elementary Spanish (5) *Five lecture hours plus two lab hours by arrangement per week. Prerequisite: SPAN 110 or 112 with a grade of C or higher or assignment by the Foreign Language Department on the basis of the Foreign Language Placement Test in Spanish.* Continuation of Spanish 110. Includes short readings that serve as a basis for classroom conversation. (CSU/UC)

121 Advanced Elementary Spanish I (3) *Three lecture hours plus one lab hour by arrangement per week. Prerequisite: SPAN 110 or 112 with a grade of C or higher or assignment on the basis of the Foreign Language Placement Test in Spanish.* Covers approximately the first half of the semester's work in Spanish 120. (CSU/UC*)

122 Advanced Elementary Spanish II (3) *Three lecture hours plus one lab hour by arrangement per week. Prerequisite: SPAN 121 with a grade of C or higher or assignment on the basis of the Foreign Language Placement Test in Spanish.* Covers approximately the second half of the semester's work in Spanish 120. (Spanish 121 and 122 are equivalent to Spanish 120.) (CSU/UC*)

130 Intermediate Spanish (5) *Five lecture hours plus one lab hour by arrangement per week. Prerequisite: SPAN 120 or 122 with a grade of C or higher or assignment on the basis of the Foreign Language Placement Test in Spanish.* Practice of conversation and composition; review of grammar; in-class and collateral reading of Spanish and Spanish-American literature. (CSU/UC)

131 Intermediate Spanish I (3) *Three lecture hours plus one lab hour by arrangement per week. Prerequisite: SPAN 120 or 122 with a grade of C or higher or assignment on the basis of Foreign Language Placement Test in Spanish.* Covers approximately the first half of the semester's work in Spanish 130. (CSU/UC*)

132 Intermediate Spanish II (3) *Three lecture hours plus one lab hour by arrangement per week. Prerequisite: SPAN 131 with a grade of C or higher or assignment on the basis of Foreign Language Placement Test in Spanish.* Covers approximately the second half of the semester's work in Spanish 130. (Spanish 131 and 132 are equivalent to Spanish 130.) (CSU/UC*)

133 Spanish for Native Speakers (3) *Three lecture hours per week. Prerequisites: Spanish-speaking background and ability to converse in Spanish.* Geared to the special needs of the Spanish-speaking student who has not had complete formal training in Spanish. Includes vocabulary building, spelling practice, and training in grammatical principles of Standard Spanish for improved oral and written communication; in-class and collateral readings from Hispanic plays and short stories. (CSU/UC*)

140 Advanced Intermediate Spanish (3) *Three lecture hours per week. Prerequisite: SPAN 130 or 132 with a grade of C or higher or assignment on basis of Foreign Language Placement Test in Spanish.* Further practice in conversation and composition based on in-class reading of modern Spanish and Latin American authors; review of grammar; collateral reading of Spanish and Spanish-American literature. (CSU/UC)

161 Reading in Spanish Literature I (3) *Three lecture hours per week. Prerequisite: SPAN 140 with a grade of C or higher.* Oral and written composition; in-class reading and discussion of Spanish, Spanish-American, and Hispanic literature; extensive collateral reading of Spanish and Spanish-American literature; and review of grammar. (CSU/UC)

162 Reading in Spanish Literature II (3) *Three lecture hours per week. Prerequisite: SPAN 161.* Further oral and written composition; in-class reading of Spanish and Spanish American literature; extensive collateral reading of Spanish and Spanish-American literature, and review of grammar. (CSU/UC)

201 Spanish Conversation I (2) *Two lecture hours plus one lab hour by arrangement per week. Prerequisite: concurrent enrollment in or completion of SPAN 130 or higher course with a grade of C or higher; concurrent enrollment in SPAN 130 or higher.* Extensive practice in conversational Spanish based on Spanish customs and culture; systematic topical vocabulary increments; advanced phonetic mimicry. (CSU/UC)

202 Spanish Conversation II (2) *Two lecture hours plus one lab hour by arrangement per week. Prerequisite: SPAN 201 with a grade of C or higher.* Continued practice in conversational Spanish based on Spanish customs and culture; systematic topical vocabulary increments; advanced phonetic mimicry. (CSU/UC)

251 Hispanoamerica Contemporanea (3) *Three lecture hours per week. Prerequisites: SPAN 140 with a grade of C or higher or Spanish-speaking background.* Study of problems and concerns of Latin American culture, as revealed in contemporary literature (essay, short story, drama and novel). Conducted in Spanish. (CSU/UC)

680 – 689 Selected Topics (1-3) (See first page of Description of Courses section.) (CSU)

690 Special Projects (1-2) (See first page of Description of Courses section.) (CSU)

801 Conversational Spanish I, Elementary (2) *(Credit/No credit.) Three lecture hours per week.* Intensive drill in the patterns and idioms of daily speech, supported by sufficient grammar to give flexibility in the spoken language. May be considered an excellent preparatory course for students who have not taken a foreign language before. (To increase competency, may be repeated for a maximum of 8 units of credit.) (This course will not fulfill the language requirements at California State Universities or at the University of California.)

When student demand is light, Spanish 802, 803, and 804 may be offered as 1.5 hour modules.

802 Conversational Spanish II, Advanced Elementary (2) *(Credit/No credit.) Three lecture hours per week. Prerequisite: SPAN 801 or equivalent with credit.* Further work in conversation following the model of Spanish 801. (To increase competency, may be repeated for a maximum of 8 units of credit.) (This course will not fulfill the language requirements at California State Universities or at the University of California.)

803 Conversational Spanish III, Intermediate (2) *(Credit/No credit.) Three lecture hours per week. Prerequisite: SPAN 802 or equivalent with credit.* More advanced work in conversation following the model of Spanish 802. (To increase competency, may be repeated for a maximum of 8 units of credit.) (This course will not fulfill the language requirements at California State Universities or at the University of California.)

804 Conversational Spanish IV, Advanced Intermediate (2) *(Credit/No credit.) Three lecture hours per week. Prerequisite: SPAN 803 or equivalent with credit.* Further advanced work in conversation following the model of Spanish 803. (To increase competency, may be repeated for a maximum of 8 units of credit, after which students may petition to audit. See Index: "Audit Policy.") (This course will not fulfill the language requirements at California State Universities or at the University of California.)

880 – 889 Selected Topics (1-3) (See first page of Description of Courses section.)

Speech

The Speech program includes courses in public speaking, interpersonal communication, communicating across cultures, voice and articulation, and oral interpretation of literature. The English requirement may be partially satisfied by 3 units of Speech 100 or Speech 120. The following Speech courses are credit-bearing but not degree-applicable, which means that the units count for the purposes of financial aid and veterans' benefits but not toward the AA/AS degree: 841, 842, 843.

100 Fundamentals of Speech and Persuasion (3) *Three lecture hours per week. Prerequisite: eligibility for or concurrent enrollment in ENGL 100.* Practice in delivering extemporaneous speeches; study of basic principles of effective communication; techniques of organizing and outlining; structure and content of basic speech types; development of critical listening; analysis and evaluation of speeches. (CSU/UC) (CAN SPCH 4)

111 Oral Interpretation I (3) *Three lecture hours per week. Prerequisite: eligibility for or concurrent enrollment in ENGL 100.* Oral reading of different forms of literature (poetry, short story, drama); analysis of meaning; analysis of voice quality; enunciation, pronunciation and expressiveness; recordings and performances for audiences. (CSU/UC)

112 Oral Interpretation II (3) *Three lecture hours per week. Prerequisite: SPCH 111 with a grade of C or higher.* Continuation of oral reading of different forms of literature (poetry, short story, drama); analysis of meaning; analysis of voice quality; enunciation, pronunciation, and expressiveness; recordings and performances for audiences. (CSU/UC)

120 Interpersonal Communication (3) *Three lecture hours per week.* Interpersonal communication, rational dialogue, and cooperative analysis of communicative events. Study of communicative interactions, the symbolic process, reasoning and advocacy, and the effects of communication on man and society. (CSU/UC*)

130 Voice and Articulation (3) *Three lecture hours per week. Prerequisite: completion of or concurrent enrollment in an English course no lower than ENGL 800 or ENGL 400.* Exploration of various modes of communicating intellectual and emotional content of messages through a meaningful use of the voice. Lessons in vocal variety, expressiveness, resonance, articulation, and pronunciation. (CSU)

150 Communicating Across Cultures (3) *Three lecture hours per week. Prerequisites: completion of SPCH 844 or demonstrated equivalent oral communication skills and (for students whose native language is other then English) concurrent enrollment in or completion of an English course no lower than ENGL 400 or (for students whose native language is English) eligibility for ENGL 800.* Designed for students of all cultural backgrounds. Study of basic theory and skills of round table discussion, panel discussion, and public speaking in an intercultural context, with a focus on the nature of communication in American society. Emphasizes the sensitivity and empathy required for communicating with those from other cultures. (CSU/UC*)

680 – 689 Selected Topics (1-3) (See first page of Description of Courses section.) (CSU)

690 Special Projects (1-2) (See first page of Description of Courses section.) (CSU)

841 Conversation for Non-Native Speakers I (1-3) *(Credit/No Credit or Letter Grade Option.) (Open entry/Open exit.) Three lecture hours plus lab hour by arrangement per week. Prerequisites: ESL Placement Test; concurrent enrollment in READ 807 recommended. Recommended for students enrolled in ENGL 841 or higher course and READ 841 or higher course.* Introduction, comprehension, and practice of listening and speaking skills: listening skills in discrimination, recognition, and understanding of consonants, intonation, and questions-statements-requests respectively; speaking skills in the appropriate language for specific functions, in consonant and vowel production in all positions, and in the imitation of stress and intonation patterns of native English speakers. (To increase competency, may be repeated for a maximum of 6 units of credit.) (Units do not apply toward AA/AS degree.)

842 Conversation for Non-Native Speakers II (1-3) *(Credit/No Credit or Letter Grade Option.) (Open entry/Open exit.) Three lecture hours plus one lab hour by arrangement per week. Prerequisites: ESL Placement Test or three units of SPCH 841 with a grade of C or higher; concurrent enrollment in READ 807 recommended. Recommended for students enrolled in ENGL 841 or higher course and READ 841 or higher course.* Continued introduction, comprehension, and practice in listening and speaking skills: listening skills in discrimination of vowels, in recognition of English sentence rhythm, in extraction of information of articulated speech, and identification of a variety of intonation patterns; speaking skills in appropriate language for specific functions, in practicing vowel contrasts and consonant clusters, in articulation of grammatical suffixes, and in correct usage of stress and intonation patterns. (To increase competency, may be repeated for a maximum of 6 units of credit.) (Units do not apply toward AA/AS degree.)

843 Speech for Non-Native Speakers I (3) *(Credit/No Credit or Letter Grade Option.) Three lecture hours per week. Prerequisites: three units of SPCH 842 with a grade of C or higher or comparable oral skills. Recommended for students en-*

rolled in ENGL 843 or higher course and READ 843, 800, 801, or 802. Practice in using pitch, rate, volume, and vocal quality to convey accurate meaning and emotion; practice in discussion, interviews, and extemporaneous public speaking; listening skills appropriate for discussions, interviews, and public speaking. (Units do not apply toward AA/AS degree.)

844 Speech for Non-Native Speakers II (3) *Three lecture hours per week. Prerequisites: SPCH 843 with a grade of C or higher or higher course or comparable oral skills. Recommended for students enrolled in ENGL 843 or higher course and READ 801, 802, or 420.* Study of the effect of values, perception, language, and nonverbal behavior on communication with Americans; practical application of effective communication skills through practice in class discussions and small group discussions.

848 Accent Reduction for Non-Native Speakers I (1.5) *(Credit/No Credit) Three lecture hours per week for eight weeks and ten lab hours by arrangement during the eight-week module. Prerequisites: testing at SPCH 843 level or higher or completion of three units of SPCH 842 with a grade of C or higher.* Designed for non-native speakers of English. Accent reduction focusing on the production of vowels, diphthongs, and consonants and on the correct use of pitch, rate, and volume. (Units do not apply toward AA/AS degree.)

849 Accent Reduction for Non-Native Speakers II *(1.5) (Credit/No Credit) Three lecture hours per week for eight weeks and ten lab hours by arrangement during the eight-week module. Prerequisite: SPCH 848 with a grade of C or higher or demonstrated equivalent skills.* Designed for non-native speakers of English. Advanced practice in accent reduction focusing on articulation, pronunciation, pitch, rate, volume, vocal quality, and vocal image. (Units do not apply toward AA/AS degree.)

850 Speech for Dental Assistants (1.5) *One and one-half lecture hours per week.* Principles of oral communication: reasoning and proper use of evidence; constructive criticism. To help dental assisting students organize ideas and speak with clarity, directness, and accuracy.

880 – 889 Selected Topics (1-3) (See first page of Description of Courses section.)

Technical Art and Graphics

165 PageMaker on the Macintosh I (1) *(Credit/No Credit or Letter Grade Option.) Total of twelve lecture and twelve lab hours. Prerequisite: CIS 160 with a grade of C or higher or familiarity with the Macintosh computer.* Use of PageMaker software for design and printing of documents. Includes use of typical hardware – such as laser printer and optical scanner – and desktop publishing software. (CSU)

166 PageMaker on the Macintosh II (1) *(Credit/No Credit or Letter Grade Option.) Total of twelve lecture and twelve lab hours. Prerequisite: TA&G 165 with a grade of C or higher or experience with desktop publishing on the Macintosh in the field.* Continuation of TA&G 165. Advanced desktop publishing, design principles, and graphics. (CSU)

175 Presentation Graphics on the Macintosh I (1) *(Credit/No Credit or Letter Grade Option.) Total of twelve lecture and twelve lab hours. Prerequisite: CIS 160 with a grade of C or higher or familiarity with Macintosh computer.* Introduction to presentation graphics, including the use of typical hardware and software to produce slides and other visual materials. (CSU)

201 Technical Illustration I (6) *Three lecture and nine lab hours per week. Prerequisite: concurrent enrollment in TA&G 210 recommended.* Instruction in theory and studio drafting experience with multi-view visualization, sketching, and basic C.A.D. to enable conversion of orthographic views to pictorial technical illustrations. Emphasizes inked line illustrations for technical publications. Extra supplies required. (CSU)

202 Technical Illustration II (6) *Three lecture and nine lab hours per week.* Study of systems of pictorial illustrations created from technical orthographic sources. Students develop a set of original illustrations using varied rendering methods to compile a presentation portfolio. Extra supplies required. (CSU)

210 Typography (4) *Two lecture and six lab hours per week.* Anatomy of type, typographic measurement, specifying type, and copyfitting. Designing with type: choosing the correct voice; creating emphasis and interest; visual hierarchy; developing and using grids. Theory applied to practical typographic problems, working from concept through presentation. Emphasizes the creative problem-solving process. Extra supplies required. (CSU)

220 Graphic Design (4) *Two lecture and six lab hours per week. Prerequisite: TA&G 210 strongly recommended.* Principles of design, typography, and symbolism. Stylized abstracted drawing, trademark, logo, and identity development. Evolution of a design; the graphic problem-solving process from concept through presentation. Comping techniques. Extra supplies required. (CSU)

230 Production Art on the Macintosh (2) *One lecture and three lab hours per week. Prerequisite: TA&G 210.* Instruction in drawing and desktop publishing software; their application to practical design problems in both the concept and production stages. (CSU)

300 Basic Reproduction Processes (2) *One lecture hour and three lab hours per week. Prerequisite: basic drafting skills.* Introductory survey of processes of graphic reproduction, ranging from office convenience duplicating to engineering reprographics, and pre-press skills for commercial technical publications. Lab experience with basic photo offset lithography. Extra supplies required. (CSU)

310 Visualization Techniques in Industrial Design (4) *Two lecture and six lab hours per week. Prerequisite: TA&G 202 or DRAF 202.* Survey of the industrial design profession, including its history and the role of the corporate designer. Introduction to design sequence. Methods of concept marker renderings used in the development of product design. Studio experience in making rapid concept sketches and developing them into finished presentation drawings. Extra supplies required. (CSU)

351 Offset Production Techniques I (2) *One lecture hour and three lab hours per week.* Preparation of camera-ready art, film conversion in the process camera,

image assembly, and printing on the offset press. Stats, line and halftone negs, contracting, impositions, paper, ink, and press operation. Extra supplies required. (CSU)

352 Offset Production Techniques II (4)
Two lecture and six lab hours per week. Prerequisite: TA&G 210. Steps in the production sequence for the printing of an original booklet, from concept through bindery. Extra supplies required. (CSU)

400 Advanced Project (1)
Three lab hours per week. Prerequisite: completion of three semesters of TA&G curriculum. Students initiate, develop, and complete substantial individual projects in consultation with and under the direction of the instructor. Emphasizes development of a marketable portfolio. (CSU)

641 Cooperative Education (1-4)
(See first page of Description of Courses section.) (CSU)

680 – 689 Selected Topics (1-3)
(See first page of Description of Courses section.) (CSU)

690 Special Projects (1-2)
(See first page of Description of Courses section.) (CSU)

880 – 889 Selected Topics (1-3)
(See first page of Description of Courses section.)

Welding Technology

(Also see Machine Tool Technology and Manufacturing and Industrial Technology)

Extra supplies may be required in all Welding Technology courses.

110 Elementary Welding Theory I (4)
Four lecture hours per week. Prerequisite: concurrent enrollment in WELD 111. Introduction to gas welding of ferrous and non-ferrous metals, brazing and soldering. Instruction on the theory of flamecutting; introduction to metallurgy and blueprint reading for welding. (CSU)

111 Elementary Welding Practice I (3)
Nine lab hours per week. Prerequisite: concurrent enrollment in WELD 110. Practical experience in gas and conventional arc welding of ferrous metals, brazing, and soldering. (CSU)

120 Elementary Welding Theory II (4)
Four lecture hours per week. Prerequisites: WELD 110/111 and concurrent enrollment in WELD 121. Introduction to conventional arc welding of steel and TIG (GTAW) welding of aluminum. Study of metallurgy and blueprint reading for welders. (CSU)

121 Elementary Welding Practice II (3)
Nine lab hours per week. Prerequisites: WELD 110/111 and concurrent enrollment in WELD 120. Advanced experience in conventional arc welding of steel in flat, vertical, and overhead positions. Introduction to manual TIG (GTAW) welding of aluminum. Inspection of welded assemblies. (CSU)

210 Advanced Welding Theory I (4)
Four lecture hours per week. Prerequisites: WELD 120/121; DRAF 120; MANU 200; MANU 100 or PHYS 100, all with a grade of C or higher; and concurrent enrollment in WELD 211. TIG (GTAW) and MIG (GMAW) welding of carbon steel, alloy steel, and stainless steel. Advanced problems in all phases of welding. Study in the theory of metallurgy and heat treating as applied to welding technology. (CSU)

211 Advanced Welding Practice I (5)
Fifteen lab hours per week plus one lab hour by arrangement per week. Prerequisites: WELD 120/121 and concurrent enrollment in WELD 210. Practical experience in TIG (GTAW), MIG (GMAW), and low-hydrogen arc welding with emphasis on steel, stainless steel, and aluminum. (CSU)

220 Advanced Welding Theory II (4)
Four lecture hours per week. Prerequisite: WELD 210/211 and concurrent enrollment in WELD 221. Theory of MIG (GMAW), pulsed MIG (GMAW), and TIG (GTAW welding, electron-beam welding, sub-arc welding, electro-slag/gas welding, and pipe welding. Study of the A.W.S. Structural Code D1.1 and A.S.M.E. Boiler Code and Pressure Vessel Code Section IX. Study of the fundamentals of robotics, nondestructive testing, hazardous materials in welding, and welding symbols as they apply to blueprints. (CSU)

221 Advanced Welding Practice II (5)
Fifteen lab hours per week plus one lab hour by arrangement per week. Prerequisite: WELD 210/211 and concurrent enrollment in WELD 220. Practical experience in the welding of exotic metals, flame spraying, and pulsed TIG (GTAW), pipe, and MIG (GMAW) welding. Practical experience in job estimation, production welding techniques, and maintenance welding techniques. Instruction in manipulative skills required in metal fabrication processes: hand and power shearing, punching, forming, mechanical fastening, and sheet metal layout. (CSU)

250 Fundamentals of Non-Destructive Testing (2)
Two lecture hours per week. Introduction to nondestructive testing: types, methods, materials, costs, limitations, and personal requirements. (CSU)

300 Welding for Technology (2)
One lecture hour and three lab hours per week. Introduction to welding for the non-welding major. Covers theory and practice of oxyacetylene welding, bronze brazing, silver soldering, and conventional shielded metal arc, low-hydrogen shielded metal arc, and resistance welding. (CSU)

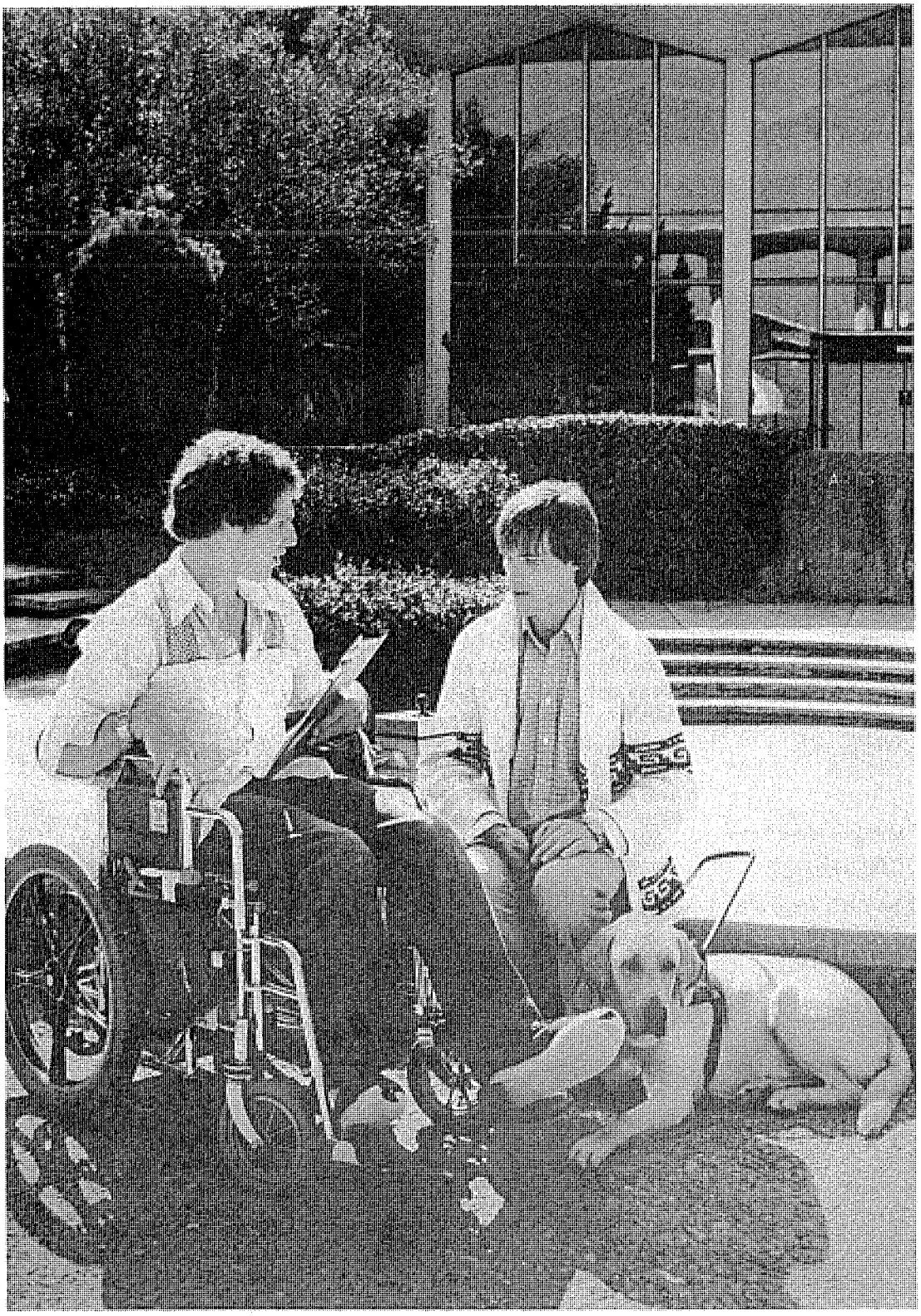
641 Cooperative Education (1-4)
(See first page of Description of Courses section.) (CSU)

680 – 689 Selected Topics (1-3)
(See first page of Description of Courses section.) (CSU)

690 Special Projects (1-2)
(See first page of Description of Courses section.) (CSU)

700 TIG Welding Technology (4)
Two lecture and six lab hours per week. Practical experience in corner, fillet, and butt welding of aluminum, steel, and stainless steel. Study of TIG (GTAW) welding of aluminum, steel, and stainless steel; basic metallurgy; and welding symbols as they apply to blueprints.

880 – 889 Selected Topics (1-3)
(See first page of Description of Courses section.)



Administration

President
(To be announced)

Vice President, Instruction
Jared B. Sharon

Vice President, Student Services
Patricia L. Griffin

ACADEMIC DIVISIONS

Dean, Business
Lora B. Todesco

Dean, Creative Arts
Leo N. Bardes

Dean, Industry Relations
Sandra L. Mellor

Dean, Language Arts
Larry R. Williams

Dean, Mathematics and Science
Ardash Ozsogomonyan

Dean, Physical Education/Athletics
Gary M. Dilley

Dean, Social Science
Albert A. Acena

Dean, Technology
George E. Bramlett

STUDENT SERVICES

Dean of Admissions and Records
John F. Mullen

Dean of Articulation and Research
John J. Sewart

Dean of Counseling/Advising and Matriculation
Steven N. Morehouse

Dean of Special Programs and Services
Arnett B. Caviel

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Dean
Michael C. Bucher

OPERATIONS

Director
Nancy Morrissette

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Clarke, Rosalee (1980)
Professor, Mathematics
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Cullen, James A. (1985)
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Danielson, David (1990)
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B.A., San Jose State University
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Datson, Brad (1983)
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B.A., Sonoma State University

Davis, Gregory (1966)
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De Freitas, Louis (1966)
Professor, Welding
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De Gregorio, Michael L. (1957)
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Denney, Clifford O. (1975)
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B.S., Utah State
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Diskin, Thomas R. (1981)
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Donner, Richard C. (1963)
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Dorsett, Darrel (1984)
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Duran, Cathleen A. (1988)
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DuRant-Papp, Patricia (1981)
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B.S., Georgia Institute of Technology
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Estes, Susan J. (1988)
Associate Professor, Speech
A.B., Monmouth College
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Fark, Roland H. (1969)
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B.A., B.S., M.A., Bowling Green State University

Faure, Emile L. (1970)
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Fiedler, John C. (1975)
Professor, English, Counselor
A.B., Kansas State Teachers College
M.A., University of Missouri
Ph.D., University of California, Berkeley

Fisher, Anita (1969)
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B.A., University of Southern California
Ph.D., Stanford University

Fitzgerald, Maurice J. (1964)
Professor, English
B.S., University of San Francisco
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Frassetti, Gerald J. (1967)
Professor, English, Foreign Student Advisor
B.A., St. Mary's College
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Professor, English
B.A., Smith College
M.A., University of Wisconsin
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Assistant Professor, Aeronautics

Garcia, Modesta (1987)
Counselor
B.A., Santa Clara University
Ed. M., Harvard University

Gershenson, Bernard M. (1984)
Associate Professor, English
A.B., University of Illinois
M.A., University of Kentucky
M.A., San Francisco State University

Giniere, Ann (1981)
Professor, Cosmetology

Glen, William (1957)
Professor, Geology, Paleontology, Counselor
B.S., Brooklyn College
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Gomes, Lyle (1984)
Associate Professor, Art, Photography
B.A., M.A., San Francisco State University

Gonzales, Andres A. (1987)
Associate Professor, English
B.A., California State University, Long Beach
B.A., California State University, Dominguez Hills
M.A., Middlebury College
M.A., University of Chicago
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B.A., Ph.D., University of Michigan
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Gustavson, Charles F. (1966)
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Health Services
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Hancock, John C. (1965)
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Harris, Richard V. (1965)
Professor, Physical Education
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Harrison, Kenneth W. (1969)
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Hasson, Robert L. (1984)
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Heyeck, Robin R. (1965)
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Innis, James E. (1967)
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Janssen, William A. (1965)
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Jeffers, Mary Lloyd (1963)
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Johnson, Joseph R. (1979)
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Joslin, Rex J. (1964)
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Karl, John E., Jr. (1962)
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B.A., Allegheny College
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Keller, Robert M. (1958)
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Psychological Services
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McConnell-Tuite, Milla L. (1987)
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Orcutt, April (1989)
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Owens, Peter H. (1971)
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Paolini, Nancy M. (1988)
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Paparelli, Marie T. (1989)
Learning Disabilities Specialist
A.S., Corning Community College
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Paresa, Robert F. (1988)
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Petit, Susan Y. (1968)
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B.A., Knox College
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Petromilli, James (1973)
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Piper, Louise (1990)
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Professor, Business, Counselor
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Porter, Donald T. (1963)
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Pounds, Robert D. (1970)
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Price, Joe A. (1970)
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B.S., St. John's College, Agra University, India
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Smith, Robert W. (1965)
Professor, Mathematics, Humanities, Architecture
B.C.E., Clarkson College of Technology
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Sonner, Grace Y. (1970)
Professor, Fashion Merchandising, Counselor
B.A., San Jose University
M.S., Texas Woman's University

Stack, Dennis M. (1968)
Professor, Drafting
B.S., California State Polytechnic University
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Instructor, English
B.A., M.A., University of Michigan

Still, Mark S. (1989)
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Ph.D., Claremont Graduate School

Stock, Nancy J. (1974)
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B.S., University of San Francisco

Stocker, Angela R. (1964)
Professor, Dance, Physical Education
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Stringari, Lawrence T. (1969)
Psychological Services
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B.S., M.A., University of San Francisco

Tarleton, Leah (1977)
Health Services
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Thur, Jack (1981)
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Tonini, Carlene (1990)
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B.S., University of California, Davis
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Trouse, Ronald R. (1963)
Professor, English
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M.A., San Francisco State University

Uchida, Barbara (1990)
Assistant Professor, Physics
B.A., University of California, Berkeley
M.S., University of California, San Diego

Upshaw, D. Aisha (1975)
Counselor/Transfer Center
B.S., Central State University
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Weintraub, Alan L. (1962)
Professor, Geography
B.S., De Paul University, Ill.
M.S., University of Chicago
Ph.D., Michigan State University

Weissman, Andrew (1984)
Associate Professor, Manufacturing and Industrial Technology
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West, David (1973)
Professor, Sociology
B.A., San Francisco State University
M.S.W., University of California, Berkeley
M.A., Ph.D., Stanford University

Williams, Agnes (1969)
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Williams, Larry R. (1969)
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Williamson, Stuart (1965)
Professor, Biology
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Professor, Business
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Wills, Carol R. T. (1982)
Associate Professor, Reading
B.A., M.A., San Francisco State University

Witt, Irving M. (1963)
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Witzel, Elizabeth L. (1966)
Professor, Dental Assisting
A.A., City College of San Francisco
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Yoshimura, Yoneo (1978)
Counselor
B.A., M.S., San Francisco State University

Young, Frank H. (1969)
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A.B., M.A., San Francisco State University
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Zimmerman, Paul C. (1967)
Professor, Architecture
B.Arch, M.Arch, University of California, Berkeley
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Business

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Alvin A. Alexandre (1988)
English, Journalism

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Art

Edgar H. Andrews (1987)
History, Humanities

Garlan Andrews (1989)
Music

Marian R. Anenson (1984)
Nursing

George Angerbauer (1984)
Electronics Technology, Counselor

Raymond I. Balsley (1980)
Physical Education

Dr. Rex J. Bartges (1977)
Biology

Paul Beale (1985)
Accounting

Donald E. Beaty (1991)
Physics

Barbara Jean Berensmeier (1990)
Physical Education

John J. Berglund (1984)
Aeronautics

Daniel A. Berry (1991)
Business Administration

John B. Bestall (1978)
Engineering

Rose Marie P. Beuttler (1989)
French

Ralph H. Bierce (1980)
English

Jeanne Blanchette (1977)
Nursing

George A. Blitz (1989)
Biology, Landscape Design

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Aeronautics

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Interior Design

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Home Economics

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Play Production

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Health Education

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Physical Education

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Cosmetology

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French

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Physical Education

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Cosmetology

Dr. Donald F. Cate (1990)
Political Science

Amerigo T. Ciani (1975)
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Physics

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Business

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English

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Philosophy

Dr. Henry Cordes (1988)
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Machine Tool Technology

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Zoology, Physical Anthropology

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Technical Illustration

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Dr. Rudolph M. Lapp (1983)
History

Dr. D. Richmond Le Gallais (1979)
Chemistry

Walter J. Leach, Jr. (1985)
Psychology, Sociology

Anita J. Lehman (1983)
English

Ralph W. Likens (1971)
Data Processing

Dr. Doris H. Linder (1989)
History

Arlys K. Lokken (1988)
Nursing

Raymond Lorenzato (1984)
Art

Chauncey J. Martin (1979)
Machine Tool, Welding Technology

Jeanette J. Mathers (1979)
Speech, English

Virginia A. McMillin (1984)
Nursing

Valdemer A. Mendenhall (1982)
Aeronautics

Robert E. Michael (1986)
Business Administration, Counselor

Douglas B. Montgomery (1989)
Broadcasting Arts

Dr. John A. Montgomery (1977)
Business Administration

Philip D. Morse (1981)
Director, Special Services

Ellentine M. Mullaney (1979)
English

Edward C. Mullen (1987)
English

Daniel C. Odum (1989)
Broadcasting Arts

Robert A. Olson (1988)
Speech

Zoia V. Petelin (1974)
Cosmetology

Betty C. Pex (1990)
English

Raymond J. Pflug (1982)
English

Richard S. Phipps (1984)
Political Science, Career and Personal Development, Counselor

Wilson G. Pinney (1986)
Director, Language Arts

Dolores I. Price (1985)
Physical Education

Harry W. Prochaska (1977)
Art

Theodore L. Rankin (1987)
Administration of Justice

Vincent P. Rascon (1988)
Art

Dr. Edward H. Rategan (1989)
Computer and Information Science

Dr. David G. Rempel (1964)
History, Political Science

Elizabeth K. Rempel (1977)
Art

Dr. William L. Roach (1963)
Psychology

Richard W. Rohrbacher (1987)
Speech, English, Broadcasting Arts

Samuel S. Rolph (1979)
Play Production

Dr. Hugh Ross (1991)
Accounting

Dr. Rosa I. Sausjord (1983)
Spanish

David Savidge (1983)
English

Dr. Lloyd O. Saxton (1987)
Psychology

Stanley R. Scott (1988)
Drafting Technology

Dr. Robert L. Shapiro (1983)
Electronics Technology

Dr. Stanley L. Sharp (1970)
German, English, Speech

Edmond O. Shinn (1976)
Guidance, Testing, Counselor

Dr. Francis A. Smart (1975)
Business Administration

Win Smith (1989)
Coordinator, Media Center

Lee W. Speer (1989)
English

Winifred P. Stetson (1978)
Business, Counselor

Mildred H. Stickney (1968)
Business

Russell M. Stoker (1979)
Psychology

Daniel Sullivan (1985)
Business

Ruth R. Teel (1975)
English

Allen Tracy (1982)
Chemistry

John Turner (1985)
English

Carl A. Wagner (1980)
History, Political Science, Permanent Resident Immigrant Student Advisor

Duane A. Wakeham (1986)
Art

John D. Walsh (1979)
Administration of Justice

Herbert R. Warne (1983)
Director of Admissions and Records

Barlow Weaver (1987)
Librarian

Ruth H. Weston (1973)
Assistant Dean of Students

Marjorie M. Wheeler (1974)
Early Childhood Education

David D. White (1980)
English

Gladys L. White (1960)
Business

Myrtle T. Williams (1981)
Cosmetology

Richard A. Williamson (1991)
English, Film

Alice P. Wilson (1977)
English

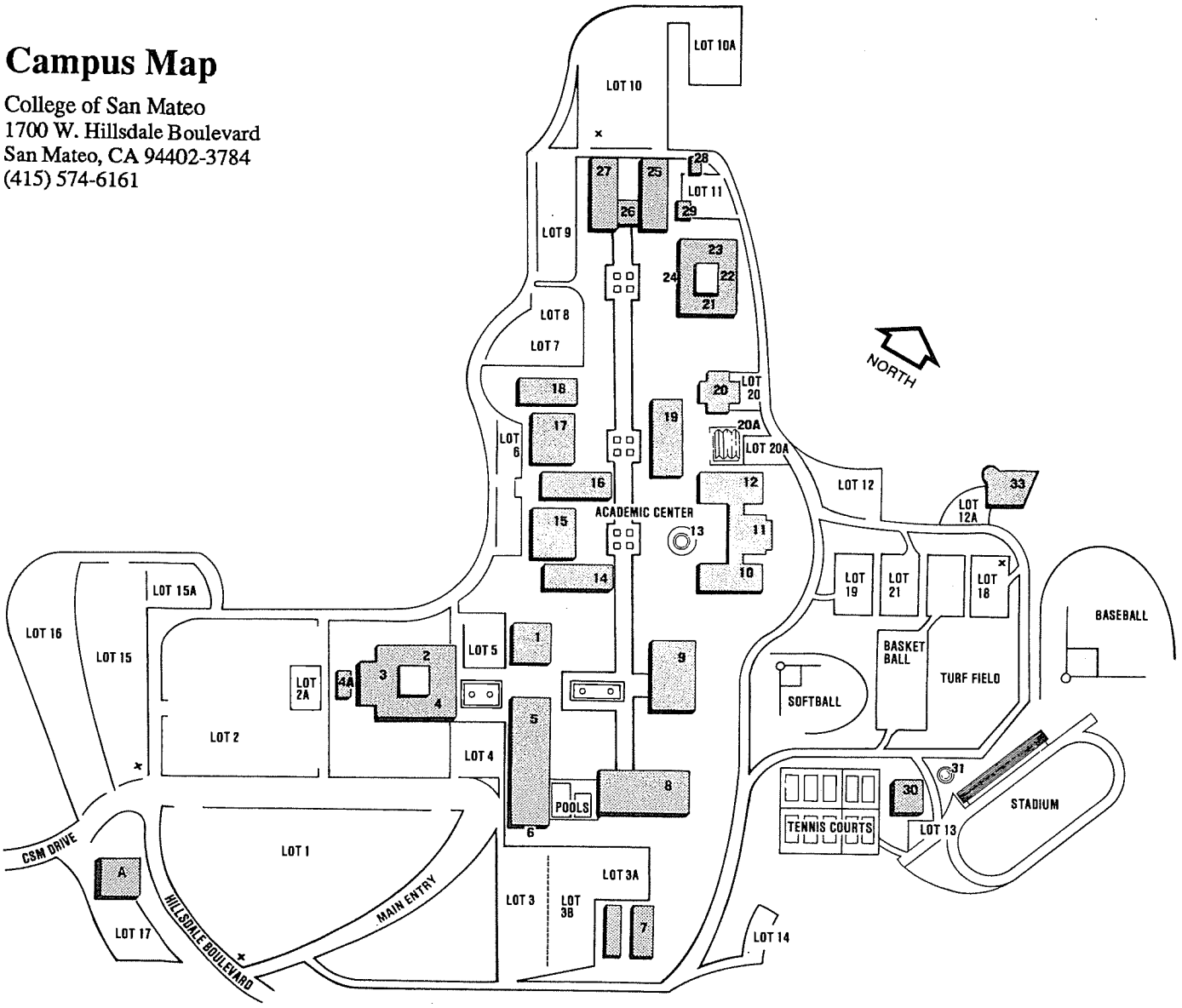
Betty J. Wittwer (1990)
Business

Bernard F. Woods (1979)
Business Administration

William H. Zempel (1990)
Meteorology, Physics

Campus Map

College of San Mateo
1700 W. Hillsdale Boulevard
San Mateo, CA 94402-3784
(415) 574-6161



PARKING BY PERMIT ONLY DURING CLASS HOURS
Obtain permits in Security Office, Bldg. 5.

STUDENT PARKING: Lots 1, 2, 2A*, 3*, 4*, 7*, 8*, 9, 10, 10A, 11*, 12*, 12A*, 14, 15, 15A, 16, 17, 18, 20*, 21

STAFF PARKING: Lots 2A, 3A, 3B, 4, 5, 6, 7, 8, 11, 12, 12A, 13, 17, 19, 20, 20A

HANDICAPPED PARKING: By special permit only

VISITOR PARKING: Lot 3

MOTORCYCLE PARKING: Lots 3, 7, 11, 20A

ONE-DAY PERMITS: per day – Indicated by x
Lots 1, 10, 15, 18
* Evening Hours Only (Except as indicated on posted signs)

PLEASE NOTE SPECIAL RESTRICTIONS ON PARKING LOT SIGNS.

BLDG.
1. Administration
2. Music
3. Theater
4. Art

4A. Ceramics/Sculpture

5. Student Center
   Café International
   Bookstore
   Career Development Center
   Cooperative Education
   Student Employment
   Security
6. Museum
7. Maintenance
8. Gymnasium
9. Library, Media Center, KCSM, KCSM-FM
10. Life Science
11. Science Lecture
12. Physical Science
13. Planetarium
14. South Hall

BLDG.
15. Faculty Offices
16. Central Hall
17. Faculty Offices
18. North Hall
19. Engineering & Electronics
20. EOPS, Multicultural Center

20A. Horticulture

21. Cosmetology
22. Dental Assisting
23. Consumer Arts & Sciences, Nursing Lab
24. Locker Rooms
25. Aeronautics
26. Technical Lecture
27. Trades & Industry, Central Duplicating
28. Test Cell
29. Canteen
30. Team House
31. Ticket Booth
33. Lazarus Child Development Center

A. District Administrative Offices
   3401 CSM Drive


SKYLINE BLVD.
280
CRYSTAL SPRINGS RD.
EL CAMINO REAL
BAYSHORE FREEWAY
TO SAN FRANCISCO
3RD AVE.
82
101
35
LAURIE LA.
PARROTT DR.
MAIN PARKING
CSM Campus
YOUNGER FREEWAY
92
HALF MOON BAY
TO SAN MATEO BRIDGE
ASCENSION DR.
BEL AIRE RD.
C.S.M. DRIVE
DISTRICT OFFICES
HILLSDALE BLVD.
SKYLINE BLVD.
JUNIPERO SERRA FREEWAY
POLHEMUS RD.
DE ANZA BLVD
ALAMEDA DE LAS PULGAS
EL CAMINO REAL
HILLSDALE BLVD.
CAÑADA RD.
RALSTON AVE.
BAYSHORE FREEWAY
TO REDWOOD CITY AND POINTS SOUTH
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