President's Message

The view from City College is now even better with the opening of our beautiful, 67,000 square-foot Learning Resource Center and Library (LRC) this past Fall. With panoramic views of the San Diego Bay and the downtown skyline, our 15,000 students and 800 faculty and staff members benefit from the LRC's most advanced research tools, hundreds of internet-connected computers, and more than 65,000 books in the reference and circulation collections. Additionally, the LRC houses the Centers for Multimedia/Audio Visual, Independent Learning, and CitySITE for faculty/staff development.

The San Diego Trolley brings you right to our downtown doorstep at 12th & C Streets. With 80 majors, 90 certificate programs and more than 1,200 classes to choose from at only $11/credit, City College opens many doors for you. Choose from a host of exciting fields: anthropology, biotechnology, cosmetology, drama, air conditioning/heating/refrigeration, engineering, radio-TV, Spanish, child development, electricity, legal assistant, journalism, machine technology, manufacturing technology, MECOMTRONICS, music, physical education, pipefitting, speech, technical illustration, and many more.

You can earn your Associate Degree, upgrade your skills to obtain the job you want, or transfer to a 4-year institution of your choice for your bachelor's degree. If you attend UCSD, Harvard, SDSU, UC Berkeley, UCLA or many other universities, you will meet former City College students.

Our diverse student population comes from all walks of life: many right out of high schools, others transitioning into new careers, and an increasing number returning to college for additional training and skill upgrades. Our graduates are now CEOs, teachers, nurses, professional photographers, biotechnicians, TV and radio broadcasters, electricians, and computer specialists.

With our prime location along the Park-to-Bay Boulevard, our students are only minutes away from the world-renowned San Diego Zoo and historic Balboa Park to the north, the new history-in-the-making multi-million dollar ballpark development to the south, and San Diego's business, government and financial district to the west.

City College continues to lead the way in advancing educational opportunities also with our Educational Technology Center, the Center for Applied Competitive Technologies, the Center for Technology Enterprise Development and San Diego Technology Incubator, the Southern California Biotechnologies Center and the Virtual Technologies Education and Enterprise Center. From assisting entrepreneurs with support and training services to creating businesses and helping bring new products to the market, City College is at the forefront of supporting San Diego economic development.

With all these resources, City College offers its students limitless academic and professional opportunities. However, our 108 California community colleges are currently experiencing some of the most drastic budget reductions seen in decades. The community college system is readily willing to help alleviate the budget crisis by accepting our share of budget reductions. However, the governor's proposals ask us to do more with less. Community colleges are asked to cut our budgets by several hundred million dollars while still increasing our student enrollments. Additionally, the Governor’s proposal increases the funding for UC and CSU systems while decreasing community college funding. For example, for every dollar the state funds each UC student, the community college student receives only 22 cents. We want to keep our doors open to all students to receive a quality, affordable education. But this unfair state funding formula disproportionately cuts community college budgets. This funding inequity must stop so that our community college students receive the same consideration as university students.
At City College we pledge to ensure you receive the best education available. Our award-winning instructors and excellent student support services will help you obtain your educational goals.

Be sure to check our City College website regularly at www.sdcity.edu to learn about exciting campus events, our acclaimed World Cultures Program presentations, our drama and dance productions in the Saville Theatre, and our athletic events.

I look forward to meeting you on campus. Congratulations on pursuing your academic and career dreams.

Terrence J. Burgess
President
Board of Trustees

Marty Block
President

Wm H. Schwandt
Vice President

Richard S. Grosch
Member

Maria Nieto Senour
Member

Peter Zschiesche
Member

Student Members, 2003-2004
Eric Dobbs City College
Jeremy Ruben Mesa College
Dave Abad Miramar College

District Administration

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Chancellor

Kenneth D. Fawson
Assistant Chancellor, Instructional Services

Lou Murillo
President, Auxiliary and Institutional Development

Wayne Murphy
Assistant Chancellor, Human Resources and Administrative Services

Lynn Ceresino Neault
Assistant Chancellor, Student Services

Damon Schamu
Assistant Chancellor, Facilities Services

John Schlegel
Assistant Chancellor, Business Services

Joaquin Hernandez
District Affirmative Action Officer

San Diego Community College District Board of Trustees (from left, back row) Rich Grosch, Chancellor Augustine P. Gallego, Peter Zschiesche and (front row) Bill Schwandt, Maria Nieto Senour, Marty Block.
Welcome to City College

S.D. City College
Administrative and Supervisory Personnel

President ...................... Terrence J. Burgess
Vice President, Instruction .... Ron D. Manzoni
Vice President, Student Services ........ Larry J. Brown, Ph.D.
Business Manager ............... Carol A. Dexheimer
Dean, Applied Competitive Technologies ........ Joan Stepsis, Ph.D.
Dean of Student Affairs .......... Mario Chacon
Dean of Student Development/ Matriculation ........ Helen Elias
Dean, School of Arts, Humanities, Communications and Telecommunications ........ Winston Butler
Dean, School of Business and Information Technology and Cosmetology ........ Cassie Morton
Dean, Counseling/Assessment ........ Lance Sookhaseum
Dean, School of Science, Nursing, Health and Athletics .......... Marianne Tortorici, Ed.D.
Associate Dean/Director, Nursing Education .......... Jo-Ann Rossitto, D.N.Sc.
Admissions and Records Officer .......... Lou Humphries
Affirmative Action Officer/ Title IX Coordinator ........ vacant
Articulation Officer ........ Paula Liska, Ph.D.
Communications Officer .......... Heidi Bunkowske
EOPS Director .................. Gerald A. Ramsey
Financial Aid Manager .......... Gregory Sanchez
Transfer/Career Center Director .......... Duane Short
Tutorial Services Coordinator .......... Frank G. Echevarria
TRIO/ASPIRE Coordinator .......... Freddie Richards
Work Experience Supervisor .......... Duane Short

Affirmative Action Officer/ Title IX Coordinator .......... vacant
Articulation Officer .......... Paula Liska, Ph.D.
Communications Officer .......... Heidi Bunkowske
EOPS Director .................. Gerald A. Ramsey
Financial Aid Manager .......... Gregory Sanchez
Transfer/Career Center Director .......... Duane Short
Tutorial Services Coordinator .......... Frank G. Echevarria
TRIO/ASPIRE Coordinator .......... Freddie Richards
Work Experience Supervisor .......... Duane Short

Accreditation

San Diego City College is accredited by the Accrediting Commission for Community and Junior Colleges of the Western Association of Schools and Colleges, an institutional accrediting body recognized by the Council on Postsecondary Accreditation and the U.S. Department of Education. The college is accredited by the Office of Private Postsecondary Education for the training of veterans as well as by the U.S. Department of State and the U.S. Immigration Service for international student education. Courses paralleling university level work are accepted by the University of California, California State University, and by other universities and colleges.

Persons interested in the institution's accreditation and program approvals may review documents describing these activities in the President's Office. These documents will be available for such review at a mutually convenient time during regular business hours, and an appropriate interpretation of their contents will be provided if requested.

Disclaimer

The San Diego Community College District is governed by its Board of Trustees. No oral or written representation by any employee of the College is binding on the San Diego Community College District without the express approval of the Board of Trustees.

San Diego City College endeavors to present its programs and its policies to the public accurately and fairly. Those responsible for preparation of this catalog, the class schedule, and all other public announcements make every effort to assure that the information presented is correct and up-to-date. However, the College reserves the right to add, amend, or repeal any rules, regulations, policies, and procedures. The College assumes no responsibility for program changes or publication errors beyond its control. Distribution of the catalog complies with all provisions of Government Code Sections 89001 and 2CCR 18901 for mass mailing.
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Academic Calendar 2003-2004

Fall Semester 2003

16-WEEK SEMESTER: Fall Classes September 2, 2003 - December 20, 2003

SPECIAL DATES

June 13, 2003 . . . . . . . . . . . . . . . . . . Final day to file an application for admission for the Fall semester and receive an appointment in the mail to register by telephone or online. Applications filed after this date will be assigned a registration appointment in the Admissions Office.

September 1, 2003 . . . . . . . . . . . . . . . RESIDENCE DETERMINATION DATE (APPLIES TO ALL SESSIONS)

September 1, 2003 . . . . . . . . . . . . . . . Holiday - Labor Day

October 24, 2003 . . . . . . . . . . . . . . . . Last day to file a petition for graduation for an Associate Degree or Certificate of Achievement for June or Summer 2004 graduation in order to receive an evaluation prior to beginning of Spring semester.

November 10, 2003. . . . . . . . . . . . . . . Holiday - Veterans Day

November 27 & 28, 2003 . . . . . . . . . . Holiday - Thanksgiving**


Spring Semester 2004

16-WEEK SEMESTER: Spring classes February 2, 2004 - May 29, 2004

SPECIAL DATES

Date to be determined . . . . . . . . . . . . Final day to file an application for admission for Spring semester and receive an appointment in the mail to register by telephone or online. Applications filed after this date will be assigned a registration appointment in the Admissions Office.

February 1, 2004 . . . . . . . . . . . . . . . . RESIDENCE DETERMINATION DATE (APPLIES TO ALL SESSIONS)

February 13, 2004 . . . . . . . . . . . . . . . Holiday - Lincoln's Day**

February 16, 2004 . . . . . . . . . . . . . . . Holiday - Washington's Day

February 27, 2004 . . . . . . . . . . . . . . . Last day to file a petition for graduation for an Associate Degree or Certificate of Achievement for June or Summer 2004 completion

April 5 - 10, 2004. . . . . . . . . . . . . . . . Spring Recess

** No Saturday or Sunday classes after a Friday holiday. No Sunday classes before a Monday holiday.

Note: Holidays apply to all sessions.
Summer Session 2004

Summer classes June 14, 2004 - August 7, 2004

SPECIAL DATES

June 13, 2004 . . . . . . . . . . . . . . . . . . .RESIDENCE DETERMINATION DATE (APPLIES TO ALL SESSIONS)
June 18, 2004 . . . . . . . . . . . . . . . . . . .Last day to file a petition for graduation for an Associate Degree or Certificate of Achievement for Completion in Summer 2004
July 5, 2004 . . . . . . . . . . . . . . . . . . . .Holiday - Independence Day

** No Saturday or Sunday classes after a Friday holiday. No Sunday classes before a Monday holiday.
General Information
History
San Diego City College is a public, two-year community college administered by the San Diego Community College District. Other colleges in the same District are San Diego Mesa College and San Diego Miramar College. There are also six continuing education centers and the Educational Cultural Complex which offers both college and continuing education courses.

Chronology
1914 City College held its first classes in San Diego High School located across the street from the present campus. First known as a junior college; it was the third community college established in California.
1921 City College moved from the high school to share facilities with the State Normal School, a four-year teachers' college which became San Diego State University.
1939 San Diego Evening Junior College was created by splitting the institution into two entities, day and evening. The Evening component was created to meet the growing need for college courses for daytime working people.
1946 City College moved back to San Diego High School and reorganized into three branches: San Diego Vocational High School, San Diego College Arts and Science Center, and San Diego Evening Junior College.
1954 College renamed San Diego Junior College and Vocational School. The vocational reference was dropped in 1957 and it was known as San Diego Junior College until 1961 when it became San Diego City College.
1972 San Diego voters authorized a separate Community College District.
1973-74 A separate Board of Trustees was elected for the Community College District and the Board appointed its first Chancellor as the District's chief administrative officer.
1976 Educational Cultural Complex opened, built on 10 acres in southeast San Diego providing college credit courses, high school completion courses, skills training and continuing education courses.
1979-80 Evening College program merged with City College day program and other day programs at Mesa and City Colleges.
1989 City College celebrated its 75th anniversary.

Statement of General Education Philosophy
The general education program at the colleges in the San Diego Community College District is designed to broaden students' knowledge and their understanding of methods of gaining knowledge in a variety of disciplines and to develop students' abilities in critical thinking, in oral and written communication, and in mathematics.

The awarding of an Associate Degree symbolizes an attempt on the part of the college to lead students through patterns of learning experiences designed to develop an awareness of other cultures and times; to achieve insights gained through experience in thinking about ethical problems; and to develop the capacity for self-understanding. In addition to these accomplishments, students should possess sufficient depth in some field of knowledge to contribute to lifetime interest.

San Diego City College Philosophy
As City College prepares world citizens for the 21st century, we recognize that the aim of education is the development of the whole person, an individual who is prepared to assume citizenship and to interact effectively in a global community. City College is a multicultural institution that is committed to providing open access to all who benefit from instruction and to meeting the diverse and ever-changing educational, cultural, and economic needs of the community it serves.

In our commitment to improving access and achieving excellence, we acknowledge and affirm teaching and learning as our highest priority. We recognize that citizens in a free society must cherish and protect the tradition of academic freedom and responsibility. We further believe that people are our greatest resource. To that end, we are committed to developing an environment which cultivates understanding and respect for students, faculty, and staff.
Mission

The mission of City College has as its highest priority student learning and achievement in three state mandated areas. The College provides lower division general education allowing students to earn an Associate Degree or Certificate of Achievement and to prepare for transfer to a four-year college or university. City College provides vocational education programs that will upgrade the employment skills of students and provide occupational programs that meet specific industry needs and licensing requirements of the state of California. City College promotes economic growth and global competitiveness through education, training, and services that contribute to continuous work force improvement. City College provides important and essential student support services, basic skills instruction, and English as a second language to assist all students in meeting their educational goals. Ultimately, the success of our mission will be guided by the systematic collection of qualitative and quantitative information that will generate continuous cycles of program review, planning, and resource allocation.
Admissions and Registration
Steps to Student Success

The college matriculation program is designed to help students succeed in their academic program. To “matriculate” means to enroll and to commit oneself to an educational goal. The matriculation process requires a commitment on the part of the college as well as the student.

The steps in the matriculation process are:

1) Admission
   - No exemptions

2) Assessment
   - Students with the following educational goals: preparation for a new career, advancement in their current job/career, maintenance of a certificate or license, educational development, or completion of credits for high school diploma
   - Students enrolled in an apprenticeship program
   - Students who have an associate degree or higher
   - Students concurrently enrolled at a four-year college
   - Students who have taken the placement tests within the last three years

3) Orientation:
   - Students with the following educational goals: preparation for a new career, advancement in their current job/career, maintenance of a certificate or license, educational development, or completion of credits for high school diploma
   - Students enrolled in an apprenticeship program
   - Students who have an associate degree or higher
   - Students concurrently enrolled at a four-year college or university

4) Counseling/Advising
   - Students with the following educational goals: preparation for a new career, advancement in their current job/career, maintenance of a certificate or license, educational development, or completion of credits for high school diploma
   - Students enrolled in an apprenticeship program
   - Students who have an associate degree or higher
   - Students concurrently enrolled at a four-year college or university
   - Students who have taken the placement tests within the last three years

5) Follow-up
   - No exemptions

Admission

Admission is open to anyone who meets one of the following criteria:

- Persons who possess a high school diploma or California high school proficiency exam certification or GED with an average score of 45 or higher.
- Persons 18 years of age or older or emancipated minors who do not possess a high school diploma or equivalent may be admitted by the college under provisional admission status.
- High school students requesting concurrent enrollment may be admitted as “special part-time” students subject to the following criteria:
a. Students must have a grade point average of 4.0 (9th grade or lower) or 3.0 (10th-12th grade).

b. Students must satisfy prerequisites and eligibility requirements for each course.

c. Students may take a maximum of two courses not to exceed 8 units per semester or session. This maximum includes classes at City, Mesa, Miramar Colleges and ECC (excluding High School Honors classes).

d. The requested course is UC/CSU transferable or advanced technical.

e. The requested course is not available at the school of attendance.

f. Students will be given college credit for all courses.

Contact the Admissions Office for further information.

• Persons who are under 18 years of age who do not have a high school diploma and are not enrolled in a high school may be admitted as a special full-time student pursuant to Education Code §48800.5 subject to approval of the high school governing board and the college President where the student is planning to attend. Special full-time students will be admitted under provisional admission status.

• Persons who do not meet one of the admission criteria stated above will not be admitted under any circumstances.

Assessment

Students will be given an assessment appointment at the time of application.

Assessment guides students through the college curriculum. It is commonly used by community colleges to assist students in selecting courses best suited to their abilities and educational goals.

Assessment includes testing as well as other measures and is intended to assist students in meeting course prerequisites.

Students may meet course prerequisites based on other factors such as past educational achievements in mathematics or English or course completion.

Testing accommodations are available to students with disabilities. Contact Disabled Students Programs and Services.

Orientation

Matriculating students who have been admitted to the college are expected to attend an orientation session before registering for classes at the college. The orientation program provides important information to students about the programs and services available at the college as well as strategies for student success.

New students are encouraged to attend a session with a counselor to develop a plan for their first semester in College. This important session will provide an interpretation of assessment results and recommended course placement and strategies for success. This is the first step in developing a Student Education Plan.

Educational Planning

The Student Education Plan (SEP) is an important tool to assist students in successfully attaining their goals without wasted time and effort. Counseling and career planning services are available to help students make wise choices concerning the programs and courses available.

The Student Education Plan (SEP) is an agreement which contains the official requirements for graduation and/or transfer. All transcripts of prior college work must be on file and evaluated by the Evaluations Office before an official education plan can be prepared. See the Graduation section on page 71 for graduation filing requirements.

A SEP typically lays out a program of study for a four or six semester period. These plans allow students to determine how long it will take to complete a program of study and to be sure that all program requirements
can be met within a particular period of time. Education plans may be changed. The student should review plans periodically with a counselor. They are revised as a student’s goals or objectives change. Assessment of interests and aptitudes is also available to those students who want more information or assistance in order to choose the “right” programs or courses.

Course Numbering System
The course numbering system has meaning with regard to level and transfer. See the description below:

- **1-49** Basic Skills or college preparatory courses. Credit does not apply toward an associate degree or transfer to a four-year college or university.
- **50-99** Course credit applies toward the associate degree but does not transfer to a four-year college or university.
- **100-299** Course credit applies toward the associate degree and credit is intended for transfer to a four-year college or university. (Some courses may be identified as associate degree.) Final decision in regard to transferability rests with the receiving institution.
- **300-399** Apprenticeship and in-service courses that may also count toward the associate degree, but credit may transfer.

Apprenticeship 345, 349, 349-D, DSPS 065, Field Experience/Internship 275, Independent Study 290, Individualized Instruction 296, Special Topics 23, 63, 265, Tutoring 044, and Work Experience courses 270, 272, 274, have Districtwide designated numbers.

Follow-up Services
Follow-up services are available to all students as part of the college’s commitment to student success. These services include a periodic review of student progress and education plans to assist students in reaching their educational goal. Students who need additional support services will be referred to those services.

Registration
With the exception of Special-Admit High School students, all students receive an appointment to register by telephone using ClassTalk or online using Reg-e. Special-Admit High School students must enroll in person at the time of their registration appointment.

By using the combined schedule of classes and ClassTalk or Reg-e, a student can enroll in any available course offered at City, Mesa or Miramar Colleges. The class schedule is also available on the web at: www.sdccd.net/schedule

ClassTalk and Reg-e are easy to use. Written instructions for using ClassTalk may be found in the combined schedule of classes and in the Admissions Office. Instructions for using Reg-e are on the registration site.

The following information and services are available through ClassTalk and Reg-e:

- registration
- a record of the class schedule, fees, and payment deadlines
- cancellation of registration
- adding and dropping classes
- academic deadlines and calendar
- grade information
- academic history
- purchase of parking permits
- purchase of an Associated Students College Membership

Online Registration (Reg-e)
Students can register for classes using Reg-e, the San Diego Community College District’s online registration system. Students can visit the Student Web Services at: http://studentweb.sdccd.net and click on the Reg-e icon. Full instructions will lead students through the process.

Class Schedules on Internet
Up-to-date class schedule information and course descriptions for each campus are available on the Internet at www.sdccd.net/schedule. This web site displays new classes, cancellations, and changes after the printed schedule has been distributed. A search engine allows students to search for classes by academic subject, by time and day, or by key words.

Wait List
Students who attempt to register in a class that is closed may request to be placed on a Wait List.

**IMPORTANT NOTE:** Wait Listing is not a guaranteed priority for enrollment.

**Wait List Criteria**

- Students may place their name on only one Wait List for a specific course (subject and course number).
Students who are on a Wait List and later enroll in another section of the same subject and course number will be automatically removed from the Wait List.

Students will be told their priority number on the Wait List.

Students will have the capability to query their priority number on the Wait List.

Students will have the option to remove themselves from the Wait List at any time.

Wait List capability is available through both telephone and online registration.

There will be a limit to the number of students allowed on each Wait List.

Students must meet course prerequisites in order to be placed on the Wait List.

Students must attend the first class meeting to have their Wait List priority considered.

Being on the Wait List does not guarantee a space in the class.

**Adding Classes**

Students may add classes by telephone or online until the deadline date published in the schedule of classes. Students will not be allowed to add classes beyond the published deadline.

To add a class once the semester has begun, students must obtain an add code from the instructor, then must process and pay for the added class through ClassTalk or Reg-e. A student may also pay at the Accounting Office.

Students are not officially enrolled until the add code is processed through ClassTalk or Reg-e and fees are paid in full. Add codes for Special-Admit part-time high school and Joint Diploma students must be processed in person in the college Admissions Office prior to the add deadline.

If an instructor finds that a student has given his or her add code to another student, the instructor should administratively drop the student who was not issued the add code.

**Dropping Classes**

Students may drop or withdraw from classes by telephone or online until the deadline dates published in the schedule of classes. Deadline dates not published in the schedule of classes are available in the Admissions Office or online at http://studentweb.sdccd.net

*NOTE: The “withdrawal” deadline for the 16 week primary session is the Friday of the 10th week of instruction. Consult the class schedule for the published dates http://studentweb.sdccd.net*

**Administrative Drop**

Registration may be administratively canceled for the following reasons:

1) failure to pay all mandatory fees in accordance with the fee payment schedule;

2) using an add code issued to another student;

3) failure to meet the terms and conditions of a fee deferment;

4) failure to meet academic or progress standards;

5) denial of a “Petition to Challenge a Prerequisite.”

**Exclusion from Classes**

A student may be excluded from class or the college whenever the student:

1) Exhibits behavior which interferes with the educational process. An instructor may remove a student from two class sessions for disruptive behavior. (Refer to Policy 3100: Student Rights, Responsibilities and Administrative Due Process); or

2) Is found to have a communicable disease which requires isolation pursuant to a directive from the County Department of Public Health.

**Children in Classrooms**

No children are allowed in any classroom, or to be left unattended on the campus.

**Study Load Limit**

The maximum study load for a semester is 20 academic units exclusive of physical education activity units and/or 25 units including physical education. In special circumstances, in which a student has an exceptional record of academic achievement, the Counseling Department may consider a request to increase this limit.
Students are reminded that each unit of credit is calculated to involve a total of at least three hours of classroom and outside time per week. Thus, a 20-unit study load represents a 60-hour work load each week. Students working full-time are advised NOT to attempt a full-time college program.

Twelve units of credit is considered a minimum full-time program during a semester; nine units is three-quarters time and six units, half-time.

The maximum study load for summer session is 12 academic units excluding physical education and/or 15 units including physical education.

Priority System
Consistent with state law and the goal of providing a fair and equitable registration system for all students, the San Diego Community College District has established the following priority system for assigning registration appointments for Fall and Spring semesters:

1) EOPS and DSPS students
2) Continuing students
3) New matriculating students
4) New students
5) Students possessing a baccalaureate or higher degree who are not matriculating

Within each of the five groups, students are prioritized according to cumulative units, including transfer units and work in progress. New students are assigned an appointment on a first-come, first-served basis. The priority is as follows:

1) 50.0-69.9 units
2) 70.0-89.9 units
3) 49.9-0 units
4) more than 90 (in ascending order)

The priority system for Summer sessions is:

1) EOPS and DSPS students
2) Currently enrolled students
3) Previously enrolled students
4) New students

Change of Name, Mailing or Email Address
All students must report immediately any change of address to the college Admissions Office or online.

Failure to provide this information will result in delays in registration, and other important information sent by the college. Name changes must be supported with legal documentation and a picture ID and reported in person at the Admissions Office.

Prerequisites, Corequisites, and Limitations on Registration

PLAN AHEAD! All prerequisites, corequisites, and limitations on enrollment stated in the course descriptions listed in this catalog will be strictly enforced at the time of registration. Students who do not meet the requisite requirements according to college records will not be permitted to register for the course. Students who believe they have met the prerequisite at another institution are strongly advised to have all transcripts of prior college work evaluated and on file well in advance of registration to minimize registration delays.

Note: Unofficial transcripts are accepted for prerequisite clearance.

Students should plan their schedules early and see a counselor for assistance.

PREREQUISITES are courses that must be completed with a “C” or better prior to registration in a specific course.

COREQUISITES are courses that are required to be taken the same semester as another course.

LIMITATIONS ON ENROLLMENT are other restrictions that are stated in the course description such as “not open to students with credit in...”

Challenge Procedures
Students who believe they have sufficient grounds may challenge a prerequisite, corequisite, or limitation on enrollment in a specific course (the student does not get units for a challenged class). A student may obtain a Petition to Challenge in the Admissions Office and a copy of Procedures 5500.2. The completed petition must be filed in the Admissions Office no later than ten working days prior to the published add deadline for the course being challenged. Students who challenge a prerequisite or corequisite after the start of the
semester must obtain an add code issued by the instructor prior to completing the petition. Contact the Admissions Office for additional information. For credit by examination, please refer to page 52.

Residency

Residency is determined when a student applies for admission to the College. The following paragraphs summarize the rules and regulations related to student residency for tuition purposes. Details are found in the CA Education Code, section 68000 and Title 5, sections 54000-54072.

Residency Status

Every person who is married or is age 18 or older and under no legal restriction may establish residence. Certain minors may also establish residence.

A California “resident” is a person who has resided in the state for more than one year prior to the residence determination date and shows “intent” to make the State of California their permanent residence.

An undocumented student is precluded from establishing residency. Restrictions also apply to some visas, please see the Residency Office.

The residence determination date is the day immediately preceding the first day of classes for each semester.

Factors Considered to Determine Residency

No one factor determines residency. The following factors are called “indices of intent.” They, along with a person’s presence in California, are among the factors considered in determining California residency:

- Filing California state income taxes as a resident
- Possessing a California driver’s license and a vehicle registered in California
- Voting in California
- Owning residential property in California for personal use
- Being licensed to practice a profession in California
- Having an active checking and/or savings account in a California bank
- Showing California on military records (Leave and Earnings Statement)
- Possessing a marriage license or a divorce decree issued in California
- Having paid nonresident tuition in another state

Exceptions to Residency Requirements

Several exceptions to the residency rules apply. They include, but are not limited, to the following:

- Active duty military personnel stationed in California
- Dependents of active duty military personnel stationed in California.
- Certain minors who remained in California when their parents moved
- Self-supporting minors
- Full-time employees of the college or a state agency, or a child or spouse of the full-time employee

Nonresident Students

A student’s residency status is determined at the time of application. Nonresident students must pay nonresident tuition in addition to the enrollment fee and other fees for credit classes. Tuition must be paid in full at the time of registration.

Assembly Bill (AB) 540

Assembly Bill 540 exempts undocumented nonresident students, who meet the following criteria, from paying nonresident tuition:

- have attended high school in California for three or more years;
- have received a high school diploma or equivalent;
- have registered as an entering student at, or concurrent enrollment at an accredited institution of higher education in California.
- are in the process of obtaining legal status.

This provision applies to students attending community college after January 1, 2002. For additional information contact the college Residency Office.

Incorrect Classification

A student incorrectly classified as a California resident is subject to reclassification as a nonresident and payment of all nonresident tuition. If incorrect classification results from false or misleading facts, a
student may be excluded from classes or the college upon notification.

Reclassification
Reclassification to resident status must be requested by the student. Financial independence during the current year and preceding two years will be considered at the time the student requests reclassification. Information regarding requirements for reclassification is available in the Residency or Admissions Office.

Tuition will not be refunded to a student classified as a nonresident due to lack of documentation if, at a later date, documentation is presented for a previous semester.

Appeals
To appeal a residency determination decision, a student may file a Residency Determination Appeal form with the college Admissions and Records Supervisor.

Limitation of Residency Rules
Students are cautioned that this summary of rules regarding residency determination is by no means a complete explanation of their meaning or content.

For further information, contact the residency clerk in the Admissions Office. Changes may have been made in the statutes and in the regulations since this catalog was published.

False Information
Providing false information necessary for establishing residency will result in disciplinary action up to and including dismissal from the college.

Contact the Admissions Office for more details.

International Students
(F-1 Visa Students)

San Diego City College will accept a limited number of nonimmigrant F-1 visa students. Acceptance into a program at the college is necessary before Bureau of Citizenship and Immigration Service (formerly INS) Form I-20 (certificate of eligibility) is issued by the college Admissions Office. The decision to grant an acceptance will be based on all evidence received prior to the deadlines. Students may contact the International Student Admissions Office at the following address to request forms or information:

International Student Admissions Office
(619) 388-3476
San Diego City College
1313 Park Blvd.
San Diego, CA 92101

General Information
1) An international student must register for and maintain a minimum of 12 units each semester while at City College. Part-time F-1 status will not be approved. The registration status and academic performance of all international students will be monitored by the college.
2) A recent photograph must be submitted with an application (passport size is acceptable).
3) Prospective international students are advised that they must comply with all requirements of the Bureau of Citizenship and Immigration Service (formerly INS) and of San Diego City College to be admitted as international students.
4) A transfer student from another accredited United States college or university must:
   a. follow set transfer procedures of the Bureau of Citizenship and Immigration Service (formerly INS); and
   b. have pursued a full-time course of study with a minimum GPA of 2.0 (C) at the college the student was last authorized to attend. (An official transcript must be filed).

Admission Requirements
Application Fee: All international students are required to pay a $100.00 non-refundable application fee. Upon admission to the college, the fee will be applied toward the first semester nonresident tuition. The fee is valid for up to one year from the date processed.

Admission for Fall Semester: Students must complete all admissions requirements no later than May 1 to be admitted for the fall semester. Since the processing of an application normally requires a minimum of three to five months, students are strongly encouraged to file an application by March 1 of the current year. Students who meet the May 1 deadline will be notified as soon as possible of their admission status. Admission to summer session is restricted to international students.
properly cleared by May 1 for admission to the Fall semester.

Admission for Spring Semester: Students must complete all admission requirements no later than October 1 to be admitted for the Spring semester. Students who meet the October 1 deadline will be notified as soon as possible of their admission status.

Academic Achievement
1) An international student must have graduated from high school (or its equivalent) with a grade point average of “C” (2.0) or better.
2) Students who have obtained a GED (General Education Development) must have attained a minimum score of 45.
3) Transcripts of all previous secondary and college/university education must be submitted, including an English translation of the transcript, before an application will be considered.

English Proficiency Requirements
To be considered for admission, an international student whose native language is not English must present a minimum score of 500 on an International Test of English as a Foreign Language (TOEFL) or 173 on the computerized version. Institutional reports or photocopies will not be accepted. Students may petition to waive the TOEFL requirement under one of the following conditions:
1) completion of a transfer level college English composition course at an accredited United States institution with a grade of “C” or higher;
2) completion of ESL assessment and placement at a level of English 40 (formerly English 62) or higher; in addition, the student must take the prescribed course work at the level of assessment; or
3) a minimum ACT verbal score of 19 or SAT verbal score of 450.

Advanced Degrees: An international student in possession of an associate degree or its equivalent (completion of about 60 semester units) may be determined to be beyond the course offerings of City college and is encouraged to apply to a four-year college or university.

Financial Resources
1) Each international student must submit verification of sufficient financial resources. The verification must indicate the ability of the student to finance each year’s education and living expenses to the satisfaction of the International Student Advisor (normally $15,200 a year for two semesters).
2) An international student attending the college must pay all mandatory fees, including nonresident tuition, enrollment fees, and health services fees.
3) Financial aid is not available to F-1 visa international students.
4) An international student may not accept off-campus employment while attending college unless approval is granted by the Immigration and Naturalization Service and the International Student Advisor.

Health Clearance
1) Students must be in good health and free of communicable diseases. The “Report of Health Examination” form or a medical examination report by a physician must be submitted prior to admission. The medical examination must certify immunization against polio, diphtheria, measles, rubella, and tetanus, and must provide tuberculosis clearance.
2) Each student must present and maintain satisfactory evidence of an active medical insurance policy while in attendance.

Housing
The college is located near public transportation and housing. The college does not provide or assist with housing. Housing is the responsibility of the student.

Visa Students (other than F-1)
All other visa categories or immigrant classifications, other than F-1, must see the Residency Office.

Students who are residing in the United States on other than F-1 student visas must comply with all restrictions on total units enrolled as specified by the Bureau of Citizenship and Immigration Service (formerly INS).

Fees
Community College Enrollment Fee
The enrollment fee is assessed of all students, including nonresidents. The fee is currently $11.00 per unit. However, this fee is subject to legislative and gubernatorial action, and may change without notice.
Waiver of the enrollment fee is available to students who petition and qualify as recipients of benefits under the Temporary Assistance to Needy Families (TANF) program, the Supplemental Security Income/State Supplementary (SSI) program, or the General Assistance program.

Indentured apprentices are exempt from enrollment fees for Apprenticeship Program classes only.

Financial Aid may be available to students who qualify for assistance.

Certain exemptions apply to “special part-time high school students.” Contact the Admissions Office for more information.

### Health Services Fee
All students are assessed a mandatory fee for health services and accident insurance. The health services fee is currently $12.00 per semester ($9.00 for summer session). The following students are exempt from the health services fee:

1) Students attending under an approved apprenticeship program.
2) Students who, at the time of enrollment, are recipients of benefits under the Aid to Families with Dependent Children program, the Supplemental Security Income/State Supplementary Program, or the General Assistance program.
3) Students exempt from payment of the enrollment fee.
4) Students enrolled exclusively in off-campus classes are not eligible for Student Health Services. These students pay only the accident insurance portion of the fee, which is currently $2.50.
5) Students who depend exclusively on prayer for healing in accordance with the teachings of a bona fide religious sect, denomination, or organization. These students may petition to have the fee waived.

For more information, contact the Admissions Office.

### Nonresident Tuition
In addition to the enrollment fee and health fee, tuition is charged to students who are not legal residents of California for tuition purposes. The 2003-2004 non-resident tuition fee is $149.00 per unit.

### Liability Insurance
Students enrolled in occupational courses that require direct clinical practice must pay a fee for liability insurance. Liability insurance fee is automatically assessed at the time of registration. The current fee is $7.00 per semester.

### Additional Fees

**Parking**
- Automobile permits per semester (hanger included) ....... $30.00
- Carpool permits per semester (Mesa only) ................. $30.00
- Motorcycle permits per semester .......................... $15.00
- Transcript of Record ........................................... $5.00
- (after two have been issued free of charge)
- Loss or damage of equipment and books .............. cost
- A.S. College Membership (per academic year) .... $8.00
- Credit by Examination .......................... $11.00/unit
- Student Representation Fee ............................... $1.00
  (Mesa and Miramar classes only)

*Note: Students receiving public assistance, or who are determined eligible for financial aid, may purchase a single car permit for $20.*

### Refunds

1) Fees will be refunded to students who reduce their program in accordance with the following schedule:
   - Classes 1 week or shorter in duration, see Admissions
   - Short-Term Sessions (less than 16 weeks) - Monday of second week
   - Primary Session (16 weeks or more) - Monday of third week

2) Students who are administratively dropped when a Petition to Challenge is denied will receive a full refund of the class(es) petitioned.
3) Students who are academically disqualified and administratively dropped will receive a full refund.
   * No refund is given for classes dropped after the deadline.
   Students with a valid address on file and who do not have an outstanding financial obligation to the district will receive a refund in the mail or credit to their credit card. Refunds will be automatically sent to students after the add/drop deadline. For payments by check, there is a five week waiting period for checks to clear the bank before refunds will be processed.

**NOTE:** Students who drop all classes and wish to receive a refund must also submit their parking permit before the refund will be granted. If the permit is not returned within the two-week refund period, the student will not receive a refund for the permit.
Student Services
Counseling Services

Academic, career, and personal counseling are provided in the Counseling Department in A-110. Services include academic skills assessment and development of a Student Education Plan (SEP), which outlines exactly what courses are needed for graduation and provides a checklist for requirements completed and remaining. Students should have official transcripts from other colleges on file and evaluated before seeking to obtain an official SEP. Students are advised to review the catalog and schedule for program and general information prior to meeting with a counselor. Courses in College Success and Career Planning are offered in Personal Growth listed in the schedule of classes.

Student Transition Services

The Student Transition Services department provides programs, services, and information resources that enable students to prepare for their future after City College. The department includes the Transfer/Career Center and the Cooperative Work Experience Program.

Transfer/Career Center

The Transfer/Career Center is a resource center that assists students in planning their transition to a new career, new job, or transfer to a four-year university. The Center also administers guaranteed transfer admission programs to selected universities. The Transfer/Career Center offers assistance in the following areas:

Transfer Resources
- Learn about transfer
- Choose a major
- Choose a transfer university
- Transfer guarantee programs
- Transfer dates & deadlines
- Contact a transfer university
- Transfer coursework requirements
- Apply for admission
- Apply for financial aid
- Apply for scholarships

Career Resources
- Career assessment/exploration
- Research occupations
- Learn about training programs
- Research potential employers
- Find an internship
- Search for jobs
- Create a resume
- Create a cover letter
- Prepare to interview

The Transfer/Career Center is located in room A-111, (619) 388-3722, www.sdcity.edu/transfer.

Cooperative Work Experience Program

The Cooperative Work Experience Program awards college credit for learning experiences that take place on a job or internship related to the student’s major. The goals and assignments for completion of work experience courses are formulated with the student’s workplace supervisor under the direction of the course instructor. More information on Work Experience courses is available in the Programs of Instruction section of the catalog under courses numbered 270 or 272. Course enrollment is limited and may not be available to all students.

To learn more about Cooperative Work Experience or to apply for enrollment in a Work Experience course, visit the Transfer/Career Center in room A-111, (619) 388-3722.

English for Speakers of Other Languages (ESOL)

The English as a Second Language Program is designed to prepare students to read, write, speak and listen at a level that enables them to succeed in college courses. The program consists of four levels and the student is assigned a level based on the result of his/her placement test. Students interested in enrolling in ESOL courses should schedule an assessment test for placement into the appropriate skill level.
For more information on the English as a Second Language Program, students should contact the college Counseling Office.

TRIO/ASPIRE

TRIO/ASPIRE is a federally funded program, which strives to enhance self-esteem, improve retention and persistence, help raise grades and increase graduation/transfer rates. The following services are available to the participants of the program: Tutoring, Counseling, Computer Laboratory, and Graduation/Transfer Assistance Workshops.

Eligible participants should be highly motivated City College students who meet one of the following criteria: a first generation college student, a low-income student, or a student registered with the Disabled Students Programs and Services Program. Applications for new participants are accepted at the beginning of each semester. For additional information, contact the TRIO/ASPIRE program in L-128 at (619) 388-3407.

Disabled Students Programs and Services (DSPS)

City College provides programs and services for students with disabilities in compliance with State and Federal legislation including Section 504 of the Rehabilitation Act of 1973 and the Americans with Disabilities Act (ADA). Student participation in the program is voluntary.

Eligible students who have a verifiable disability qualify for support services through the Disabled Students Programs and Services (DSPS) Department. The programs and services are designed to support students in the achievement of their academic and vocational goals. Specialized classes for students with disabilities are available to support the college academic and vocational programs through DSPS, Computer, Business Technology and Education, Personal Growth, and Health and Exercise Science Departments. Services provided include priority enrollment, readers, interpreters for deaf students, note takers and/or note taking materials, tutors, use of special equipment and adaptive devices, and specialized counseling and referral. Liaison with community agencies is also an important component of the program.

Academic accommodations such as the use of tape recorders or braillers in the classroom and the modification of test-taking procedures may be arranged. The campus is physically accessible.

Anyone interested in applying for services or obtaining further information may visit the Disabled Students Programs and Services Department in A-115, our website /www.sdcity.edu/studentresources/dsps/, or call (619) 388-3513 or tty (619) 388-3313.

Extended Opportunity Programs and Services (EOPS)

What is EOPS?

EOPS is a state-funded student support services program. Its purpose is to provide special recruitment, retention, and transition services to eligible students. The services offered are “above and beyond” those offered by the college’s Student Services division. The primary services include assistance in the following areas: priority enrollment, book service program, counseling/advisement, preparation for transition to four-year schools/the workplace, and financial assistance. For detailed information on all services offered and application procedures, please contact the EOPS Office in A-113 or call (619) 388-3209.

You may be eligible if you are enrolled full-time (at least 12 units). At least 9 of these units must be taken at City College. In addition you must meet all of the following criteria:

1) You are a resident of the state of California, as determined by the Admissions Office.
2) You are (or plan to be) a full-time student.
3) You qualify to receive a Board of Governors Waiver A or B.
4) You have not completed 70 (or more) units of degree-applicable college course work. This includes courses taken at other colleges.
5) You are determined to be educationally disadvantaged by meeting any one of the following criteria:

a. You do not qualify to enroll for the minimum level English or mathematics courses required for your degree objective.
b. You have not fulfilled the requirements for a high school diploma or General Educational Development (GED).

c. Upon graduation from high school your high school grade point average (GPA) was 2.5 or less on a 4.0 scale.

d. You have been enrolled in a Math or English course, or program that is considered to be developmental or remedial.

e. You have been enrolled in an English as a Second Language (ESL) class or program.

f. In the judgment of the EOPS director, using state guidelines, you are determined to be educationally challenged.

Cooperative Agencies Resources for Education (CARE)

EOPS students who are single parents, have a child less than 14 years of age, and receive public assistance are encouraged to apply for the program's Cooperative Agencies Resources for Education (CARE) component. CARE provides additional support services, including grant funds, to address those needs that are unique to single parents.

How to Apply

Students interested in applying for the EOPS program must complete an EOPS application and the Free Application for Federal Student Aid (FAFSA). These applications are available in the EOPS and Financial Aid Offices. Students should apply early to ensure that they receive consideration for all services. It is recommended that students complete the FAFSA by the priority filing date published by the Financial Aid Office.

Summer Readiness Program (SRP)

SRP is a summer orientation for first-time college students. Participating students attend classes four days each week for eight weeks. The course work includes material designed to develop and enhance college survival skills. In addition to the course work, a full compliment of EOPS services is provided.

Applications are usually available in early January and accepted until the end of the first week of April. Interested applicants should contact the EOPS Office for details.

Financial Aid

A-113 (619) 388-3501

The Financial Aid Office is committed to assisting students who might otherwise be unable to continue their education because of financial disadvantage.

Financial Aid funds are administered in accordance with a nationally established policy of financial assistance for education. The basis of this policy is the belief that students and their parents have the primary responsibility for meeting educational costs. The amount of the contribution expected from students and their parents is determined by careful analysis of family financial strength taking into consideration net income, number of dependents, allowable expenses, indebtedness, and assets. The U.S. Department of Education, in cooperation with educational agencies, has established procedures which are used in making an evaluation of the amount families can be expected to contribute.

Application

Application materials are available in January for the following academic year. The priority filing date for aid is April 15. Students filing their application by this date will be considered first in the award process. The Cal Grant deadline is March 1. However, applications for financial aid are accepted throughout the school year until June 30, 2004.

Prospective students do not have to be accepted for admission to City College to apply for financial aid. In fact, students should apply for aid as soon as the applications are available whether or not they have been admitted to the college, since the application process for federal aid can take up to 12 weeks. However, students must be enrolled in order to be offered any financial aid funds.

All financial aid applicants must complete the Free Application for Federal Student Aid (FAFSA). The completed application (FAFSA) should be mailed directly to the processor according to the instructions. FAFSA now available on the World Wide Web at www.fafsa.ed.gov.

Academic transcripts from prior colleges attended must be submitted before the processing of a financial aid application can be completed. Academic transcripts must be submitted directly to the District Records Office.

Eligibility

In order to be eligible to apply for financial aid, a student must be a citizen or permanent resident of the United States or be in the country for other than a
Eligible non-citizens must provide proof of permanent residency for Federal Aid (Alien Registration Cards, I-94, I-155, I-688, or U.S. Immigration and Naturalization letter granting asylum, etc.). F-1 Visa students are not eligible for financial aid at City College. For further information regarding other eligible immigration status, contact the Financial Aid Office.

Students who do not have a high school diploma or equivalent are required to demonstrate “Ability to Benefit” from instruction. Information is available in the Financial Aid Office.

Awards

Awards take the form of a “package” of financial aid, usually consisting of grant money and work-study, depending on the financial need of the applicant and availability of funds. Awards may be adjusted at any time upon notice of receipt of resources not previously reported or a change in enrollment status. Revisions to awards may be possible because personal financial circumstances are so unpredictable. If funding is available, aid for valid educational expenses not already covered in the student cost budget may be increased.

Financial aid checks are usually ready for disbursement approximately four or five weeks after the start of classes. Pell Grant disbursements are based on enrollment levels at the time of payment and will not be adjusted. However, SEOG and Cal Grant payments will be adjusted according to enrollment status. If you withdraw from classes after aid has been disbursed to you, you may be required to repay all or part of this aid.

An automated system is available in the college bookstores to allow students to use a portion of their estimated Pell Grant to purchase books and supplies two weeks prior to the start of the semester. Funds will be set aside from each student's Pell Grant and placed in a special account in the bookstore. This account may be used for the purchase of books and supplies until the funds are exhausted. The account is valid at the City, Mesa, and Miramar College and ECC bookstores, regardless of where students are taking classes.

Student will be responsible for paying back the Bookstore for charges if student does not attend classes.

Students who elect not to purchase books from the college bookstore, or have any funds remaining on account, will receive the funds in the mail with the remainder of their Pell Grant award.

Students must be making satisfactory academic progress as determined by the Standards of Satisfactory Academic Progress for Financial Aid Recipients. Copies are available in the Financial Aid Office.

Return of Title IV Funds

Federal law requires that if a student receives a grant and then drops/withdraws from all his/her classes, he/she will owe money back to the Federal Government.

Note that the earlier a student drops/withdraws, the more money he/she will have to pay back.

- If a student receives LOAN money and withdraws, he/she must pay back the money according to the normal rules of the loan program.
- If a student receives WORKSTUDY money and withdrawals, he/she does not owe anything back and may keep the salary earned, but must stop working.

For more detailed information, contact the Financial Aid Office.

Financial Aid Programs Available

Following is a basic description of the programs available. Contact the Financial Aid Office for detailed descriptions and eligibility requirements.

Enrollment Fee Assistance: Board of Governors Waiver (BOGW)

State law requires that students attending the college pay an enrollment fee. Students enrolled in credit classes are currently required to pay $11 per unit.

The college offers the Board of Governors Waiver (BOGW), a state-funded program which will waive the enrollment fee for all eligible applicants. Students who qualify for a BOGW will be exempt from paying the health fee.

If you are a California resident, you will qualify for a BOGW if any ONE of the following statements applies to your current status:

- You have already qualified for financial aid, such as a Federal Pell Grant or a Cal Grant.
- You have need as determined by Federal Methodology.
- You or your family are receiving TANF (Temporary Assistance to Needy Families), SSI (Supplemental Security Income), or Medicaid.

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Security Income), or General Assistance/General Relief.

- You have a letter from the Department of Veterans Affairs certifying that you meet the eligibility requirements of “certain disabled veterans, dependents of certain deceased or disabled veterans.”
- You are a dependent of a deceased or disabled veteran of the California National Guard. You must submit a letter of certification from the California National Guard Adjutant General’s Office.
- You meet the following income standards:

<table>
<thead>
<tr>
<th>Number in Household (including yourself)</th>
<th>Total Family Income for 2002 (adjusted gross income and/or untaxed income)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>$13,290 or less</td>
</tr>
<tr>
<td>2</td>
<td>$17,910 or less</td>
</tr>
<tr>
<td>3</td>
<td>$22,530 or less</td>
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<tr>
<td>4</td>
<td>$27,150 or less</td>
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<tr>
<td>5</td>
<td>$31,770 or less</td>
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<tr>
<td>6</td>
<td>$36,390 or less</td>
</tr>
<tr>
<td>7</td>
<td>$41,010 or less</td>
</tr>
<tr>
<td>8</td>
<td>$45,630 or less</td>
</tr>
</tbody>
</table>

Add $4,620 for each additional family member.

To determine your eligibility for the Board of Governor’s Waiver based on the above income standards, you will be considered independent if:

- You do not live with your parents
- You were not claimed as an exemption on any federal income tax filed by your parents in 2002

**Federal Pell Grant**

The Federal Pell Grant is the largest federal grant program and is the foundation of a student’s total “aid package.” Eligibility is determined by the federal government using a standard formula for all applicants.

Enrollment status will be frozen after the add/drop period and will be the basis for Pell disbursement. Once the Pell Grant award has been processed it will not be adjusted for additional units added during the semester.

**Federal Supplemental Educational Opportunity Grant (FSEOG)**

FSEOG is a federal grant program designed to assist students who have the greatest demonstrated financial need. Awarding of FSEOG funds is determined by the Financial Aid Office based on available resources.

**Cal Grants**

The Cal Grant program is administered by the California Student Aid Commission to help low-income students attend college. Students at the college may receive Cal Grant B or C.

- To be eligible for Cal Grant B a student must be a California resident and pursuing an undergraduate academic program of not less than one academic year.
- Cal Grant C is designed for students enrolled in a vocational program who are California residents from a low or middle-income family.
- See the Financial Aid Bulletin for important dates and deadlines.

**Federal Work Study**

Federal Work Study (FWS) allows students the opportunity to earn part of their financial aid by working in assigned jobs, both on and off campus. The salary received is at least equal to the current minimum wage, but many Federal Work Study jobs pay more than minimum wage. Federal Work Study differs from the other financial aid programs in that a student is allocated a certain amount of money to earn. As work on the job is completed, a time card is submitted for the hours worked just as at a regular job. Once a month the student receives a paycheck for the hours worked. Once the amount allocated in the financial aid package is earned, the job ends.

**Student Loans**

Applicants for student loans will be subject to college policy requirements regarding enrollment status, length of attendance, number of units completed, and total amount of previous loans.

Contact the Financial Aid Office for other requirements.

**Federal Direct Loan (Subsidized)**

The Federal Direct Loan is a new federal loan program that replaced the Stafford Loan program. Instead of borrowing from a bank, students borrow directly from the Federal Government.

A community college student may borrow $2,625 as a first year student and $3,500 as a second year student. A student may not borrow more than a total of $23,000 as an undergraduate student. The interest rate is a variable rate that changes each school year. Borrowers are required to pay an origination and insurance fee which is currently 3%. These fees are deducted from the proceeds of the loan.
To qualify, a student must be enrolled in at least six units and must demonstrate financial need through the federal methodology. To apply for a Federal Direct Loan, students must complete a FAFSA. All new applicants must also complete a mandatory loan entrance counseling session. The counseling session is required even if a student has attended a Stafford loan workshop in the past. If a student has attended a Direct Loan workshop at City, Mesa or Miramar College in the past, it will not be necessary to conduct another entrance counseling session. You may complete the entrance counseling session on-line at www.ed.gov/DirectLoan/students.html. The Financial aid Office will be notified when the session has successfully been completed. In addition, you must fill out a Loan Request Form from your Financial Aid Office.

Borrowers may also be required to submit a student education plan. The actual loan amount for which a student is eligible will be determined by the Financial Aid Office. Students must have financial need to qualify and must repay the loan. Checks will be disbursed twice per loan period. Checks to first-time students or first-time borrowers will be disbursed 30 days after the start of the semester.

For additional information, contact the Financial Aid Office.

Federal Direct Loan (Unsubsidized)
Effective July 1, 1999, City College, Mesa College and Miramar College will no longer participate in the Unsubsidized Federal Direct Loan Program.

Plus Loan
Parents of dependent undergraduate students may borrow from the PLUS loan program. The amount borrowed may be up to the cost of attendance minus any financial aid. Checks will be co-payable to the parent and the institution. Parents must begin repayment within 60 days of receiving the loan. The interest rate is a variable rate determined on June 1 for the following award year. Borrower must meet all other financial aid eligibility requirements, including completing the FAFSA.

Student Emergency Loans
Short term loans for limited amounts of money are available to students in emergency situations. Contact the Student Affairs Office at City for further information.

To be eligible, students must be enrolled in at least six units and have attended City, Mesa, or Miramar College at least one semester within the last three years.

Gift Certificate Program
Gift certificates are available in the college bookstore and may be applied towards college fees and the purchase of books and supplies.

Veterans and Service Members

Veterans Center Military Service Connected Benefit Programs
The San Diego Community Colleges have been approved to offer military service connected benefit programs leading to a certificate, an associate degree or transfer to a four-year institution. The Veterans Affairs Office staff provides counseling and guidance to veterans and assists them in the selection of educational programs which qualify for veterans benefits. The final responsibility for monitoring the process of qualification for educational benefits resides with the individual. Each veteran must read, understand, and comply with the many rules, regulations, and procedures that influence the benefit process.

Failure to take the proper classes can result in an overpayment and the reduction or termination of benefits.

Disabled Veterans
Veterans who qualify for educational benefits as disabled veterans may be entitled to special educational benefits. Veterans should visit the Veterans Administration Regional Office, 8810 Rio San Diego Drive, San Diego, CA, 92108, to determine their eligibility for disabled status (Telephone: 1-800-827-1000).

Veterans with disabilities are encouraged to pursue services offered through Disabled Students Programs and Services, A-115.

Veteran Dependent Exemption
Children and spouses of U.S. Veterans with service connected disabilities may be eligible for waiver of
college fees and/or for a small monthly payment. For more information see the Veterans Affairs Office.

**Liability**
The veteran assumes full liability for any overpayment of veterans benefits.

All persons receiving educational benefits must report to the Veterans Affairs Office after enrollment **every semester** to continue their benefits. In addition, a **Student Education Plan (SEP)** must be on file by the **end of the first semester**; otherwise, certification of VA benefits will be delayed for the second semester. This plan must be developed and reviewed by a counselor.

**Number of Units Required**
For students enrolled in a degree program, the following number of units are required each semester to qualify for educational and training allowance:

- 12 units or more = full allowance
- 9 - 11.5 units = three-fourths allowance
- 6 - 8.5 units = one-half allowance
- 2 - 5.5 units = one-quarter allowance*

* Chapters 32 and 106 only.

Short-term and summer session courses are computed proportionately for payment purposes.

**Withdrawal/Change of Classes**
Veterans are required to notify the campus Veterans Affairs Office when they stop attending class, withdraw from the college, or add or drop a class. Such changes should be reported immediately after completing the add/drop procedure through ClassTalk. Failure to comply with this regulation will be grounds for decertification.

**Veterans Academic Progress**
A veteran student on Academic or Lack of Progress probation status will be disqualified when his/her grade point average (GPA) falls below 2.0 for two consecutive semesters. The College Veterans Affairs Office is required to notify the Department of Veterans Affairs (DVA) of this status. The DVA will terminate benefits unless it can be shown that the student is pursuing an appropriate objective and has a reasonable chance for success in the chosen program. Please contact the Veterans Affairs Office for more information.

**Repeated Classes**
Veterans may not receive benefits for a repeat of a course in which a “D” grade has been received, the course may be certified for benefits only if this catalog states that a grade of “C” or better in that course is required to earn a degree or meet a prerequisite.

**Work Experience**
The Work Experience program grants college credit for learning that takes place at a job or internship. Veterans may be approved for Work Experience classes only if it is required for their major or electives are available according to their education plan. Total Work Experience coursework may not exceed four units per semester, four courses, or 16 total units.

**Transcripts**
All official transcripts of prior college work and military schools, including copies of form DD214 or DD295 covering all periods of military service, **must be on file in the Records Office by the end of the first semester of attendance at this college**. Certification for benefits for the second semester will be withheld if transcripts are not received. Visit the Veterans Affairs Office for necessary forms.

**Learning Resources**

**Learning Resource Center**
The new San Diego City College Learning Resource Center, “R” building, is located on the southwest corner of campus on Park Boulevard between B and C Streets. Commanding dramatic views of the San Diego downtown skyline and the Coronado Bay Bridge, students and faculty are drawn here for study and research.

The main and upper level house circulation, reference, technical services, a copying and microform center, the print collection, student group study rooms, and the "smart" library instruction classroom. The lower level includes the Independent Learning Center, the Multimedia Center, a state-of-the-art videoconference room and City SITE, the faculty and staff development center. Comfortable lounge environments, ergonomic reading tables and seating, some with power connections for laptop computers, are provided throughout the three floors.

Students of the college and the San Diego Community College District will find a wide variety of materials and services which are helpful for completing research...
papers, course projects and homework assignments within the three major components of the Center.

**Library**
The library program offers a collection of 65,000 books, 229 periodical titles and a growing number of full-text electronic databases, links to other resources on the Internet and to the online library catalog. Reference services are available to help students locate appropriate library materials. Instructional services are regularly scheduled by instructors to teach students in the most effective use of library resources.

**Independent Learning Center**
The Independent Learning Center (ILC) has three major functions:

1. It provides word processing facilities and Internet access for students (includes business and computer science application programs for the PC).
2. It is the primary facility in which students complete 296 individual instruction courses.
3. It offers independent learning materials for many courses in a variety of formats such as videotapes, audiotapes, and computer materials.

The ILC is located in the Learning Resource Center, rooms R-105 to R-107. The ILC offers basic computer lab skills as related to the student’s subject area. Methods of instruction include supervised lab, individual instruction, independent study, and self-paced multimedia work.

**Multimedia Center**
The Multimedia Center incorporates cutting edge educational technology for classroom, Library, and distance learning. The center has LCD computer projectors coupled with the latest laptops/lifebooks that allow instructors and students to project PowerPoint presentations, download Internet software and show either video or DVD media.

Other mediated technologies include videoconferencing (two-way audio/video technologies), satellite downlinks for instructional support, audio and visual duplication technologies, computer editing technologies, and the maintenance of audio-visual equipment including video-data projectors such as digital video cameras and digital cameras with SD-R/RW Discs.

**Tutorial/Learning Center**
The Tutorial/Learning Center is located in Room L-214 on the second floor at the west end of the L-Building. The Center is dedicated to providing high quality academic support to students in art, science, vocational, and technological courses. The goal is for each student to become an independent learner, who will succeed in the collegiate setting.

Peer Tutors are carefully selected and professionally trained for most college subjects. Many are bilingual to help with language barriers. They provide FREE individual and small group tutoring in most subject areas. All City and ECC College students may sign up for ongoing appointments, or come in on an as-needed, walk-in basis. Special assistance is provided for vocational, DSPS, CalWORKS and EOPS students. FREE one-hour academic skill workshops are also offered which strengthen learning skills such as note-taking, test-taking, and memory and time management.

The current hours of operation are Monday through Thursday 9:00 a.m. to 7:00 p.m., Friday 9:00 a.m. to 3:00 p.m.

**Center for Reading, Writing, English as a Second Language (ESOL), and Critical Thinking**
The Center for Reading, Writing, ESOL, and Critical Thinking is located in the upper level of the C building in Room C-226. The Center offers peer tutoring in reading, writing, and critical thinking assignments in classes across the curriculum. Tutors can provide assistance on a wide variety of assignments at any stage of the writing process. No appointments are taken; tutors see students on a walk-in basis. The Center is a free service to City College students. Hours, which may vary from semester to semester, are posted outside the Center.

**Mathematics Center**
The Mathematics Center provides two services to students: walk-in tutoring and self-paced math courses. The Center, located in T-208, is open both day and evening hours. Tutoring is available to all City College students. The tutors include trained student tutors and Math Department faculty.

**Tutoring is on a first-come, first-served basis.**

The self-paced mathematics courses provide students with a flexible alternative to the traditional lecture courses for Math 35, 095, and 096. The courses are
open-entry/open-exit and self-paced. A variety of learning resources are available including video lectures and computer tutorials keyed to the student's textbook, live and videotape workshops, on-line testing for immediate feedback, tutors and an on-site counselor.

For additional information, come to Room T-208, or call (619) 388-3583.

**Student Health Services**

A-116  
(619) 388-3450

The Student Health Services supports the success of students by attending to their physical and emotional well-being through the following services:

- Nursing Assessment & Management
- Limited Lab Services
- First Aid/Emergency Care
- General Medical Care
- TB tests/Immunizations
- Health Counseling
- Blood Pressure screening
- Substance Abuse referrals
- STD Information and referral
- Mental Health Counseling
- Medical referrals
- Women’s Health and Family Planning

A nurse is on duty daily. A medical doctor, Mental Health counselor, or Nurse Practitioner is available by appointment only. Nurse and doctor visits are free. Mental Health counseling is free for the first visit and subsequent visits are $5 each. Some medical procedures may also require a fee.

For the protection of college students and personnel, students may be asked to supply health records. In addition, the college may require health consultations and physical examinations when they appear necessary. All students are strongly encouraged to obtain immunizations against communicable diseases as recommended by public health authorities.

**Student Accident Insurance**

The Student Accident Insurance Plan provides coverage for on-campus or college-related injuries. This insurance covers most reasonable charges. The student, however, is ultimately responsible for any medical expenses incurred.

Student Accident Insurance is co-insurance. Students covered by a primary health organization or any other type of medical insurance should first seek treatment and payment from the provider or insurance company. All student claims are made through the Student Health Services office.

**Student Accident Insurance Claims**

Student Accident Insurance is co-insurance. Students covered by a primary health organization or any other type of medical insurance should first seek treatment and payment from that provider or insurance company. All student claims are made through the Health Services Office.

**Child Development Center**

The Child Development Center offers an educational program for children six months to five years old. Enrollment is limited to children of parents attending day classes at City College. Parents must participate at the center three hours per week each semester their child is enrolled and must take Child Development 160 and 161 the first year they enroll a child in the program. Applications for enrollment are accepted the first two weeks in May and first two weeks in the Fall semester for the academic year. The Center is located at 16th and B streets. For additional information, call (619) 388-3205 or drop by (License Numbers 370805154 and 370806172).

**Student Affairs/Campus Life**

The Office of Student Affairs provides a variety of services designed to provide students with a well-balanced academic and extra-curricular college experience.
Student leadership, clubs and organizations, cultural events, graduation and other support services are offered through the Office of Student Affairs.

For scholarship information, emergency book loans, fee deferments and information about other support services, contact The Office of Student Affairs in room D106.

Alpha Gamma Sigma (ΑΓΣ)
AGS is a statewide community college organization recognizing high achieving students. Alpha Tau is the San Diego City College chapter of Alpha Gamma Sigma. For information about eligibility requirements, drop by the Student Affairs Office in D-106 or call (619) 388-3498.

Associated Students (AS) Student Government
The Associated Students is the governing body that finances, organizes, and directs many student-sponsored programs and activities at City College. Elections are held annually for Associated Student President and other officers. Any student with a current City College ID card may vote in the elections.

Any student who participates in student government may not have any Policy 3100 violations of suspension or greater, as stated on their official student record.

Associated Students Membership
Support your student body by purchasing an AS membership. The membership entitles you to special benefits and privileges. The revenues go back to support various campus events and activities. See the Associated Students office, D-105A for a list of current benefits.

Student Organizations
There are many recognized student organizations on campus reflecting the diversity of interest of the student body. Students wishing to charter or register new organizations should contact the Student Affairs Office in D-106.

Athletics
San Diego City College is a member of the Pacific Coast Conference for the following sports: men's and women's soccer, men's and women's cross country, men's basketball, women's softball, men's and women's tennis, men's baseball, women's volleyball, and women's badminton.

Participation in intercollegiate football is available in the San Diego Community College District located at Mesa College. The Pacific Coast Conference includes the following colleges: Grossmont, Imperial Valley, MiraCosta, Palomar, San Diego Mesa, and Southwestern.

Students must meet academic requirements established by the California Association of Community Colleges and pass a physical examination before they are determined to be eligible to participate in Conference sports. Academic eligibility includes enrollment as a full-time student during the season of the sport and a minimum 2.0 grade point average. For more information, contact the Athletic Program Coordinator's Office, or call (619) 388-3486.

Physical Education Classes/Intercollegiate Sports Disclaimer
Participation in all sports and physical education activities involves certain inherent risks.

Risks may include, but are not limited to, neck and spinal injuries that may result in paralysis or brain injury, injury to bones, joints, ligaments, muscles, tendons and other aspects of the muscular skeleton system; and serious injury, or impairment, to other aspects of the body and general health, including death. The San Diego Community College District, its officers, agents and employees are not responsible for the inherent risks associated with participation in physical education classes/intercollegiate sports.

Students are strongly advised to consult a physician prior to participating in any physical education activity.

Performing Arts
The City College Department of Visual and Performing Arts offers students the opportunity to present plays several times a year and sponsors student performances in music and dance which are open to the public as well as the college community.

Journalism
College Newspaper
The college newspaper, City Times, provides students the opportunity for class workshops and actural
experience in writing, editing, and producing a newspaper.

CityWorks
CityWorks is San Diego City College’s creative arts annual anthology which features artwork, poetry and prose from students and the community. Each October, the staff seek artists, writers, poets, journalists, editors, graphic designers, photographers, and other creative people to seek submissions for the issue, which is published each spring. For more information, call (619) 388-3437.

Support Services

Campus Bookstore
The City College Bookstore located on campus, stocks ALL required and optional textbooks and academic supplies. In addition, the Bookstore also carries a large assortment of school supplies, software, emblematic clothing, gifts, and snacks. Faculty, students, and staff can save 30% - 60% on academically priced software.

The City Bookstore buys back textbooks everyday. For the best return on your investment, sell your books for cash during finals week.

*Hours of operation are extended during the first few weeks of each semester. Regular Semester Hours are as follows: Monday - Thursday 7:45 AM - 7:00 PM, Friday 7:45 AM - 12:00 Noon

Mesa Bookstore Hours:
Monday - Thursday 7:45 AM - 7:00 PM, Friday 7:45 AM - 12:00 PM.

Miramar Bookstore Hours:
Monday - Thursday 9:00 AM - 7:00 PM
Friday - Closed

* Hours are subject to change

Cafeteria
The cafeteria is located in D-123 and serves both day and evening students.

College Police Department
T-211
The College Police Department is responsible for providing public safety, law enforcement and crime prevention services. Its mission is to maintain peace and order and a safe learning environment for all members of the campus community. It is also responsible for administering the campus parking program, lost and found and building security program.

Emergency services are provided 24 hours a day. Police business offices are open as follows:
City College (T-211) & Mesa College (J-202)
7:00 AM - 10:00 PM Monday - Thursday
7:00 AM - 9:00 PM Friday

Miramar College (B-102)
8:00 AM - 7:00 PM Monday - Thursday
Closed Friday

For information and general assistance, call (619) 388-6411. For POLICE assistance, call (619) 388-3461.

Police Escort and Related Services
The college police are available to provide escort, dead battery and vehicle lockout service during regular hours of operation as published above. Students who wish to use these services, should go to the College Police Office at the following locations for assistance:

City College……………………………………T-211
Mesa College .................................J-202
Miramar College ...............................B-102

Escorts and police services at other campuses are available anytime by calling College Police Dispatch at (619) 388-6405.

Parking
Parking permits are available for purchase during registration through ClassTalk, Reg-e, or at the Accounting Office. Permits purchased at the Accounting Office after the add deadline must be picked up at the College Police Office in room T-211. Automobile permits (hanger included) are $30.00. See College Police for Carpool (Mesa only) information. Motorcycles are $15.00 (per semester). Vehicles parked on campus without valid permits are subject to citation. Holds will be placed on student records for outstanding parking fine balances in excess of $100. Special parking is available for students with disabilities with a valid state issued placard.

Parking permits are not required in the student lots, 12:00 noon to 6:00 p.m. daily.

Call (619) 849-3515 for information on parking citations.
Vehicle Immobilization “Booting”

Warning: Vehicles that accumulate five (5) or more unpaid parking citations may be immobilized “booted” or impounded.

Emergency Calls

The college will not interrupt classroom instruction to deliver messages, except in extreme emergencies. All calls/inquiries should be referred to the College Police Dispatch at (619) 388-6405 or (619) 388-3461.
Academic Information and Regulations
Academic Information

Honors
The Honors Program is open to any student who meets appropriate general and departmental criteria. Honors classes are designed to provide strongly motivated students with a more in-depth or cross-disciplinary curriculum and a highly interactive classroom experience.

The Honors core curriculum, “A World of Ideas,” is intended for prospective transfer students who are interested in a multicultural, multinational perspective in their courses. The goal of the program is to facilitate and increase transfer to the University of California, California State University, and distinguished private universities, as well as to enhance employability for vocational students.

Special transfer agreements also exist for City College Honors students at the following four-year colleges and universities: UCLA, UC Santa Cruz, UC Irvine, UC Riverside, USC, Pomona College, Occidental College, SDSU, Pepperdine University, Chapman University, Whitman College and Pitzer College. For information on eligibility requirements and course offerings, see the schedule of classes or call (619) 388-3512.

Extended Studies (Off-campus classes)
Extended Studies offers City College credit courses at various sites throughout San Diego such as on military sites, Hoover High School, and at other educational and social service agency locations. These classes are open to all City College students and are designed to provide an opportunity for students to attend classes in the community that are short term, easily accessible, and have convenient parking. Extended Studies courses are listed in the class schedule each semester under the subject in which they are offered. If you have questions about enrolling in Extended Studies off-campus classes, call the Extended Studies office at 388-3528.

Study Abroad Programs
San Diego City College offers students the opportunity to study in different countries around the world in order to develop global competencies and to increase cultural awareness while making progress towards completion of academic goals.

Classes are held at educational institutions in the host country. Field trips, excursions, and visits to sites of cultural and historical interest are components of the program. Housing arrangements include family homestays, student apartments, and/or residence halls. Costs vary from approximately $4,500 to $5,200 for semester programs and are less for summer programs. Financial aid is available for semester programs for students who qualify.

Semester Abroad Programs: San Diego City College, through a Study Abroad Consortium, offers academic programs every semester in countries such as the United Kingdom, Costa Rica, Australia, and Italy. Courses are taught by faculty from community colleges in the San Diego area. New sites abroad are continually considered. Classes offered abroad meet general education requirements, are mostly CSU and UC transferrable, and are selected to take advantage of the host country’s history, environment, and culture.

Summer Abroad Programs: Programs approximately 4 weeks in length are often available during the summer for college credit. Madrid, Spain was the location for Summer 2001. Cuernavaca, Mexico was the location for summer 2002.

Contact Information: Additional information is available from the Office of the Dean of Student Development or call the International Education Coordinator at (619) 388-3652.

Dean's List
A Dean's Honor List is compiled at the close of each academic year (Fall and Spring). To be eligible for the Dean's Honor List, a student must complete 12 units or more during the academic year and have earned a grade point average of 3.5 or better.

Cooperative Work Experience
Under certain circumstances, students can receive academic credit for their current employment or volunteer service. For registration information, call (619) 388-3475 or contact the Work Experience Office in A-111 at the beginning of each semester.

Distance Education
For those students who need (because of child care, health, or scheduling problems) an alternative way to attend college, City College offers a broad range of classes as telecourses and on-line courses. The majority of instructional time will be spent viewing the programs and completing assigned readings in the text and/or
workbook, however, these courses also meet on campus several times during the semester.

Check the current schedule of classes for a listing of Distance Education courses. For more information, please contact the Distance Education Office at (619) 388-3534.

Class Attendance
Enrollment in college assumes maturity, seriousness of purpose, and self-discipline. Every student is expected to attend each meeting of all classes for which he/she is registered, to arrive on time, and to stay for the full class period. The college recognizes that absences occur as a result of circumstances beyond a student’s control as well as from a student’s failure to accept responsibility for attending class regularly. It is with the intent of providing for the orderly management of the colleges that the Board of Trustees established the following rules:

1) Attendance shall be taken and recorded at each regularly scheduled class meeting.

2) Instructors may excuse absences when the absence results from illness, accident, religious observances, holidays, other circumstances beyond the student’s control, or participation in authorized professional or college activities.

3) Instructors shall determine what work should be made up.

4) Any student absent from the first meeting of a class may be dropped by the instructor.

5) All rosters shall be cleared of inactive enrollment as of the census date. Inactive enrollment results when students do not attend the first class meeting, or when students have accumulated unexcused absences in excess of 12% of the total class hours.

6) Any student accumulating absences that exceed 6% of the total hours a class is scheduled to meet during its full term may be dropped by the instructor.

Note: It is the student’s responsibility to drop by the withdrawal date or a letter grade will be assigned.

7) FOR VETERANS ONLY: To satisfy Veterans reporting requirements, the interval between the last date attended and the date dropped (the date the drop is processed) shall not exceed 22 calendar days.

8) Tardiness and leaving class early may be treated in the same manner as absences.

9) All drops (administrative, instructor, or student initiated) shall be recorded on the student’s record in the same manner.

10) Final grades may be affected by attendance to the extent that the instructor has included attendance in the “method by which the final grade is determined” and has provided this information to the students in the course syllabus.

Grading System

Unit of Credit: A unit of credit represents one hour of lecture or recitation and two hours of preparation per week, or three hours of laboratory per week for one semester.

Academic Grades

<table>
<thead>
<tr>
<th>Grade</th>
<th>Standing</th>
<th>Grade Points per Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Excellent</td>
<td>4</td>
</tr>
<tr>
<td>B</td>
<td>Good</td>
<td>3</td>
</tr>
<tr>
<td>C</td>
<td>Satisfactory</td>
<td>2</td>
</tr>
<tr>
<td>D</td>
<td>Passing - less than satisfactory</td>
<td>1</td>
</tr>
<tr>
<td>F</td>
<td>Fail</td>
<td>0</td>
</tr>
<tr>
<td>CR</td>
<td>Credit</td>
<td>Units earned not counted in GPA</td>
</tr>
<tr>
<td>NC</td>
<td>No Credit</td>
<td>Units not counted in GPA</td>
</tr>
</tbody>
</table>

The grade point average (GPA) is determined by dividing the total grade points earned by the total grade point units completed as listed in the chart above.

Administrative symbols: CR/NC - Credit/No Credit; I - Incomplete; W - Withdrawal; IP - In Progress; RD - Report Delayed. Administrative symbols are not used in the computation of GPA. See below for further explanation.

Credit/No Credit (CR/NC) is a nonpunitive grading system where such units earned will be counted in satisfaction of curricular requirements but will be disregarded in determining a student’s grade point average. For more specific information, refer to the discussion of the “Credit/No Credit Grading Policy” on page 44.

Incomplete: A symbol of “I,” Incomplete, may be assigned by an instructor when a student has been
unable to complete academic work for unforeseeable emergency and/or justifiable reason at the end of term. A copy of the “Assignment of Incomplete” form will be mailed to the student and the original retained in the Office of the Vice President, Student Services. A final grade will be assigned when the work stipulated has been completed and evaluated by the instructor or when the time limit for completion of the work has passed. An “I” must be made up no later than one year following the end of the term in which it was assigned. In the event of unusual, verifiable circumstances beyond the student’s control, a petition may be filed in the Office of the Vice President, Student Services for extension of the one-year time limit. Course repetition is not permitted to remove an Incomplete.

**Withdrawal:** An official withdrawal from classes may be requested by the student or initiated on his/her behalf by the instructor or Vice President, Student Services. The following conditions apply to official withdrawal:

1) No record of the class will be entered on the student's permanent record if the official withdrawal is made by the deadline to drop without a “W” being recorded as published in the schedule of classes.

2) If the withdrawal is made after the deadline for withdrawing without a “W” and prior to the deadline for withdrawal published in the class schedule for that session, a “W” will be recorded on the student’s permanent record. No exceptions to this policy will be made. Petitions will not be accepted for exception to policy.

3) A student attending a session after the deadline for withdrawal will not be eligible to receive a “W” and must be assigned an academic grade or other administrative symbol by the instructor. Exceptions to this policy will be made only upon verification of extreme circumstances beyond the control of the student. Petitions requesting exception must be filed in the Admissions Office.

4) Withdrawal (W) symbols will be used in the calculation of lack of progress probation and disqualification status.

5) Students on active duty or reserve duty may petition for a “military” withdrawal. This withdrawal is not calculated in the determination of academic progress and is noted on the student’s academic record.

**In Progress:** A symbol of “IP,” In Progress, will be assigned when a class extends beyond the normal end of a semester or summer session, that is, when the class “carries over” from one term to the next. The appropriate grade, however, shall be assigned and appear on a student’s record for the term during which the course is completed. The “IP” will remain on the academic record. The “IP” shall not be used in the calculation of a student’s grade point average.

**Grade Challenge**

Final grades will be issued at the end of each semester. In the absence of mistake, fraud, incompetency, or bad faith, the determination of the student's grade by the instructor shall be final once they have been filed in the Admissions Office and recorded by the Registrar’s Office.

The college will not accept a challenge to a grade change or request for change of a student’s academic record beyond five years from the date of issuance. Challenges must be processed under District Policy 3001.1 in the Office of the Vice President, Instruction. Students wishing to challenge a grade should first attempt to resolve the challenge informally with the instructor. If not resolved at the level of the instructor, the student should proceed by submitting the complaint in writing to the department chair, school dean, Vice President of Instruction, and finally, to the College President.

**Credit/No Credit Grading Policy**

Consistent with District policy, a student in good standing may elect to be graded on a Credit/No Credit basis in a course. A grade of “Credit” (CR) shall be awarded only for work which otherwise would have received a grade of “C” or better. Work that would have received a “D” or “F” will be graded “No Credit” (NC). The units earned will be counted in satisfaction of program requirements, but will be disregarded in determining a student’s grade point average.

**IMPORTANT:** Students who plan to transfer to a four-year institution should review the Credit/No Credit acceptance policy of the transfer institution prior to petitioning for this grading option. Restrictions in the San Diego Community College District also apply.

**Limitations:**

1) No course required in the student’s major may be taken for Credit/No Credit. Some departments may limit this option further.

2) No more than 12 units of a student’s coursework completed in the San Diego Community College
District may be graded on a Credit/No Credit basis. Courses offered only on a Credit/No Credit basis are excluded from this limit.

Conditions:

1) Students who wish to be graded on a Credit/No Credit basis must submit a petition to the Admissions Office by the deadline date listed in the schedule of classes. No exceptions to the deadline will be made.

2) An evaluation on a Credit/No Credit basis may not later be changed to a letter grade nor may the reverse occur. No exceptions to this condition will be made. Petitions will not be accepted for exception to policy.

There are courses in which Credit/No Credit grades are used exclusively; these are designated in the catalog course description by the statement “Credit/No Credit Only.” In addition, there are courses which cannot be taken on a Credit/No Credit basis; these are designated in the course description by the statement “Letter Grade Only.”

Standards of Academic Progress

Students are in good academic standing when they have a 2.0 grade point average or higher and have completed at least 60% of units they have attempted. There are two kinds of probation and disqualification, one based upon GPA (Academic Performance) and the other based upon the number of units completed (Progress Performance).

Certain programs may have more stringent standards for academic progress. Consult the program director for more information.

Students enrolled in the core curriculum of medically-related programs will be governed by the probation and disqualification policies as outlined in the program policy manuals that reflect the tenets of safe medical practice and respond to program accreditation guidelines.

Academic Probation*

Students whose grade point average falls below a 2.0 after completion of 12 units in the San Diego Community College District will be placed on academic probation and remain there until their overall GPA reaches or exceeds 2.0.

Academic Disqualification

A student on academic probation status is disqualified when his/her non-cumulative GPA falls below 2.0 in a subsequent semester. An enrollment hold will be placed on the student's record. Students who are disqualified after registering for the subsequent semester will be administratively dropped from all classes.

Lack of Progress Probation*

A student who has attempted a total of 12 or more units as shown by the official academic record, shall be placed on lack of progress probation when the percentage of all (cumulative) units for which entries of “W,” “I,” and “NC” are recorded reaches or exceeds 40%.

Lack of Progress Disqualification

A student who has been placed on lack of progress probation shall be disqualified and an enrollment hold placed on the student's record when the percentage of units for which entries of “W,” “I,” and “NC” are recorded in a subsequent semester (not-cumulative), reaches or exceeds 40%. Students who are disqualified after registering for the subsequent semester will be administratively dropped from all classes.

* EXCEPTIONS:

Provisional, Joint Diploma and Special Admit High School students who do not maintain good academic standing will be automatically disqualified.

PROBATIONARY STATUS WILL NOT APPLY!

- If Disqualified;
  - Special Admit High School students will not be readmitted until they reach 18 or graduate from high school.
  - Joint Diploma students must see a JD counselor for readmission.

Readmission After Disqualification

Note: Disqualification status is determined based upon Progress Performance, Academic Performance, or a combination of both.

- First Disqualification

Students who wish to be considered for readmission after the first disqualification will be required to meet with a counselor and develop a Student Success Plan prior to being readmitted. Students who are disqualified
after registering for the next semester will be administratively dropped from all classes.

- **Second Disqualification**
  Students who are disqualified a second time will be required to sit out for one semester. Students who are disqualified after registering for the next semester will be administratively dropped from all classes.

- **Third Disqualification**
  Students who are disqualified a third time (and each disqualification thereafter) will be required to sit out for one year. Students who are disqualified after registering for the next semester will be administratively dropped from all classes.

### Academic Regulations

#### Honest Academic Conduct

Honesty and integrity are integral components of the academic process. Students are expected to be honest and ethical at all times in their pursuit of academic goals in accordance with Policy 3100, Student Rights, Responsibilities and Administrative Due Process. Procedure 3100.3 describes the Academic and Administrative Sanctions for Students who are found to be cheating. A copy of Procedure 3100.3 can be obtained in the Office of the Vice President of Student Services.

#### Course Repetition Policy

No course in which a “C” or better grade has been earned may be repeated. Students who believe that they have a compelling reason for an exception to policy may file a petition with the Vice President, Student Services. Petitions are available in the Evaluations Office.

Additional repetitions of a course to accommodate a student's disability-related needs may be permitted. For students with disabilities, course repetition is determined on an individual student basis. Contact a DSPS counselor or DSPS instructor for more information.

#### Academic Renewal By Course Repetition

Each course in which an unsatisfactory grade (“D,” “F,” or “NC”) has been earned may be repeated one time only. The course being repeated must be the same as the original course, not its equivalent. Only the newly-earned units and grades will be used in computing the grade point average.

#### Academic Renewal Without Course Repetition

A student with a record of substandard academic performance that is not reflective of present demonstrated ability, may petition to have the substandard grades disregarded in computation of his/her grade point average.

The following conditions apply:

1) The student must be enrolled in, and attending a regionally accredited college/university, and working toward a degree or certificate of achievement.

2) A maximum of 24 semester units or two semesters or summer sessions may be disregarded. For purposes of academic renewal for summer work, a summer session will be defined as ALL COURSES WHICH COMMENCE AFTER THE TERMINATION OF THE SPRING SEMESTER AND END PRIOR TO THE COMMENCEMENT OF THE FALL SEMESTER. MAC, short-term, and carryover classes will be considered to be part of the semester or session in which they are posted to the student's permanent record.

3) For any semester/session in which course work is to be disregarded, all courses in that semester/session will be disregarded.

4) No courses taken during the disregarded semester(s) or session(s), even if satisfactory, may be applied toward degree or certificate requirements.

5) One year must have lapsed since the semester to be disregarded was completed.

6) The student must successfully complete 12 units in an accredited college or university with a grade point average of 2.0 subsequent to the work to be disregarded. ALL courses taken during the semester in which the student reaches or exceeds this 12-unit minimum will be used in computing the 2.0 grade point average.

7) Similar actions by other accredited institutions will be honored under the district policy; however, similar actions by another institution will be counted as part of the maximum of 24 units to be disregarded.

8) The permanent academic record shall be annotated in such a manner that the record of all work remains legible, ensuring a true and complete academic record.
9) Recalculation of grade point average may be used toward qualification for graduation with honors.

10) Work taken at another institution may be forgiven in the computations of that work for purposes of graduation from one of our District colleges, under the regulations stated above.

11) Students with previously earned degrees: Courses used to fulfill requirements of a degree are not eligible for Academic Renewal.

**NOTE:** Transcripts from all institutions attended must be officially on file.

### Transcripts of Record

A student may obtain an official transcript of record by filing a request in person at the Admissions Office at the college or by mail at the Office of the Registrar, San Diego Community College District, Administrative Office, 3375 Camino del Rio South, San Diego, CA, 92108. Payment of fees must be made prior to processing a request for transcripts. The following policy has been adopted by the San Diego Community College District Board of Trustees regarding the issuance of transcripts of record:

1) The first two transcripts in your lifetime will be issued without charge.

2) There will be a charge of $5.00 for each additional transcript

3) All transcript requests are processed within 10 working days except “RUSH” orders.

4) A $5.00 special handling fee will be charged for all “RUSH” order transcript requests. The special handling fee will be charged per request.

All official copies of the student’s permanent record are in the Office of the Registrar. The Office of the Registrar will certify only to the accuracy of the records prepared by and issued directly from that office to another institution.

### Transcripts of Prior Academic Credit

Students with credit from other colleges and universities must file official transcripts at the time of application for admission.

- Official transcripts are those sent directly from one institution to another.
- Transcripts will only be accepted for one year after issuance.

- Transcripts brought in by students may be accepted for unofficial purposes such as prerequisite clearance.

- Transcripts are required even if prior credits do not appear relevant or if units were taken years ago.

- Students receiving financial aid or veterans benefits must have transcripts on file within one semester.

- Certain programs require transcripts before admission to the program.

- Official transcripts from other institutions become the property of the college and will not be duplicated or returned.

- Official transcripts should be sent to the following address:
  
  San Diego Community College District
  3375 Camino del Rio South, Rm. 100
  San Diego, CA 92108-3883

*Please note: Foreign transcripts are not evaluated by the college. This service is available through outside companies for a fee. Contact the college Evaluation Office for additional information.*

### Academic Credit for Nontraditional Education

Academic credit may also be available to currently enrolled SDCCD students for skills or knowledge not obtained by formal scholastic experience or for prior course work with content determined equivalent to district courses.

Credit is available through the following:

- **Advanced Placement Examinations (AP).**
- **College-Level Examination Program (CLEP).**
- **Defense Activity for Non-Traditional Education Support (DANTES).**
- **International Baccalaureate (IB).**

A maximum of 30 cumulative units may be granted for acceptable scores on any combination of Advanced Placement (AP), College Level Examination Program (CLEP), Defense Activity for Non-Traditional Education Support (DANTES), or International Baccalaureate (IB) examinations. All official transcripts must be on file, and copies of test scores must be submitted to the college Evaluations Office to receive credit.

To obtain credit, the student must be currently enrolled and working toward an associate degree or certificate...
of achievement. Credit granted cannot be used to meet the district in-residence requirements nor will such credit be included in the student's current study load.

Limitations on credit by standardized examination:

- Tests cannot be used to meet the American Institutions nor laboratory requirements. The English composition requirement can be met by the AP and IB exams.
- Credit will not be granted for equivalent courses completed.
- Grades are not assigned, nor is the credit used in calculating grade point average.

- Departmental approval is required to satisfy requirements in the student's major.
- Credit granted by SDCCD does not necessarily transfer to other institutions. Transferability of credit is determined by the receiving college or university.

The tables below indicate the score necessary, the credit allowed, and the area(s) satisfied for each of the examinations accepted for credit.

## College Level Examination Program (CLEP)

<table>
<thead>
<tr>
<th>CLEP Examination</th>
<th>Required Score</th>
<th>Number of Credits Granted</th>
<th>Credit Granted for District</th>
<th>Credit Granted for CSU</th>
</tr>
</thead>
<tbody>
<tr>
<td>Accounting, Principles of Accounting</td>
<td>50</td>
<td>4</td>
<td>Elective Credit</td>
<td></td>
</tr>
<tr>
<td>Algebra</td>
<td>50</td>
<td>5</td>
<td>Math Comp and Area A2</td>
<td></td>
</tr>
<tr>
<td>Algebra – Trigonometry</td>
<td>50</td>
<td>3</td>
<td>Math Comp and Area A2</td>
<td>Area B4</td>
</tr>
<tr>
<td>American Government</td>
<td>50</td>
<td>3</td>
<td>Area D</td>
<td></td>
</tr>
<tr>
<td>American Literature</td>
<td>50</td>
<td>6</td>
<td>Area C</td>
<td></td>
</tr>
<tr>
<td>Analyzing and Interpreting Literature</td>
<td>50</td>
<td>6</td>
<td>Area C</td>
<td></td>
</tr>
<tr>
<td>Biology</td>
<td>50</td>
<td>3</td>
<td>Area B</td>
<td></td>
</tr>
<tr>
<td>Business Law, Introductory</td>
<td>50</td>
<td>3</td>
<td>Elective Credit</td>
<td></td>
</tr>
<tr>
<td>Calculus with Elementary Functions</td>
<td>50</td>
<td>5</td>
<td>Math Comp and Area A2</td>
<td>Area B4</td>
</tr>
<tr>
<td>Chemistry</td>
<td>50</td>
<td>3</td>
<td>Area B</td>
<td>Area B1</td>
</tr>
<tr>
<td>College Mathematics</td>
<td>50</td>
<td>3</td>
<td>Math Comp and Area A2</td>
<td>Area B4</td>
</tr>
<tr>
<td>Composition, Freshman</td>
<td>50</td>
<td>3</td>
<td>Elective Credit</td>
<td></td>
</tr>
<tr>
<td>Educational Psychology, Introduction to</td>
<td>50</td>
<td>3</td>
<td>Area D</td>
<td></td>
</tr>
<tr>
<td>English Composition (with or without Essay)</td>
<td>50</td>
<td>3</td>
<td>Elective Credit</td>
<td></td>
</tr>
<tr>
<td>English Literature</td>
<td>50</td>
<td>6</td>
<td>Area C</td>
<td></td>
</tr>
<tr>
<td>French – Level I</td>
<td>50</td>
<td>5</td>
<td>Area C</td>
<td></td>
</tr>
<tr>
<td>French – Level II</td>
<td>52</td>
<td>10</td>
<td>Area C</td>
<td></td>
</tr>
<tr>
<td>German – Level I</td>
<td>50</td>
<td>5</td>
<td>Area C</td>
<td>Area C2</td>
</tr>
<tr>
<td>German – Level II</td>
<td>63</td>
<td>10</td>
<td>Area C</td>
<td></td>
</tr>
<tr>
<td>History of the U.S.: 1865 to the Present</td>
<td>50</td>
<td>3</td>
<td>Area D</td>
<td></td>
</tr>
<tr>
<td>History of the U.S.: Early Colonizations to 1877</td>
<td>50</td>
<td>3</td>
<td>Area D</td>
<td></td>
</tr>
<tr>
<td>Human Growth and Development</td>
<td>50</td>
<td>3</td>
<td>Area D</td>
<td></td>
</tr>
<tr>
<td>Humanities</td>
<td>50</td>
<td>3</td>
<td>Area C</td>
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</tr>
<tr>
<td>Course</td>
<td>Units</td>
<td>Hours</td>
<td>Area</td>
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<tr>
<td>---------------------------------------------</td>
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<td>--------</td>
<td></td>
</tr>
<tr>
<td>Information Systems and Computer Applications</td>
<td>50</td>
<td>3</td>
<td>A2</td>
<td></td>
</tr>
<tr>
<td>Macroeconomics, Principles of</td>
<td>50</td>
<td>3</td>
<td>D</td>
<td></td>
</tr>
<tr>
<td>Management, Principles of</td>
<td>50</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Marketing, Principles of</td>
<td>50</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Microeconomics, Principles of</td>
<td>50</td>
<td>3</td>
<td>D</td>
<td></td>
</tr>
<tr>
<td>Natural Science</td>
<td>50</td>
<td>3</td>
<td>B</td>
<td></td>
</tr>
<tr>
<td>Psychology, Introductory</td>
<td>50</td>
<td>3</td>
<td>D</td>
<td></td>
</tr>
<tr>
<td>Social Sciences and History</td>
<td>50</td>
<td>3</td>
<td>D</td>
<td></td>
</tr>
<tr>
<td>Sociology, Introductory</td>
<td>50</td>
<td>3</td>
<td>D</td>
<td></td>
</tr>
<tr>
<td>Spanish – Level I</td>
<td>50</td>
<td>5</td>
<td>C</td>
<td></td>
</tr>
<tr>
<td>Spanish – Level II</td>
<td>54</td>
<td>10</td>
<td>C</td>
<td></td>
</tr>
<tr>
<td>Trigonometry</td>
<td>50</td>
<td>3</td>
<td>Math Comp and A2</td>
<td></td>
</tr>
<tr>
<td>Western Civilization I: Ancient Near East to 1648</td>
<td>50</td>
<td>3</td>
<td>A or D</td>
<td></td>
</tr>
<tr>
<td>Western Civilization II: 1648 to the Present</td>
<td>50</td>
<td>3</td>
<td>A or D</td>
<td></td>
</tr>
</tbody>
</table>

To request an official CLEP transcript, write to:
Educational Testing Service, P. O. Box 6604, Princeton, NJ 08541


CLEP Tests can NOT be used to clear IGETC certification nor some degree requirements. See a counselor.
### DANTES Subject Standardized Test (DANTES/DSST)

<table>
<thead>
<tr>
<th>DANTES Examination</th>
<th>Required Score</th>
<th>Number of Credits Granted</th>
<th>Credit Granted for District</th>
<th>Credit Granted for CSU</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fundamental College Algebra</td>
<td>50</td>
<td>3</td>
<td>A2 &amp; Math Competency</td>
<td>No Credit</td>
</tr>
<tr>
<td>Principles of Statistics</td>
<td>50</td>
<td>3</td>
<td>A2 &amp; Math Competency</td>
<td>No Credit</td>
</tr>
<tr>
<td>Art of the Western World</td>
<td>50</td>
<td>3</td>
<td>Area C</td>
<td>No Credit</td>
</tr>
<tr>
<td>Contemporary Western Europe: 1946-1990</td>
<td>50</td>
<td>3</td>
<td>Area C</td>
<td>No Credit</td>
</tr>
<tr>
<td>An Introduction to the Modern Middle East</td>
<td>50</td>
<td>3</td>
<td>Area D</td>
<td>No Credit</td>
</tr>
<tr>
<td>Human / Cultural Geography</td>
<td>50</td>
<td>3</td>
<td>Elective</td>
<td>No Credit</td>
</tr>
<tr>
<td>A History of the Vietnam War</td>
<td>50</td>
<td>3</td>
<td>Elective</td>
<td>No Credit</td>
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<tr>
<td>Foundations of Education</td>
<td>50</td>
<td>3</td>
<td>Elective</td>
<td>No Credit</td>
</tr>
<tr>
<td>Lifespan Developmental Psychology</td>
<td>50</td>
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<td>Elective</td>
<td>No Credit</td>
</tr>
<tr>
<td>General Anthropology</td>
<td>50</td>
<td>3</td>
<td>Elective</td>
<td>No Credit</td>
</tr>
<tr>
<td>Introduction To Law Enforcement</td>
<td>50</td>
<td>3</td>
<td>Area D</td>
<td>No Credit</td>
</tr>
<tr>
<td>Criminal Justice</td>
<td>50</td>
<td>3</td>
<td>Elective</td>
<td>No Credit</td>
</tr>
<tr>
<td>Fundamentals of Counseling</td>
<td>50</td>
<td>3</td>
<td>Elective</td>
<td>No Credit</td>
</tr>
<tr>
<td>Principles of Financial Accounting</td>
<td>50</td>
<td>3</td>
<td>Elective</td>
<td>No Credit</td>
</tr>
<tr>
<td>Human Resource Management</td>
<td>50</td>
<td>3</td>
<td>Elective</td>
<td>No Credit</td>
</tr>
<tr>
<td>Organizational Behavior</td>
<td>50</td>
<td>3</td>
<td>Elective</td>
<td>No Credit</td>
</tr>
<tr>
<td>Principles of Supervision</td>
<td>50</td>
<td>3</td>
<td>Elective</td>
<td>No Credit</td>
</tr>
<tr>
<td>Introduction to Computing</td>
<td>50</td>
<td>3</td>
<td>Elective</td>
<td>No Credit</td>
</tr>
<tr>
<td>Introduction to Business</td>
<td>50</td>
<td>3</td>
<td>Area D</td>
<td>No Credit</td>
</tr>
<tr>
<td>Personal Financial</td>
<td>50</td>
<td>3</td>
<td>Elective</td>
<td>No Credit</td>
</tr>
<tr>
<td>Business Mathematics</td>
<td>50</td>
<td>3</td>
<td>A2 &amp; Math Competency</td>
<td>No Credit</td>
</tr>
<tr>
<td>Astronomy</td>
<td>50</td>
<td>3</td>
<td>Area B</td>
<td>No Credit</td>
</tr>
<tr>
<td>Here’s to Your Health</td>
<td>50</td>
<td>3</td>
<td>Health Education</td>
<td>No Credit</td>
</tr>
<tr>
<td>Environment and Humanity: the Race to Save the Planet</td>
<td>50</td>
<td>3</td>
<td>Elective</td>
<td>No Credit</td>
</tr>
<tr>
<td>Principles of Physical Science I</td>
<td>50</td>
<td>3</td>
<td>Area B</td>
<td>No Credit</td>
</tr>
<tr>
<td>Physical Geography</td>
<td>50</td>
<td>3</td>
<td>Area B</td>
<td>No Credit</td>
</tr>
<tr>
<td>Technical Writing</td>
<td>50</td>
<td>3</td>
<td>Elective</td>
<td>No Credit</td>
</tr>
<tr>
<td>Ethics in America</td>
<td>50</td>
<td>3</td>
<td>Elective</td>
<td>No Credit</td>
</tr>
<tr>
<td>Introduction to World Religions</td>
<td>50</td>
<td>3</td>
<td>Area C</td>
<td>No Credit</td>
</tr>
<tr>
<td>Principles of Public Speaking</td>
<td>50</td>
<td>3</td>
<td>Area A2</td>
<td>No Credit</td>
</tr>
</tbody>
</table>

To request an official:

The Chauncey Group International, Attn: DSST Program, P. O. Box 6604, Princeton, NJ 08541-6604

Dantes tests can not be used to clear IGETC requirements nor some degree requirements. See a counselor.
<table>
<thead>
<tr>
<th>Advanced Placement Examination</th>
<th>Required Score</th>
<th>SDCCD Course Equivalents</th>
<th>CSUGE Certification</th>
<th>IGETC Certification</th>
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</thead>
<tbody>
<tr>
<td>Art History</td>
<td>3, 4, or 5</td>
<td>Art 110 or 111 &amp; Area C (6 units)</td>
<td>Art 110 or 111 (3 units)</td>
<td>Art 110 or 111 (3 units)</td>
</tr>
<tr>
<td>Art Studio - Drawing</td>
<td>3, 4, or 5</td>
<td>Art 150a, 155a (6 units)</td>
<td>No Credit</td>
<td>No Credit</td>
</tr>
<tr>
<td>Art Studio - General</td>
<td>3, 4, or 5</td>
<td>Art 150a, 155a (6 units)</td>
<td>No Credit</td>
<td>No Credit</td>
</tr>
<tr>
<td>Biology</td>
<td>3, 4, or 5</td>
<td>Area B (3 units)</td>
<td>Area B2 (3 units)</td>
<td>Area 5-Biol. Sci. (3 units, No Lab)</td>
</tr>
<tr>
<td>Chemistry</td>
<td>3, 4, or 5</td>
<td>Chemistry 200 &amp; Elective (6 units)</td>
<td>Area B1 &amp; B3 (6 units)</td>
<td>Chemistry 200 (3 units, No Lab)</td>
</tr>
<tr>
<td>Classics - Latin Literature</td>
<td>3, 4, or 5</td>
<td>Area C (6 units)</td>
<td>Area C2 (3 units)</td>
<td>No Credit</td>
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<tr>
<td>Classics - Vergil</td>
<td>3, 4, or 5</td>
<td>Area C (6 units)</td>
<td>Area C2 (3 units)</td>
<td>No Credit</td>
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<td>Computer Science - A</td>
<td>3, 4, or 5</td>
<td>Area A2 &amp; Math Competency (6 units)</td>
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<td>Computer Science - AB</td>
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<td>Area A2 &amp; Math Competency (6 units)</td>
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<tr>
<td>Economics - Macro</td>
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<td>Economics 120 (3 units)</td>
<td>Economics 120 (3 units)</td>
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<tr>
<td>Economics - Micro</td>
<td>3, 4, or 5</td>
<td>Economics 121 (3 units)</td>
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<tr>
<td>English Composition Literature</td>
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<td>English 101 &amp; Area C (6 units)</td>
<td>English 101 &amp; Area C (6 units)</td>
<td>Area 1A or Area 3 - Hum. (3 units)</td>
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<td>English Language Composition</td>
<td>3, 4, or 5</td>
<td>English 101 (3 units)</td>
<td>English 101 (3 units)</td>
<td>English 101 (3 units)</td>
</tr>
<tr>
<td>French Language</td>
<td>3, 4, or 5</td>
<td>Area C (6 units)</td>
<td>Area C2 (6 units)</td>
<td>Clear Foreign Language Requirement</td>
</tr>
<tr>
<td>German Language</td>
<td>3, 4, or 5</td>
<td>Area C (6 units)</td>
<td>Area C2 (6 units)</td>
<td>Clear Foreign Language Requirement</td>
</tr>
<tr>
<td>Government - Comparative</td>
<td>3, 4, or 5</td>
<td>Political Science 103 (3 units)</td>
<td>Political Science 103 (3 units)</td>
<td>Political Science 103 (3 units)</td>
</tr>
<tr>
<td>Government - U.S.</td>
<td>3, 4, or 5</td>
<td>Political Science 101 (3 units)</td>
<td>Political Science 101 (3 units)</td>
<td>Political Science 101 (3 units)</td>
</tr>
<tr>
<td>History - European</td>
<td>3, 4, or 5</td>
<td>Area C (6 units)</td>
<td>Area C2 or Area D6 (3 units)</td>
<td>Area 3 - Hum. (3 units)</td>
</tr>
<tr>
<td>History - U.S.</td>
<td>3, 4, or 5</td>
<td>History 109 and Elective (6 units)</td>
<td>History 109 (3 units)</td>
<td>History 109 (3 units)</td>
</tr>
<tr>
<td>Math - AB</td>
<td>3, 4, or 5</td>
<td>Area A2 &amp; Math Competency (5 units)</td>
<td>Area B4 (3 units)</td>
<td>Area 2 (5 units)</td>
</tr>
<tr>
<td>Math - BC</td>
<td>3, 4, or 5</td>
<td>Area A2 &amp; Math Competency (5 units)</td>
<td>Area B4 (3 units)</td>
<td>Area 2 (5 units)</td>
</tr>
<tr>
<td>Music Theory</td>
<td>3, 4, or 5</td>
<td>Elective (3 units)</td>
<td>Area C1 (3 units)</td>
<td>No Credit</td>
</tr>
<tr>
<td>Physics B</td>
<td>3, 4, or 5</td>
<td>Area B &amp; Elective (6 units)</td>
<td>Area B1 &amp; B3 (6 units)</td>
<td>Area 5- Phys. Sci. (3 units, No Lab)</td>
</tr>
<tr>
<td>Physics C - Mechanics</td>
<td>3, 4, or 5</td>
<td>Area B (3 units)</td>
<td>Area B1 &amp; B3 (3 units)</td>
<td>Area 5- Phys. Sci. (3 units, No Lab)</td>
</tr>
<tr>
<td>Physics C - Electricity and Magnetism</td>
<td>3, 4, or 5</td>
<td>Area B (3 units)</td>
<td>Area B1 &amp; B3 (3 units)</td>
<td>Area 5- Phys. Sci. (3 units, No Lab)</td>
</tr>
<tr>
<td>Psychology</td>
<td>3, 4, or 5</td>
<td>Psychology 101 (3 units)</td>
<td>Psychology 101 (3 units)</td>
<td>Psychology 101 (3 units)</td>
</tr>
<tr>
<td>Spanish Language</td>
<td>3, 4, or 5</td>
<td>Area C (6 units)</td>
<td>Area C2 (6 units)</td>
<td>Clear Foreign Language Requirement</td>
</tr>
<tr>
<td>Spanish Literature</td>
<td>3, 4, or 5</td>
<td>Area C (6 units)</td>
<td>Area C2 (6 units)</td>
<td>No Credit</td>
</tr>
<tr>
<td>Statistics</td>
<td>3, 4, or 5</td>
<td>Math 119 (3 units)</td>
<td>Math 119 (3 units)</td>
<td>Math 119 (3 units)</td>
</tr>
</tbody>
</table>

To request an official AP transcript, write to:
College Board / SAT Program, Princeton, NJ 08541
*Credit may not be earned at SDCCD for courses which duplicate credit already allowed through other means such as AP or credit-by-exam.

*IB tests can not be used to clear IGETC certification, nor some degree requirements. See a counselor.

**Credit by Examination designed and approved by individual disciplines**

The term “examination” means any written, oral or performance standards determined by the individual departments. Forms are available in the Evaluations Office.

**Credit for non-college credit vocational courses**

Students who complete non-college credit articulated courses (SDUSD/SDCCD) that are equivalent in subject matter, content, educational objectives, length of course, and performance standards and pass a college faculty approved examination for the course offered by the college may have these courses converted to college credit. Additional information is available in the Evaluations Office.

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### International Baccalaureate (IB) Credit

<table>
<thead>
<tr>
<th>EXAMINATION</th>
<th>SCORE</th>
<th>UNITS</th>
<th>SDCCD EQUIVALENT*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Art</td>
<td>4-7</td>
<td>6</td>
<td>Elective Credit</td>
</tr>
<tr>
<td>Biology</td>
<td>4-7</td>
<td>4</td>
<td>Area B</td>
</tr>
<tr>
<td>English A1</td>
<td>4-7</td>
<td>6</td>
<td>Area A1 and English competency 3 units and Area C - 3 units</td>
</tr>
<tr>
<td>French</td>
<td>4-7</td>
<td>5</td>
<td>Area C</td>
</tr>
<tr>
<td>Geography</td>
<td>4-7</td>
<td>6</td>
<td>Area B - 3</td>
</tr>
<tr>
<td>History of the Americas</td>
<td>4-7</td>
<td>6</td>
<td>Area D</td>
</tr>
<tr>
<td>Mathematics</td>
<td>6-7</td>
<td>6</td>
<td>Area A2 &amp; Competency</td>
</tr>
<tr>
<td>Psychology</td>
<td>5-7</td>
<td>3</td>
<td>Area D</td>
</tr>
<tr>
<td>Spanish A2 or Spanish B</td>
<td>4-7</td>
<td>6</td>
<td>Area C - 3 units and elective</td>
</tr>
<tr>
<td>Theater Art</td>
<td>4-7</td>
<td>6</td>
<td>Elective Credit</td>
</tr>
</tbody>
</table>

**Credit is also available for the following military experiences:**

- A minimum of six months continuous active military service is required. At the time a student petitions for an associate degree evaluation, form DD-214 should be submitted. Four units of credit to fulfill the Health Education and Physical Education requirements will be granted.

- **Credit for Military School(s).** A student may receive additional credits for completed military schools if the student needs the units to complete the major or general education requirements or the general elective credits needed to complete the 60 units to graduate.

- The college is guided by the associate degree/ baccalaureate credit recommendations of schools contained in “A Guide to the Evaluation of Educational Experiences in the Armed Services,” published by the American Council on Education. More specific information may be obtained in the Evaluations Office.

- **Service Members Opportunity College and SOCNAV/SOCMAR.** The San Diego Community Colleges have been designated as members of the Service Members Opportunity College (SOC). As members, these colleges provide educational assistance to active duty service members and agree to accept credit for military service schools.
as recommended by the American Council on Education. In addition, these institutions recognize other non-traditional sources for credit such as DANTES and CLEP examinations. The San Diego Community Colleges are also committed to military personnel who may choose to participate in the SOCNAV/SOCMAR (Service Members Opportunity College/Navy/Marine Corp.) Program Network. SOCNAV/SOCMAR was established to better serve highly mobile service members and their families. The San Diego Community Colleges are members of the Interdisciplinary Studies and Criminal Justice SOCNAV/SOCMAR Networks. For more information on these programs, contact the Military Education counselors at the following locations:

- ASW     (619) 230-2331
- Naval Station 32nd St.     (619) 233-5617
- MCAS     (858) 536-7805
- Marine Corps Recruit Depot (619) 295-9974
- Sub Base     (619) 553-7195

- **U.S. Air Force and U.S. Army ROTC Programs.**
  Under the provisions of a special agreement with the United States Army, the United States Air Force, San Diego State University (SDSU), and this institution, students may participate in the Army or Air Force Reserve Officers Training Program (ROTC). San Diego Community College District students may enroll and attend ROTC classes at SDSU by contacting the Air Force ROTC at the Aerospace Studies Department (594-5545) or the Army ROTC at the Military Science Department (594-4943). The credits earned in these classes may be transferred as electives to meet the degree requirements of City College.

**Petition for Exceptions**

Petitions for exceptions to graduation requirements, substitutions, or waiver of requirements are filed with the Evaluations Office. All petitions are acted upon by the appropriate college committees/offices.

**Statement of Open Courses**

It is the policy of the San Diego Community College District that, unless specifically exempted by statute, every course, section, or class offered by the District and reported for state aid shall be fully open to enrollment and participation by any person who has been admitted to the college and who meets course prerequisites.

**Academic Accommodation**

Students with verified disabilities who may require academic adjustments or auxiliary aids are strongly recommended to contact the Disabled Students Programs & Services (DSPS) Department, Room A-115, and complete orientation procedures well before classes begin. Students are encouraged to identify themselves to the appropriate instructors to discuss the details and time lines necessary to provide appropriate accommodations. Students enrolled in Online courses are encouraged to contact the college DSPS to request academic accommodation.

**Responsibility for Maintaining Accurate Registration**

It is the student's obligation to add, drop, or withdraw from classes before the deadlines stated in the schedule of classes schedule. This applies even if the student has never attended class. Any student who anticipates difficulty in paying fees should check with the Financial Aid Office about eligibility and sources of assistance. Registration will be canceled for nonpayment of fees.

**Debt Owed to the College**

California Education Code Section 72237 and Title 5 Section 54640 state that grades, transcripts, diplomas, and registration privileges, or any combination thereof, shall be withheld from any student or former student who has been provided with written notice that he or she has failed to pay a proper financial obligation. Any item(s) withheld shall be released when the student satisfactorily meets the financial obligation. A service fee may be charged for all delinquent loans; any service fee would be determined by the total cost required to collect the delinquent loans.
Audit Policy
Auditing courses is not permitted under any circumstances. Students must be officially enrolled in all classes which they attend.

Student Right to Know
The Higher Education Act mandates that institutions of higher education disclose the completion of graduation rates of full-time degree-, certificate-, or transfer-seeking freshman students. The completion and transfer-out rates for full-time students seeking an Associate Degree, Certificate of Achievement, or transfer are:

<table>
<thead>
<tr>
<th>Completion Rates</th>
<th>Transfer-Out Rates</th>
</tr>
</thead>
<tbody>
<tr>
<td>City</td>
<td>13.1% 21.3%</td>
</tr>
<tr>
<td>Mesa</td>
<td>28.4% 30.5%</td>
</tr>
<tr>
<td>Miramar</td>
<td>17.1% 51.4%</td>
</tr>
</tbody>
</table>

Nondiscrimination Policy
The San Diego Community College District has a policy which prohibits discrimination in accordance with State and Federal laws. Students wishing to file complaints based upon discrimination should contact the campus Affirmative Action Officer. Appeals may be made to the District Affirmative Action Officer at the District Administrative Office, 3375 Camino del Rio South, San Diego, CA 92108. Students who want to file a grievance under section 504 of the 1973 Rehabilitation Act should contact Helen Elias, Room A-221, or call (619) 388-3513. Students who want to file a grievance under the Americans with Disabilities Act (ADA) should contact the Affirmative Action Officer Dora M. Valenzuela.

Gender Equity
The Gender Equity Coordinator facilitates the development or updating of the campus Gender Equity Plan in cooperation with committees that are responsible for equity concerns. The Gender Equity Coordinator can be reached at (619) 388-3424 at San Diego City College, Building A-107, Office E.

Title IX. Prohibiting Sex Discrimination in Education
San Diego City College is committed to support all regulations under Title IX. “No person in the United States shall, on the basis of sex, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any education program or activity receiving Federal financial assistance.”

For further directions or inquiries, please contact the Title IX Coordinator, Dora Valenzuela, E Building, (619) 230-2207.

Policy Prohibiting Sexual Harassment
It is the policy of the San Diego Community College District to provide an educational environment that is free of sexual advances, requests for sexual favors, and other verbal or physical conduct or communications that constitute sexual harassment as defined and prohibited by federal and state statutes. Anyone with questions about this policy or anyone who wishes to file a complaint should contact the Dean of Student Affairs, the College Affirmative Action Officer, or the District Affirmative Action Officer. The Vice President, Student Services is also available to provide assistance in matters of alleged sexual harassment. Procedures for filing a formal complaint of sexual harassment are described in District Procedure 4105.2. Copies of this procedure may be obtained from the Office of the Vice President, Student Services.

Drug and Alcohol Use
The San Diego Community College District is committed to providing a drug free environment. Any type of drug use, including alcohol, is dangerous and potentially life threatening. Drugs and alcohol adversely affect the body, mind and behavior. The effects vary from person to person and from usage to usage. Even low doses of drugs and alcohol can impair judgment and coordination. If you use drugs or alcohol, you risk overdose, accidents, dependence, ill health, as well as legal, financial and personal problems. The federal laws against drugs are divided into two categories: possession and distribution. The penalties are severe depending upon the type of drug, quantity of the drug, and any prior offenses. Possession will earn up to one year in prison and a $5,000 fine. Distribution will earn up to life in prison and an $8 million fine. State laws vary and may be more severe. District Policy 3100-Code of Conduct states that use, possession, or distribution of narcotics or other controlled substances is prohibited while on the college premises or at college sponsored events. A student may be suspended or expelled for violation of this policy. A complete list of legal sanctions is available in the Vice President, Student Services Office. The colleges provide information on drug and alcohol treatment and prevention through seminars, courses, and the Student Health Services. Contact Student Health Services or the Vice President, Student Services Office for additional information.
Smoking Regulation
This procedure is applicable to all District facilities. It implements the Board policy of consonance with the City of San Diego's ordinance regulating smoking in public facilities.

The success of this program is dependent upon the voluntary cooperation of the smoking and nonsmoking public. The District recognized the fact that individual health can be impaired both by the direct and by the secondary effects of smoking. The District, therefore, discourages the practices of smoking, but provides for opportunities for those who smoke as long as there is no impact upon the rights and health of non-smokers. It is not the intent that the program be a prohibition of smoking, rather it is intended to recognize the individual rights of the smoking/nonsmoking public.

- The posting of no smoking signs without the corresponding designation of smoking permitted areas is not in consonance with the intent of the procedure.
- Smoking is not permitted in District facilities which are open to the public and used as: Classrooms, Meetings Rooms, Theatres, Restrooms, Libraries, Cafeterias, Bookstores, Service Lines, Elevators, Faculty Offices.
- Smoking is not permitted in vehicles used for transportation of students.
- Site presidents/provost/facility managers may designate facilities or areas in addition to those listed above as NO SMOKING facilities or areas.
- Each site determines areas for smoking and areas for nonsmoking in accordance with the SDCCD procedure and San Diego Municipal Code.
- Signs indicating SMOKING PERMITTED and NO SMOKING should be posted conspicuously in each area.
- Site presidents/provost/facility managers may designate areas within NO SMOKING areas where smoking is permitted, under the general guidance of San Diego Municipal Code.

For complete Smoking Policy, please reference SDCCD Procedure 0505.2.

Crime Awareness and Campus Security
The San Diego Community College District Annual Security Report, titled “Safe and Sound, a guide to safety and security in the San Diego Community College District”, includes statistics for the previous three years concerning reported crimes that occurred on campus; in certain off-campus buildings or property owned or controlled by the San Diego Community College District; and on public property within, or immediately adjacent to and accessible from, the campus. The report also includes institutional policies concerning campus security, such as policies on drug use, crime prevention, the reporting of crimes, sexual assault and other matters. You can obtain a copy of this report by contacting any campus admissions office, Vice President of Student Services office or college police business office. At anytime you may view a full copy by accessing the following website: http://www.sdccd.net/police/statistics.html

Elder and Dependent Adult Abuse
An elder is defined as a resident of the State of California which is 65 years of age or older; or a dependent adult, defined as a resident of the State of California between the ages of 18 and 64 years, who has a physical or mental limitation that restrict his or her ability to carry out normal activities or to protect his/her rights.

Secondary educational institutions serving dependent adults are designated as mandated reporters with an individual, personal responsibility to comply with the reporting requirements.

Any mandated reporter, who, in his or her professional capacity, or within the scope of his or her employment, has observed or had knowledge of an incident that reasonably appears to be physical abuse, abandonment, isolation, financial abuse, or neglect, or is told by an elder or dependent adult that he or she has experienced behavior constituting physical abuse, abandonment, isolation, financial abuse, or neglect, or reasonably suspects abuse shall report the known or suspected instance of abuse immediately to the Site Compliance Officer.

The Site Compliance Officer will be responsible for notifying Health and Human Services and completing the Department's report form, "Suspected Dependent Adult/Elder Abuse, SOC 33341" within two working days.

Copyright Responsibility
Any duplication request of copyrighted materials for use in the college's instructional programs must be accompanied by written permission from the copyright owner. Any duplication of copyrighted materials by student, staff, or faculty is to be for the sole purpose of
private scholarly study. Since the liability for infringement of statutory or common-law copyright occurs during misuse of duplicated materials, the duplicated copies cannot be sold or distributed. A designated portion of the duplicated copy cannot be included in another’s work without the written permission of the copyright owner. All copyright responsibility is assumed by the individual requesting the duplication. San Diego City College, its agents, representatives, and employees are held harmless against all claims, suits, damage costs, and expenses of charges of statutory or common-law infringement resulting from the college’s efforts to provide services, materials, and equipment to the requestor.

Student Rights, Responsibilities and Privacy of Student Records

Student Rights and Responsibilities

District policy 3100 enumerates the rights and responsibilities of all San Diego Community College District students.

1.0 Student Rights

All students shall have the right to a campus learning environment free from interference or disruption. The District shall ensure to the best of their ability to afford students the rights contained herein.

1.1 Students shall have the right to impartial objective evaluation of their academic performance. Students shall receive in writing, at the beginning of each course, information outlining the method of evaluating student progress including the method by which the final grade is determined.

1.2 Students shall have the right to exercise free expression including, but not limited to, the use of bulletin boards, the distribution of printed materials or petitions, and wearing of buttons, badges, or other insignia, so long as the expression is not obscene, libelous or slanderous according to current legal standards, and so long as the expression does not incite students so as to create a clear and present danger of (a) the commission of unlawful acts on community college premises, (b) the violation of lawful community college regulations, or (c) the substantial disruption of the orderly operation of the community college. The District reserves the right to regulate the time, place and manner of all student activities. (Education Code Section 76120).

1.3 Students shall have the right to be free from acts or threats of intimidation, harassment, or physical aggression.

1.4 Students shall have the right to be free from the imposition of disciplinary sanctions without proper regard for due process.

1.5 Students shall have the right to take reasoned exception to the data or views offered in any course of study without disrupting the instructional environment and to reserve judgment about matters of opinion. However, this does not preclude learning the content of any course for which they are enrolled.

1.6 Students shall have the right to participate in the formation of policy affecting them in accordance with established procedures for Shared Governance.

1.7 Students shall have the right to petition to organize interest groups and/or join student associations pursuant to Manual 3200.

1.8 Students shall have the right to invite guest speakers to make presentations on campus in accordance with campus guidelines and District policies and procedures.

1.9 Students shall have the right to develop student publications in accordance with standards established by current District policies and procedures.

1.10 Students with verified disabilities shall have the right to receive appropriate academic adjustments and auxiliary aids as specified in the Americans with Disabilities Act.

2.0 Student Responsibilities
Student behavior must remain in accordance with specific academic and behavior requirements as specified in District policy and which may be outlined by the course syllabus.

2.1 Students shall be responsible for defining and making progress toward their educational goal.

2.2 Students are responsible for reading and adhering to the policies and procedures as outlined in catalogs, schedules, course syllabi and other official printed materials.

2.3 Students with verified disabilities who believe they need academic adjustments or auxiliary aids are encouraged to identify themselves to their instructors to discuss the details and time lines necessary to provide appropriate accommodation. Students are responsible for providing written verification of their disability to the instructor upon request.

2.4 Students may elect to consult directly with a Disabled Students Programs and Services (DSPS) Counselor Specialist regarding any accommodation. These students will be required to meet time lines and procedural requirements established by the DSPS Office.

2.5 The physical or verbal intimidation or harassment of such severity or pervasiveness as to have the purpose or effect of unreasonably interfering with a student's academic performance, or a District employee's work performance, or of creating an intimidating, hostile, or offensive educational or work environment.

3.0 Code of Conduct
Students are subject to adhering to the policies and procedures of the San Diego Community College District, as well as all federal, state, and local laws. Students are subject to charges of misconduct concerning, but not limited to, the following acts when committed on District-owned or controlled property or at District-sponsored activities.

3.1 The taking of and passing off as one's own the work or ideas of another: plagiarism and academic cheating.

3.2 Falsification, alteration or misuse of campus/District documents, and records.

3.3 Act or threat of damage to or theft of property belonging to or located on District-controlled property or facilities.

3.4 The physical or verbal disruption of instructional or student services activities, administrative procedures, public service functions, authorized curricular or co-curricular activities or prevention of authorized guests from carrying out the purpose for which they are on campus.

3.5 Disorderly, lewd, indecent or obscene conduct or expression or habitual profanity or vulgarity; any expression which is obscene, libelous or slanderous according to current legal standards or which so incites students as to create a clear and present danger of the commission of unlawful acts, or the substantial disruption of the orderly operation of the community college. (Ed. Code 76120)

3.6 Assault, or battery upon a student or district personnel on district premises or at any time or place while under the authority of District personnel.

3.7 Participation in hazing (California Education Code Sections 32050 through 32052).

3.8 Possession of weapons, explosives, unlicensed dangerous chemicals or objects which may be used as weapons or to threaten bodily harm, as specified in the California Penal Code or other applicable laws.

3.9 Participating in activities which are in violation of federal, state, local laws or ordinances while on district premises or at district-sponsored or supervised activities.

3.10 Failure to comply with directions of staff members of the district who are acting within the scope of their employment. Continued and willful disobedience or open and persistent defiance of the authority of district personnel providing such conduct is related to district activities or college/center attendance.

3.11 Smoking on District premises, or in vehicles provided by the district used for
3.13 Use, possession, distribution, or sale of alcoholic beverages on campus except as permitted by applicable ordinances, laws, college guidelines and District procedure 0505.2.

3.14 Use, possession, distribution, manufacture or sale of narcotics or other hallucinogenic drugs or substances or inhaling or breathing the fumes of, or ingesting, any poison classified as such by the California Business and Professions Code Section 4160, Schedule “D,” except as provided by law, is prohibited when on district premises.

3.15 Violation of Policies & Procedures for Student Organizations as enumerated in Manual 3200.

**Review of Student Records**

Pursuant to the “Family Rights and Privacy Act of 1974” (Public Law 93-380) and the California Education Code, a student may request to inspect all official school records, files, and related data that are classified as Student Records. The records will be available for review at a mutually convenient time during regular working hours. Contact the Vice President, Student Services. If information in the file is inaccurate, misleading, or inappropriate, a student may request removal of the information or include a statement disputing the material that is challenged.

The law provides that no individual, agency or organization shall have access to a student’s records without the written consent of the student, with the exception of the following:

1) School officials within the district with “legitimate educational interest” such as the following:
   a. Instructional staff, when such information will assist in determining or improving the academic competence of students under their jurisdiction.
   b. Counseling staff, when such information will assist the student in achieving his/her personal, academic, or vocational goals.
   c. Classified staff who are involved in the creation, analysis, distribution, correction, compilation, or processing of student records.
   d. Management or supervisory staff, when such information is directly related to the successful completion of management or supervisory duties, as prescribed by the Board of Trustees.
   e. The Board of Trustees, in appropriate disciplinary cases.
   2) Specified federal and state educational officials such as officials in the State Chancellor’s Office.
   3) State and local officials to the extent that such information is required to be reported pursuant to state law adopted prior to November 19, 1974.
   4) Schools or colleges of intended enrollment provided that the student has been notified and given the opportunity to challenge the content.
   5) Organizations conducting studies for the district.
   6) Persons in connection with an emergency.
   7) Agencies in connection with financial aid.
   8) Court officials pursuant to a court order or subpoena provided the college makes a reasonable effort to notify the student in advance of such compliance.

Student records will normally include documents filed for admission to the college, grade reports, permanent records of academic work completed, transcripts received from other schools and colleges attended, test scores, counseling information, correspondence, and petitions. These documents will normally include but not be limited to a student’s name, address, telephone number, birth date, residence classification, sex, past and current enrollment, academic and attendance status, educational benefits, ethnic background, high school graduation, college major, and identification number.

Information which cannot be classified as a student record includes: (a) information provided by parents in connection with financial aid, (b) confidential letters of recommendation on file prior to January 1, 1975, (c) information maintained by a district official or employee which remains in his/her sole possession, (d) information about student maintained by a physician, psychiatrist, psychologist or other professional acting in his/her professional capacity for the college, (e) information about student maintained by the college law enforcement unit, (f) information about student maintained in the normal course of business pertaining to your employment, if the student is employed by the college.

The information listed below is considered “Directory
Information” and may be released as specified unless the student notifies the official responsible for student records within two weeks after the beginning of the semester or session that such personally identifiable information is not to be released.

1) Information related to officially recognized activities and sports which appears in programs and campus/district newspapers or is released to the news media.

2) Information pertaining to graduation which appears on commencement programs, and campus/district newspapers or is released to the news media.

3) Information pertaining to the receipt of awards which appears in campus/district newspapers or is released to the news media.

When releasing the above categories of information, the following items of information may be included: student's name, date and place of birth, address, telephone number, major field of study, weight and height of members of athletic teams, dates of attendance, degrees and awards received, and most recent public or private school attended by the student. No other categories of information may be released nor may the information be released to other recipients without the written authorization of the student concerned.

The college will maintain a log which lists all persons, agencies, or organizations requesting or receiving information from a student’s record at the college Admissions and Records Office. Such a log will also indicate why such information is requested.

Information about students may be requested by officials in charge of recruitment for the National Guard and each active reserve component of the armed forces. Such information shall be released subject to the following conditions:

- The requesting agency shall reimburse the District for the cost of developing and furnishing the information.

- The agreement shall acknowledge the confidentiality of the information and prohibit its release to a third party.

- After public notice, the student named has informed the district in writing that the information may be released.

In the event you feel that City College has not complied with the provisions of the privacy act as specified herein or in the statutes, you may file a complaint with the United States Department of Education.

The official responsible for student records at City College is the Admissions and Records Supervisor.
Academic Requirements
The Associate Degree

60 Units Required for the Associate Degree

On the recommendation of the faculty, the college awards the Associate in Arts degree, the Associate in Science degree, or the Certificate of Achievement to students who complete the requirements specified.

Associate Degree Requirements

The Associate in Science degree is awarded in engineering, physical and biological sciences, and occupational curricula. The Associate in Arts degree is awarded in the social sciences, humanities, the arts, and similar disciplines.

An associate degree is awarded by the San Diego Community College District colleges in recognition of completion of a minimum of 60 units which include completion of:

- Major Requirements
- District Requirements
- General Education Requirements

Students should plan programs with long range goals in mind. Students who plan to transfer to a four-year institution should review the Transfer Requirements section of this catalog.

A minimum of 12 semester units must be completed in residence as an officially enrolled student in the San Diego Community College District.

Grade Point Average (GPA) and Minimum Grade Requirements

Students must obtain a grade point average of at least 2.0 (a “C” average) in all courses completed upon which the degree is based.

Students enrolled in occupational and health occupation programs must earn a grade of “C” or better in courses required for the major.

Major Requirements

Eighteen semester units or more are required for a major. Refer to the Degree Curricula and Certificate Programs section of this catalog for specific requirements for each major. Only one course in a student’s major discipline may be used to meet the San Diego Community College District general education requirements.

District Requirements

1) Competence in Reading and Written Expression

Complete one course with a grade of “C” or better from General Education Requirements Area A.1 Language and Rationality, English Composition.

Note: The course selected to meet this requirement may also be used to meet the general education requirement for English Composition.

2) Competence in Mathematics

Competence is demonstrated by:

- a. Obtaining a skill level of M40 on the mathematics assessment test
- b. Completing one of the following courses with a grade of “C” or better:

  - BIOL 200 Biological Statistics (City, Mesa)
  - BUSE 101 Business Mathematics
  - MATH 91 Algebra for Math Placement (City)
  - MATH 95 Elementary Algebra and Geometry
  - MATH 181 Mecomtronics College Algebra and Trigonometry I (City)
  - MATH 182 Mecomtronics College Algebra and Trigonometry II (City)
  - MATH 183 Mecomtronics Calculus I (City)
c. Completing, with a grade of “C” or better, any other Mathematics course for which one of the above listed courses is a prerequisite.

**Note:** The course selected to meet these requirements may also be used to meet the general education requirement for Communications and Analytical Thinking.

### 3) American Institutions/California Government

Students must complete three to six units in American Institutions/California Government. This requirement is met by completing one of the following six-unit sequences, six-unit combinations, or three-unit course:

**Three-Unit Course**

- POLI 102 The American Political System

**Six-Unit Sequences:**

- ^ BLAS 140A History of the U.S., Black Perspective
- ^ BLAS 140B History of the U.S., Black Perspective
- ^ CHIC 141A U.S. History from a Chicano Perspective (City, Mesa) and
- ^ CHIC 141B U.S. History from a Chicano Perspective (City, Mesa) OR
- HIST 109 History of the United States I and
- HIST 110 History of the United States II OR
- HIST 115A History of the Americas I (City, Mesa) and
- ^ HIST 115B History of the Americas II (City, Mesa) OR
- HIST 141 Women in United States History I (Mesa) and
- HIST 142 Women in United States History II (Mesa) OR
- ^ HIST 150 Native Americans in U.S. History (Mesa, Miramar) and
- ^ HIST 151 Native Americans in U.S. History (Mesa, Miramar)

**Six-Unit Combinations:**

- BLAS 140A History of the U.S., Black Perspective and
- HIST 110 History of the United States II or
- BLAS 140B History of the U.S., Black Perspective and
- HIST 109 History of the United States I or
- HIST 109 History of the United States I and
- HIST 123 U.S. History from the Asian Pacific American Perspective (Mesa)

**Note:** The course or courses selected to meet this requirement may also be used to meet the general education requirement for Social and Behavioral Sciences. If a Black Studies or Chicano Studies course is selected, it may also be used to fulfill the multicultural studies requirement. Students who select POLI 102 to satisfy the American Institutions requirement may not use this course for general education credit. If a six-unit sequence or combo is selected to fulfill the American Institutions requirement, only three units may be used for general education credit.

Students who have completed the American Institutions requirement except for the California government portion must complete one of the following courses:

- ^ BLAS 140B History of U.S., Black Perspective
- HIST 110 History of the United States II
- ^ HIST 123 U. S. History from the Asian Pacific American Perspective (Mesa)
- HIST 175 California History (Mesa)
- POLI 102 The American Political System
4) Health Education

This requirement is met by completing Health Education 101: Health and Lifestyle, three units.

*Note: This requirement is waived for students who earn degrees in Nursing Education. U.S. Veterans and active duty U.S. military personnel may be granted two units of college credit to fulfill the Health Education Requirement if service has been continuous for at least six months. Copies of form DD-214, DD-295, or small transcript covering all periods of military service must be on file in the Records Office.*

5) Physical Education

Students must complete two activity courses in Physical Education. Physical Education courses numbered below 240 are acceptable, except for Physical Education 150. Students with physical conditions which prevent participation in regular physical education activity classes must file a physician’s statement with the Evaluations Office, room C-301. Adapted Physical Education classes are available. A Physician’s medical release form is required.

*Note: U.S. Veterans and active duty U.S. military personnel may be granted two units of college credit to fulfill the Physical Education requirement if service has been continuous for at least six months. Copies of form DD-214, DD-295, or small transcript covering all periods of military service must be on file in the Records Office.*

6) Multicultural Studies

Students may satisfy the District multicultural studies graduation requirement by satisfactorily completing a course related to the culture of one or more of the ethnic groups which are represented in American society. The course shall include a focus on the role of men and women in the origin, development, and current status of these cultures.

*Note: Each student seeking the Associate Degree must complete a three-unit multicultural studies course selected from the general education courses marked with a ^ indicating that they meet the Multicultural Requirement. The three units may be applied to the 18 units required in general education.*

This requirement is met by completing one of the following courses (these courses are also on the District General Education list)

- ADJU 106 Diversity and Community Relations (Miramar)
- ANTH 103 Introduction to Cultural Anthropology
- ANTH 200 Introduction to North American Indians (Mesa)
- ANTH 210 Introduction to California Indians (City, Mesa)
- ARTF 113 African, Oceanic, Native American Art (Mesa)
- ARTF 115 African Art (City, Mesa)
- ARTF 120 North American Indian Art (Mesa)
- ARTF 125 Art History: Survey in Far Eastern Art (Miramar)
- ARTF 130 Survey of Pre-Columbian Art (Mesa)
- BLAS 104 Black Psychology (City, Mesa)
- BLAS 110 Afro-American Art (City, Mesa)
- BLAS 115 Sociology from a Black Perspective (City)
- BLAS 116 Contemporary Social Problems from a Black Perspective (City, Mesa)
- BLAS 120 Black Music (City, Mesa)
- BLAS 125 Dynamics of the Black Community (Mesa)
- BLAS 130 The Black Family (City, Mesa)
- BLAS 135 Introduction to Black Politics (City)
- BLAS 140A History of the U.S., Black Perspective
- BLAS 140B History of the U.S., Black Perspective
- BLAS 145A Introduction to African History (City, Mesa)
- BLAS 145B Introduction to African History (City)
- BLAS 150 Black Women in Literature and the Media (City, Mesa)
- BLAS 155 Afro-American Literature (City, Mesa)
- CHIC 110A Introduction to Chicano Studies (City, Mesa)
- CHIC 110B Introduction to Chicano Studies (City, Mesa)
- CHIC 135 Chicano Literature (City, Mesa)
- CHIC 141A U.S. History from a Chicano Perspective (City, Mesa)
- CHIC 141B U.S. History from a Chicano Perspective (City, Mesa)
- CHIC 190 Chicano Images in Film (Mesa)
- CHIC 210 Chicano Culture (City, Mesa)
- CHIL 141 The Child, Family and Community
- ENGL 202 Introduction to Linguistics (City, Mesa)
- FILI 100 Filipino American Experience (Mesa, Miramar)
- GEOG 102 Cultural Geography
- HIST 113 Race in the United States (Mesa)
General Education Outcomes Defined

General Education courses should contribute to the broad education of career technical and transfer students in the areas of critical thinking, writing, and oral communication skills, understanding of and the ability to use quantitative analysis, and awareness of the arts and humanities; and of the physical, social and behavioral sciences as they affect one’s interaction with the diverse local and global communities. General Education Requirements Title 5: Section 55806

a. **Natural Sciences.** Courses in the natural sciences are those that examine the physical universe, its life forms, and its natural phenomena. To satisfy the General Education Requirement in natural sciences, a course shall be designed to help the student develop an appreciation and understanding of the scientific method, and encourage an understanding of the relationships between science and other human activities. This category would include introductory or integrative courses in astronomy, biology, chemistry, general physical science, geology, meteorology, oceanography, physical geography, physical anthropology, physics and other scientific disciplines.

b. **Social and Behavioral Sciences.** Courses in the social and behavioral sciences are those which focus on people as members of society. To satisfy the general education requirement in social and behavioral sciences, a course shall be designed to develop an awareness of the method of inquiry used by the social and behavioral sciences. It shall be designed to stimulate critical thinking about the ways people act and have acted in response to their societies and should promote appreciation of how societies and social subgroups operate. This category would include introductory or integrative courses in cultural anthropology, cultural geography, economics, history, political science, psychology, sociology and related disciplines.

c. **Humanities.** Courses in the humanities are those which study the cultural activities and artistic expressions of human beings. To satisfy the general education requirement in the humanities, a course shall be designed to help the student develop an awareness of the ways in which people throughout the ages and in different cultures have responded to themselves help the student develop aesthetic understanding and an ability to make value judgments. Such courses could include introductory or integrative courses in the arts, foreign languages, literature, philosophy, and religion.

d. **Language and Rationality.** Courses in language and rationality are those which develop for the student the principles and applications of language toward logical thought, clear and precise expression and critical evaluation of communication in whatever symbol system the student uses.

1) **English Composition.** Courses fulfilling the written composition requirement shall be designed to include both expository and argumentative writing.

2) **Communication and Analytical Thinking.** Courses fulfilling the communication and analytical thinking requirement include oral communication, mathematics, logic, statistics, computer languages and programming, and related disciplines.

Ethnic Studies will be offered in at least one of the required areas.

**General Education Requirements**

The State of California requires the completion of a minimum of 18 units of general education. One course must be selected from each of the following areas:

- HIST 115A History of the Americas I (City, Mesa)
- HIST 115B History of the Americas II (City, Mesa)
- HIST 120 Introduction to Asian Civilizations
- HIST 121 Asian Civilizations in Modern Times
- HIST 123 U.S. History from the Asian Pacific American Perspective (Mesa)
- HIST 130 The Middle East Today (Mesa)
- HIST 150 Native Americans in U.S. History (Mesa, Miramar)
- HIST 151 Native Americans in U.S. History (Mesa, Miramar)
- MUSI 109 World Music
- PHIL 125 Philosophy of Women in World Cultures (City, Mesa)
- POLI 103 Comparative Politics
- POLI 140 Contemporary International Politics
- SOCO 101 Principles of Sociology
- SOCO 110 Contemporary Social Problems
- SOCO 125 Sociology of the Family (Mesa)
- SPEE 180 Intercultural Communication

SAN DIEGO CITY COLLEGE • 2003-2004
A. Language and Rationality:
A minimum of three semester units, or four quarter units, must be completed. Choose one course from the following:

1. English Composition

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>BUSE 119</td>
<td>Business Communications</td>
</tr>
<tr>
<td>ENGL 101</td>
<td>Reading and Composition</td>
</tr>
<tr>
<td>ENGL 105</td>
<td>Composition and Literature</td>
</tr>
<tr>
<td>ENGL 205</td>
<td>Critical Thinking and Intermediate Composition</td>
</tr>
</tbody>
</table>

A minimum of three semester units, or four quarter units, must be completed. Choose one course from the following.

2. Communication and Analytical Thinking

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOL 200</td>
<td>Biological Statistics (City, Mesa)</td>
</tr>
<tr>
<td>BLAS 106</td>
<td>Black Oral Expression and Interpretation (Mesa)</td>
</tr>
<tr>
<td>BUSE 101</td>
<td>Business Mathematics</td>
</tr>
<tr>
<td>CISC 150</td>
<td>Introduction to Computer and Information Sciences (City, Mesa)</td>
</tr>
<tr>
<td>CISC 181</td>
<td>Principles of Information Systems</td>
</tr>
<tr>
<td>MATH 91</td>
<td>Algebra for Math Placement (City, Miramar)</td>
</tr>
<tr>
<td>MATH 95</td>
<td>Elementary Algebra and Geometry</td>
</tr>
</tbody>
</table>

B. Natural Sciences
A minimum of three semester units, or four quarter units, must be completed. Choose one course from the following:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>MATH 96</td>
<td>Intermediate Algebra with Geometry</td>
</tr>
<tr>
<td>MATH 104</td>
<td>Trigonometry</td>
</tr>
<tr>
<td>MATH 107</td>
<td>Introduction to Scientific Programming</td>
</tr>
<tr>
<td>MATH 107L</td>
<td>Intro. to Scientific Programming Lab</td>
</tr>
<tr>
<td>MATH 116</td>
<td>College and Matrix Algebra</td>
</tr>
<tr>
<td>MATH 118</td>
<td>A Survey of Modern Mathematics (City, Mesa)</td>
</tr>
<tr>
<td>MATH 119</td>
<td>Elementary Statistics</td>
</tr>
<tr>
<td>MATH 121</td>
<td>Basic Techniques of Applied Calculus I</td>
</tr>
<tr>
<td>MATH 122</td>
<td>Basic Techniques of Calculus II</td>
</tr>
<tr>
<td>MATH 141</td>
<td>Precalculus</td>
</tr>
<tr>
<td>MATH 150</td>
<td>Calculus with Analytic Geometry I</td>
</tr>
<tr>
<td>MATH 151</td>
<td>Calculus with Analytic Geometry II</td>
</tr>
<tr>
<td>MATH 181</td>
<td>Meconiromics College Algebra and Trigonometry I (City)</td>
</tr>
<tr>
<td>MATH 182</td>
<td>Meconiromics College Algebra and Trigonometry II (City)</td>
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<tr>
<td>MATH 183</td>
<td>Meconiromics Calculus I (City)</td>
</tr>
<tr>
<td>MATH 184</td>
<td>Meconiromics Calculus II (City)</td>
</tr>
<tr>
<td>MATH 210A</td>
<td>Concepts of Elementary School Mathematics I</td>
</tr>
<tr>
<td>MATH 210B</td>
<td>Concepts of Elementary School Mathematics II</td>
</tr>
<tr>
<td>MATH 237</td>
<td>Machine and Assembly Language (City, Mesa)</td>
</tr>
<tr>
<td>MATH 245</td>
<td>Discrete Mathematics</td>
</tr>
<tr>
<td>MATH 252</td>
<td>Calculus with Analytic Geometry III</td>
</tr>
<tr>
<td>MATH 254</td>
<td>Introduction to Linear Algebra</td>
</tr>
<tr>
<td>MATH 255</td>
<td>Differential Equations</td>
</tr>
<tr>
<td>PHIL 100</td>
<td>Logic and Critical Thinking</td>
</tr>
<tr>
<td>PHIL 101</td>
<td>Symbolic Logic</td>
</tr>
<tr>
<td>PHIL 205</td>
<td>Critical Thinking and Writing in Philosophy</td>
</tr>
<tr>
<td>PSYC 258</td>
<td>Behavioral Science Statistics (City, Mesa)</td>
</tr>
<tr>
<td>SPEE 99</td>
<td>Voice and Diction for Non-Native Speakers of English</td>
</tr>
<tr>
<td>SPEE 101</td>
<td>Voice and Articulation</td>
</tr>
<tr>
<td>SPEE 103</td>
<td>Oral Communication</td>
</tr>
<tr>
<td>SPEE 135</td>
<td>Interpersonal Communication</td>
</tr>
<tr>
<td>SPEE 160</td>
<td>Argumentation</td>
</tr>
<tr>
<td>SPEE 170</td>
<td>Small Group Communication</td>
</tr>
<tr>
<td>SPEE 180</td>
<td>Intercultural Communication</td>
</tr>
</tbody>
</table>

Note: Courses designated with a caret (\(^\)) may also be used to fulfill the District multicultural studies requirement. Courses designated with an asterisk (*) fulfill more than one general education requirement, but may not be counted more than once for this purpose.
### 67 Academic Requirements

#### 1. Life Sciences

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>ANTH 102</td>
<td>Introduction to Physical Anthropology (Mesa)</td>
</tr>
<tr>
<td>ANTH 104</td>
<td>Laboratory in Physical Anthropology (Mesa)</td>
</tr>
<tr>
<td>BIOL 100</td>
<td>Natural History - Environmental Biology (Lecture/Laboratory) (Mesa, Miramar)</td>
</tr>
<tr>
<td>BIOL 101</td>
<td>Issues in Environmental Biology (Lecture/Laboratory) (City)</td>
</tr>
<tr>
<td>BIOL 105</td>
<td>Principles of Biology (Miramar)</td>
</tr>
<tr>
<td>BIOL 106</td>
<td>Principles of Biology (Laboratory)</td>
</tr>
<tr>
<td>BIOL 107</td>
<td>General Biology (Lecture/Laboratory) (City, Mesa)</td>
</tr>
<tr>
<td>BIOL 110</td>
<td>Introduction to Oceanography (City, Mesa)</td>
</tr>
<tr>
<td>BIOL 115</td>
<td>Marine Biology (Lecture/Laboratory)</td>
</tr>
<tr>
<td>BIOL 120</td>
<td>The Environment of Man (Mesa)</td>
</tr>
<tr>
<td>BIOL 130</td>
<td>Human Heredity</td>
</tr>
<tr>
<td>BIOL 131</td>
<td>Introduction to Biotechnology (Miramar)</td>
</tr>
<tr>
<td>BIOL 160</td>
<td>Elements of Human Anatomy &amp; Physiology (Lecture/Lab) (Mesa, Miramar)</td>
</tr>
<tr>
<td>BIOL 180</td>
<td>Plants and People (City)</td>
</tr>
<tr>
<td>BIOL 205</td>
<td>General Microbiology</td>
</tr>
<tr>
<td>BIOL 210A</td>
<td>Introduction to the Biological Sciences I (Lecture/Lab)</td>
</tr>
<tr>
<td>BIOL 210B</td>
<td>Introduction to the Biological Sciences II (Lecture/Lab)</td>
</tr>
<tr>
<td>BIOL 215</td>
<td>Introduction to Zoology</td>
</tr>
<tr>
<td>BIOL 230</td>
<td>Human Anatomy</td>
</tr>
<tr>
<td>BIOL 235</td>
<td>Human Physiology</td>
</tr>
<tr>
<td>BIOL 250</td>
<td>Introduction to Botany (Mesa, Miramar)</td>
</tr>
<tr>
<td>BIOL 285</td>
<td>Tropical Biology Field Experience (Miramar)</td>
</tr>
<tr>
<td>CHEM 105</td>
<td>Drugs and the Human Body (Mesa)</td>
</tr>
<tr>
<td>MEDA 105</td>
<td>Human Anatomy and Assisting Physiology (Mesa)</td>
</tr>
<tr>
<td>NLTE 105</td>
<td>Principles of Plant Growth (Mesa)</td>
</tr>
<tr>
<td>NUTR 150</td>
<td>Nutrition (Mesa, Miramar)</td>
</tr>
<tr>
<td>PSYC 260</td>
<td>Introduction to Physiological Psychology</td>
</tr>
<tr>
<td>CHEM 100</td>
<td>Fundamentals of Chemistry</td>
</tr>
<tr>
<td>CHEM 100L</td>
<td>Fundamentals of Chemistry (Laboratory)</td>
</tr>
<tr>
<td>CHEM 130</td>
<td>Introduction to Organic &amp; Biological Chemistry</td>
</tr>
<tr>
<td>CHEM 130L</td>
<td>Introduction to Organic &amp; Biological Chemistry (Laboratory)</td>
</tr>
<tr>
<td>CHEM 151</td>
<td>Introduction to General Chemistry (Lecture/Laboratory) (Miramar)</td>
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<tr>
<td>CHEM 152</td>
<td>Introduction to General Chemistry (City, Mesa)</td>
</tr>
<tr>
<td>CHEM 152L</td>
<td>Introduction to General Chemistry Laboratory (City, Mesa)</td>
</tr>
<tr>
<td>CHEM 200</td>
<td>General Chemistry I (Lecture)</td>
</tr>
<tr>
<td>CHEM 200L</td>
<td>General Chemistry I (Laboratory)</td>
</tr>
<tr>
<td>CHEM 201</td>
<td>General Chemistry II (Lecture)</td>
</tr>
<tr>
<td>CHEM 201L</td>
<td>General Chemistry II (Laboratory)</td>
</tr>
<tr>
<td>GEOG 101</td>
<td>Physical Geography</td>
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<tr>
<td>GEOG 101L</td>
<td>Physical Geography (Laboratory)</td>
</tr>
<tr>
<td>GEOG 103</td>
<td>Introduction to Meteorology (Mesa)</td>
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<tr>
<td>GEOL 100</td>
<td>General Geology</td>
</tr>
<tr>
<td>GEOL 101</td>
<td>General Geology (Laboratory)</td>
</tr>
<tr>
<td>PHYN 100</td>
<td>Survey of Physical Science (Lecture)</td>
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<tr>
<td>PHYN 101</td>
<td>Survey of Physical Science (Laboratory)</td>
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<tr>
<td>PHYN 120</td>
<td>Physical Oceanography (Miramar)</td>
</tr>
<tr>
<td>PHYS 100</td>
<td>Introductory Oceanography (Miramar)</td>
</tr>
<tr>
<td>PHYS 120A</td>
<td>General Physics I (City)</td>
</tr>
<tr>
<td>PHYS 120B</td>
<td>General Physics II (City)</td>
</tr>
<tr>
<td>PHYS 121A</td>
<td>General Physics Lab-A (City)</td>
</tr>
<tr>
<td>PHYS 121B</td>
<td>General Physics Lab-B (City)</td>
</tr>
<tr>
<td>PHYS 124A</td>
<td>General Physics</td>
</tr>
<tr>
<td>PHYS 124B</td>
<td>General Physics</td>
</tr>
<tr>
<td>PHYS 195A</td>
<td>Mechanics (City, Mesa)</td>
</tr>
<tr>
<td>PHYS 195B</td>
<td>Electricity &amp; Magnetism (City, Mesa)</td>
</tr>
<tr>
<td>PHYS 195C</td>
<td>Waves, Light and Modern Physics (City, Mesa)</td>
</tr>
</tbody>
</table>

#### 2. Physical Sciences

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>ASTR 101</td>
<td>Descriptive Astronomy</td>
</tr>
<tr>
<td>ASTR 109</td>
<td>Practice in Observing (Laboratory) (City, Mesa)</td>
</tr>
<tr>
<td>ASTR 111</td>
<td>Astronomy Laboratory (Laboratory) (Mesa, Miramar)</td>
</tr>
</tbody>
</table>

### C. Humanities

A minimum of three semester units, or four quarter units, must be completed. Choose one course from the following:

*Note: Courses designated with a caret (^) may also be used to fulfill the District multicultural studies requirement. Courses designated with an asterisk (*) fulfill more than one general education*
A requirement, but may not be counted more than once for this purpose.

AMSL 100 American Sign Language I (City, Mesa)
AMSL 101 American Sign Language II (City, Mesa)
ARAB 101 First Course in Arabic (City)
ARAB 102 Second Course in Arabic (City)
ARTF 100 Art Orientation
ARTF 109 Nineteenth and Twentieth Century Art
ARTF 110 Art History: Prehistoric to Gothic
ARTF 111 Art: Renaissance to Modern
^ ARTF 113 African, Oceanic, Native American Art (Mesa)
^ ARTF 115 African Art (City, Mesa)
^ ARTF 120 North American Indian Art (Mesa)
^ ARTF 125 Art History: Survey in Far Eastern Art (Miramar)
^ ARTF 130 Survey of Pre-Columbian Art (Mesa)
^ BLAS 110 Afro-American Art (City, Mesa)
^ BLAS 111 African Art History (Mesa)
^ BLAS 120 Black Music (City, Mesa)
^ BLAS 150 Black Women in Literature and the Media (City, Mesa)
^ BLAS 155 Afro-American Literature (City, Mesa)
CHIC 130 Mexican Literature in Translation (City)
CHIC 135 Chicano Literature (City, Mesa)
CHIC 138 Literature of La Raza in Latin America in Translation (City, Mesa)
^ CHIC 190 Chicano Images in Film (Mesa)
CHIC 203 Introductory Spanish for Spanish Speakers (City)
CHIC 204 Intermediate Spanish for Spanish Speakers (City)
^ CHIC 210 Chicano Culture (City, Mesa)
CHIN 101 First Course in Mandarin Chinese (Mesa)
CHIN 102 Second Course in Mandarin Chinese (Mesa)
CHIN 201 Third Course in Mandarin Chinese (Mesa)
DRAM 105 Introduction to Dramatic Arts
DRAM 136 History of Canonized Theatre - Ancient Greece to the Restoration (City)
DRAM 137 History of Canonized Western Theatre - Restoration to the Present (City)
DRAM 150 Cinema as Art and Communication I (Mesa)
DRAM 151 Cinema as Art and Communication II (Mesa)
ENGL 207 The Art of the Sentence (Mesa)
ENGL 208 Introduction to Literature
ENGL 209 Literary Approaches to Film
ENGL 210 American Literature I
ENGL 211 American Literature II
ENGL 215 English Literature I: 800-1799
ENGL 216 English Literature II: 1800-Present
ENGL 220 Masterpieces of World Literature I: 1500 BCE - 1600 CE
ENGL 221 Masterpieces of World Literature II: 1600 - Present
ENGL 237 Women in Literature (City, Miramar)
ENGL 238 Evaluating Children's Literature (City, Mesa)
FREN 101 First Course in French (City, Mesa)
FREN 102 Second Course in French (City, Mesa)
FREN 201 Third Course in French (City, Mesa)
FREN 202 Fourth Course in French (City, Mesa)
GERM 101 First Course in German (City, Mesa)
GERM 102 Second Course in German (City, Mesa)
GERM 201 Third Course in German (City, Mesa)
HIST 100 World History I (City, Mesa)
HIST 101 World History II (City, Mesa)
HIST 105 Introduction to Western Civilization I
HIST 106 Introduction to Western Civilization II
^ HIST 120 Introduction to Asian Civilizations
^ HIST 121 Asian Civilizations in Modern Times
^ HIST 123 U.S. History from the Asian Pacific American Perspective (Mesa)
HIST 125 History/England and the Commonwealth I (Mesa)
HIST 126 History/England and the Commonwealth II (Mesa)
HUMA 101 Introduction of Humanities I
HUMA 102 Introduction of Humanities II
HUMA 106 World Religions (City, Mesa)
HUMA 201 Mythology
HUMA 202 Mythology: Hero's Journey (City, Mesa)
ITAL 101 First Course in Italian (City, Mesa)
ITAL 102 Second Course in Italian (City, Mesa)
ITAL 201 Third Course in Italian (City, Mesa)
JAPN 101 First Course in Japanese (Mesa, Miramar)
JAPN 102 Second Course in Japanese (Mesa, Miramar)
JAPN 201 Third Course in Japanese (Mesa)
JAPN 202 Fourth Course in Japanese (Mesa)
LATI 101 First Course in Latin (Mesa)
LATI 102 Second Course in Latin (Mesa)
LATI 201 Third Course in Latin (Mesa)
MUSI 100 Introduction to Music
MUSI 101 Music History I (Mesa, Miramar)
MUSI 102 Music History II (Mesa, Miramar)
MUSI 105 Music of Our Time (Mesa)
^ MUSI 109 World Music
MUSI 111 Jazz-History and Development
MUSI 125 Music, the Arts and Humanity (Mesa, Miramar)
D. Social and Behavioral Sciences

A minimum of three semester units, or four quarter units, must be completed. Choose one course from the following:

Note: Courses designated with a caret (^) may also be used to fulfill the District multicultural studies requirement. Courses designated with an asterisk (*) satisfy more than one general education requirement, but may not be counted more than once for this purpose.

PHIL 102A Introduction to Philosophy: Reality and Knowledge
PHIL 102B Introduction to Philosophy: Values
PHIL 103 Historical Introduction to Philosophy (Mesa)
PHIL 104A History of Western Philosophy (City, Mesa)
PHIL 104B History of Western Philosophy (City, Mesa)
PHIL 105 Contemporary Philosophy (Mesa)
PHIL 106 Asian Philosophy (City, Mesa)
PHIL 107 Reflections on Human Nature
PHIL 108 Perspectives on Human Nature and Society (City, Mesa)
PHIL 110 Philosophy of Religion (Mesa)
PHIL 111 Philosophy in Literature (City, Mesa)
PHIL 112 Philosophy of Science (Mesa)
PHIL 125 Philosophy of Women in World Cultures (City, Mesa)
PHIL 130 Philosophy of Art and Music (Mesa)
PHIL 205 Critical Thinking and Writing in Philosophy
PSYC 207 Psychology of Religion (Mesa)
RTVC 160 Introduction to Cinematography (City)
RUSS 101 First Course in Russian (Mesa)
RUSS 102 Second Course in Russian (Mesa)
RUSS 201 Third Course in Russian (Mesa)
SPAN 100 First/Second Course in Spanish (Accelerated) (Mesa)
SPAN 101 First Course in Spanish
SPAN 102 Second Course in Spanish
SPAN 201 Third Course in Spanish
SPAN 202 Fourth Course in Spanish
TAGA 101 First Course in Tagalog (Mesa, Miramar)
TAGA 102 Second Course in Tagalog (Mesa, Miramar)
TAGA 201 Third Course in Tagalog (Mesa)
VIET 101 First Course in Vietnamese (Mesa)
VIET 102 Second Course in Vietnamese (Mesa, Miramar)
VIET 201 Third Course in Vietnamese (Mesa)

ADJU 101 Introduction to Administration of Justice (Miramar)
^ ADJU 106 Diversity and Community Relations (Miramar)
AMSL 104 Introduction to Deaf Culture (Mesa)
^ ANTH 103 Introduction to Cultural Anthropology
ANTH 107 Introduction to Archaeology
^ ANTH 200 Introduction to North American Indians (Mesa)
^ ANTH 210 Introduction to California Indians (City, Mesa)
ANTH 215 Cultures of Latin America (City, Mesa)
^ BLAS 104 Black Psychology (City, Mesa)
^ BLAS 115 Sociology from a Black Perspective (City)
^ BLAS 116 Contemporary Social Problems from a Black Perspective (City, Mesa)
^ BLAS 125 Dynamics of the Black Community (Mesa)
^ BLAS 130 The Black Family (City, Mesa)
^ BLAS 135 Introduction to Black Politics (City)
^ BLAS 140A History of the U.S., Black Perspectives
^ BLAS 140B History of the U.S., Black Perspectives
^ BLAS 145A Introduction to African History (City, Mesa)
^ BLAS 145B Introduction to African History (City)
BUSE 100 Introduction to Business
BUSE 140 Business Law and the Legal Environment
^ CHIC 110A Introduction to Chicano Studies (City, Mesa)
^ CHIC 110B Introduction to Chicano Studies (City, Mesa)
^ CHIC 141A U.S. History from a Chicano Perspective (City, Mesa)
^ CHIC 141B U.S. History from a Chicano Perspective (City, Mesa)
CHIC 150 History of Mexico (City, Mesa)
CHIC 170 La Chicana (Mesa)
CHIC 201 Pre-Columbian Cultures of MesoAmerica (City, Mesa)
CHIL 101 Principles of Child Development & Development Observation
^ CHIL 141 The Child, Family and Community Development
ECON 120 Principles of Economics I
ECON 121 Principles of Economics II
^ ENGL 202 Introduction to Linguistics (City, Mesa)
^ FILI 100 Filipino American Experience (Mesa, Miramar)
^ GEOG 102 Cultural Geography
Note: Students who select POLI 102 to satisfy the American Institutions requirement may not use this course for General Education Credit.

Certificate of Achievement

Programs in which a Certificate of Achievement may be awarded are described in the Degree Curricula and Certificate Programs section of this catalog. Certificate programs are designed for students with specific personal or occupational goals. To qualify for the Certificate of Achievement, students must satisfy the following requirements:

1) meet all standards for admission to the desired certificate program;
2) obtain a grade point average of at least 2.0 (“C”) in all courses listed in the certificate program;
3) earn a grade of “C” or better in each course required for the certificate in occupational health occupation programs;
4) complete a minimum of three courses in residence.

Certificate of Completion

Programs in which a Certificate of Completion may be awarded are described in the Degree Curricula and Certificate Programs section of this catalog. A Certificate of Completion recognizes the attainment of knowledge and/or skill through the successful completion of two or more courses as specified by a department. Certificates of Completion are designed to prepare students for employment, job enhancement and/or job advancement. To qualify for the Certificate of Completion, students must satisfy the following requirements:

1) Achieve a grade of "C" or better in each of the required courses.
2) Complete all required course work in the San Diego Community College District.
3) Course substitutions or course equivalencies from other colleges may not be used to satisfy Certificate of Completion requirements.

For additional information, contact the campus Evaluations Office or subject-area department.

GEOG 104 World Regional Geography (City, Mesa)
GEOG 154 Introduction to Urban Geography (Mesa)
HIST 109 History of the United States I
HIST 110 History of the United States II
HIST 113 Race in the United States (Mesa)
HIST 115A History of the Americas I (City, Mesa)
HIST 115B History of the Americas II (City, Mesa)
HIST 123 U. S. History from the Asian Pacific American Perspective (Mesa)
HIST 130 The Middle East Today (Mesa)
HIST 141 Women in United States History I (Mesa)
HIST 142 Women in United States History II (Mesa)
HIST 150 Native Americans in U.S. History (Mesa, Miramar)
HIST 151 Native Americans in U.S. History (Mesa, Miramar)
HIST 154 Ancient Egypt (Mesa)
HIST 175 California History (Mesa)
PHIL 108 Perspectives on Human Nature and Society (City, Mesa)
PHIL 109 Issues in Social Philosophy (Mesa)
POLI 101 Introduction to Political Science
POLI 102 American Political System
POLI 103 Comparative Politics
POLI 140 Contemporary International Politics
PSYC 101 General Psychology
PSYC 111 Psychological Aspects of Aging, Death and Dying (Mesa)
PSYC 121 Introduction to Child Psychology (Mesa, Miramar)
PSYC 123 Adolescent Psychology (Mesa, Miramar)
PSYC 132 Psychology of Gender Roles (Miramar)
PSYC 133 Psychology of Women (Mesa, Miramar)
PSYC 135 Marriage and Family Relationships
PSYC 155 Introduction to Personality (City, Mesa)
PSYC 211 Learning
PSYC 230 Psychology of Lifespan Development (Mesa, Miramar)
RTVC 200 Introduction to Mass Communications (City, Miramar)
SOCO 101 Principles of Sociology
SOCO 110 Contemporary Social Problems
SOCO 125 Sociology of the Family (Mesa)
Graduation

Petition for Graduation
Graduation is not automatic upon completion of requirements. A student who expects to receive the Associate Degree or the Certificate of Achievement must file a Petition for Graduation in the Evaluations Office. See class schedule for important deadline dates for filing a Petition for Graduation.

Official college transcripts from all colleges attended must be on file before submitting the petition.

A petition for an associate degree evaluation should be submitted one year before the student plans to graduate.

An evaluation is a summary of college work completed and of requirements to be completed for the associate degree or the certificate of achievement. Only evaluations completed by one of the College Evaluators are official.

Students who have petitioned for graduation should notify the evaluator immediately of any name or address change.

Catalog Rights
Students who maintain continuous enrollment may choose to graduate under the (City College, Mesa College, and Miramar College) catalog in effect at the time they began their studies in a California Community College, California State University, or University of California campus, or under the catalog in effect at the time of graduation. Certification of a student’s completion of CSU general education requirements is not a graduation requirement. Therefore, students do not have catalog rights to a certification pattern used by a certifying institution or a CSU campus.

Continuous Enrollment
Continuous enrollment is defined as attendance in one semester or two quarters (excluding summer) within a calendar year in either the CSU, UC, or California Community College System.

Awarding of Degrees or Certificates
The graduation ceremony is held once a year at the end of the spring semester. Students who complete requirements for the Associate Degree or the Certificate of Achievement in the fall or spring semesters and petition by March will be granted the degree in Spring.

Students who complete the requirements during the summer session or petition after the March deadline will be granted the degree in August. Summer candidates for graduation may participate in the graduation ceremony in Spring if the Petition for Graduation is filed by the March deadline.

Graduation with Distinction
Graduation with honors is granted to students who have achieved the following overall Grade Point Average (GPA) in lower division work attempted upon completion of the academic year in which the student graduates. Graduation with Honors is granted to students who achieve an overall 3.5 GPA; graduation with high honors is granted to students who achieve an overall 3.75 GPA; highest honor is granted to students who achieve an overall 4.0 GPA.

Graduation with Honors distinction will be based upon all coursework that the degree is based on.

Students will be notified that this distinction is pending at the time of graduation contingent upon completion of all requirements for the degree.

Additional College Degree
A student having received an associate or baccalaureate degree may qualify for an additional Associate in Arts or Associate in Science degree in a new major or concentration.

An additional degree:
1) Permits upgrading or preparation for upgrading current employment.
2) Prepares for employment in an area different from that provided by previous training.
3) Provides general knowledge leading to fulfillment of personal goals.

The following requirements are applicable:
1) The degree to be earned must represent a change in major or concentration from the degree or degrees previously earned.
2) A student must earn a minimum of 18 required semester units in the new major or concentration beyond the minimum 60 units required for the
Associate Degree, bringing the total units required for the second degree to a minimum of 78 units, a minimum of 96 units for the third degree, and so on. Twelve (12) semester units of the new major or concentration must be completed in residence.

3) A student must fulfill current catalog associate degree requirements.

4) In order to receive an additional college degree, the student must file a Petition for Graduation in the Evaluations Office. The college evaluator will review all previous college work to determine the student's eligibility for a second degree.

Extended Studies  Off-campus classes

Extended Studies offers City College credit courses at various sites throughout San Diego such as on military sites, Hoover High School, and at other educational and social service agency locations. These classes are open to all City College students and are designed to provide an opportunity for students to attend classes in the community that are short term, easily accessible, and have convenient parking. Extended Studies courses are listed in the class schedule each semester under the subject in which they are offered. If you have questions about enrolling in Extended Studies off-campus classes, call the Extended Studies office at 388-3528.

Transfer Programs

In addition to the Associate Degree and Certificate Programs listed, many courses completed at San Diego City College, San Diego Mesa College, and San Diego Miramar College may be applied for transfer credit to four-year colleges and universities. College and university catalogs for transfer planning are available in the Counseling Department, in the Career/Transfer Center, and the library. The Counseling Department also houses other transfer information such as articulation agreements for lower division general education, major preparation, and transferable electives.

Articulation is the process whereby a course (or set of courses) offered at one institution is accepted as equivalent to or in lieu of a comparable course (or set of courses) at another institution.

Students who plan to transfer may establish “catalog rights” in the University of California system and the California State University system by remaining in attendance at least one semester or two quarters in a calendar year. UC and CSU will not accept summer session as satisfying continuous enrollment requirements.

Certification of a student's completion of CSU general education requirements is not a graduation requirement. Therefore, students do not have catalog rights to a certification pattern used by a certifying institution or a CSU campus.

Requirements for Preparation for the University Major

Refer to each program to identify lower division courses required as preparation for the University major. Students who intend to transfer are advised to consult with a counselor for information regarding requirements for specific majors and transfer institutions.

Requirements for Transfer Studies

Degree and Lower Division General Education for University Transfer

Students preparing to transfer to a university may complete one of four lower division general education patterns:

- Intersegmental General Education Transfer Curriculum (IGETC)
- Certification of General Education Breadth Requirements (CSUGEB) for any California State University
- Transfer Admission Guarantee to the University of California at San Diego ONLY (UCSD-TAG)
- Other Institutions Transfer Pattern

Completion of the CSUGEB or IGETC requirements assures that transfer institutions, with some exceptions, will accept that pattern of general education in lieu of their lower division general education requirements. Students gaining certification from San Diego City, Mesa, or Miramar College will generally need no further lower division general education upon transfer. TAG students may be held to additional lower division general education coursework requirements depending upon which of the five colleges they select at UCSD. Students will not be required to complete additional graduation requirements. See page 311 for requirements.
Transfer to California State University (CSU)

California State University Campuses

- California Maritime Academy
- California Polytechnic State University, San Luis Obispo
- California State Polytechnic University, Pomona
- California State University, Bakersfield
- California State University, Chico
- California State University, Dominguez Hills
- California State University, Fresno
- California State University, Fullerton
- California State University, Hayward
- California State University, Long Beach
- California State University, Los Angeles
- California State University, Monterey Bay
- California State University, Northridge
- California State University, Sacramento
- California State University, San Bernardino
- California State University, San Marcos
- California State University, Stanislaus
- Humboldt State University
- San Diego State University
- San Francisco State University
- San Jose State University
- Sonoma State University

Certification of CSU General Education Breadth Requirements

Certification is a legal agreement between CSU and community colleges in California to assure that CSU lower division general education requirements have been satisfied.

It is the policy of the San Diego Community College District to provide certification of general education breadth requirements when such service is specifically requested by the student. The certification form is available in the Counseling Department, room A-110 or the Evaluations Office, room A-110.

Certification is based on coursework which is completed in the San Diego Community College District or from institutions which have filed a list of certifiable courses with the Chancellor's Office, California State University. Official transcripts from other colleges and universities must be on file before submitting the petition, and will be reviewed for inclusion in the certification process.

Please Note: Coursework completed at a foreign college or university, that is not accredited by one of the U.S. regional accrediting agencies, cannot be used to satisfy requirements for certification.

Certification of General Education courses is generally requested when the CSU GE pattern has been completed. Prior to GE certification, students must complete a minimum of 12 units in residence at the San Diego Community College District colleges, or 3 units of general education transferable course work from the CSU Certification Pattern prior to a review of courses for certification. A minimum of 39 semester units is required for certification.

Students may report any problems encountered with certification of general education for transfer to a counselor. Students will be assisted by the Counseling Department and Evaluations Office to resolve any transfer problems related to certification.

Courses which can be certified as general education for transfer to California State Universities are listed below. These courses are transferable to most four-year institutions and are considered baccalaureate level. There are five major areas of general education.

* Course is listed in more than one area but shall not be certified in more than one area.

Certification of a student’s completion of CSU general education requirements is not a graduation requirement. Therefore, students do not have catalog rights to a certification pattern used by a certifying institution or a CSU campus.
Area A. Communication in the English Language and Critical Thinking:
No fewer than nine semester units (12-15 quarter units) including one course in A1, one course in A2, and one course in A3.

A1: Oral Communication
- BLAS 106 Black Oral Expression and Interpretation (Mesa)
- SPEE 103 Oral Communication

A2: Written Communication
- ENGL 101 Reading and Composition
- ENGL 105 Composition and Literature

A3: Critical Thinking
- ENGL 205 Critical Thinking and Intermediate Composition
- PHIL 100 Logic and Critical Thinking
- PHIL 103 Historical Introduction to Philosophy (Mesa)
- PHIL 205 Critical Thinking and Writing in Philosophy
- SPEE 160 Argumentation

Area B. Physical Universe and its Life Forms; Mathematics/Quantitative Reasoning:
No fewer than nine semester units (12-15 quarter units) including one course in B1, one course in B2, and one course in B4. One of the courses selected to fulfill the requirement for B1 or B2 must include a laboratory component or a separate course must be taken from B3. If a separate laboratory course is taken from B3, it must match one of the two lecture courses taken from B1 or B2.

B1: Physical Science
- ASTR 101 Descriptive Astronomy
- CHEM 100 Fundamentals of Chemistry
- CHEM 130 Introduction to Organic & Biological Chemistry
- CHEM 151 Introduction to General Chemistry (Lecture and Laboratory) (Miramar)
- CHEM 152 Introduction to General Chemistry (City, Mesa)
- CHEM 200 General Chemistry I (Lecture)
- CHEM 201 General Chemistry II (Lecture)
- GEOG 101 Physical Geography
- GEOG 103 Introduction to Meteorology (Mesa)
- GEOL 100 General Geology
- PHYN 100 Survey of Physical Science
- PHYN 120 Physical Oceanography (Miramar)
- PHYS 100 Introductory Physics (Lecture/Laboratory) (Mesa)
- PHYS 120A General Physics I (City)
- PHYS 120B General Physics II (City)
- PHYS 124A General Physics
- PHYS 124B General Physics
- PHYS 195A Mechanics (Lecture & Laboratory) (City, Mesa)
- PHYS 195B Electricity & Magnetism (Lecture/Laboratory) (City, Mesa)
- PHYS 195C Waves, Light and Modern Physics (Lecture/Laboratory) (City, Mesa)

B2: Life Science
- ANTH 102 Introduction to Physical Anthropology
- BIOL 100 Natural History-Environmental Biology (Lecture/Laboratory) (Mesa, Miramar)
- BIOL 101 Issues in Environmental Biology (Lecture/Laboratory) (City)
- BIOL 105 Principles of Biology (Miramar)
- BIOL 107 General Biology (Lecture/Laboratory) (City, Mesa)
- BIOL 110 Introduction to Oceanography (City, Mesa)
- BIOL 115 Marine Biology (Lecture/Laboratory)
- BIOL 130 Human Heredity
- BIOL 131 Introduction to Biotechnology (Miramar)
- BIOL 160 Elements of Human Anatomy & Physiology (Lecture/Laboratory) (Mesa, Miramar)
- BIOL 180 Plants and People (City)
- BIOL 205 General Microbiology (Lecture/Laboratory)
- BIOL 210A Introduction to the Biological Sciences I (Lecture/Laboratory)
- BIOL 210B Introduction to the Biological Sciences II (Lecture/Laboratory)
- BIOL 215 Introduction to Zoology (Lecture/Laboratory)
- BIOL 230 Human Anatomy (Lecture/Laboratory)
B3: Laboratory Activity

- BIOL 235 Human Physiology (Lecture/Laboratory)
- BIOL 250 Introduction to Botany (Lecture/Laboratory) (Mesa, Miramar)
- PSYC 260 Introduction to Physiological Psychology

- BIOL 235 Human Physiology (Lecture/Laboratory)
- BIOL 250 Introduction to Botany (Lecture/Laboratory) (Mesa, Miramar)
- PSYC 260 Introduction to Physiological Psychology

B4: Mathematics/Quantitative Reasoning

- BIOL 200 Biological Statistics (City, Mesa)
- MATH 104 Trigonometry
- MATH 107 Introduction to Scientific Programming
- MATH 107L Intro. to Scientific Programming Lab
- MATH 116 College & Matrix Algebra
- MATH 118 A Survey of Modern Mathematics (City, Mesa)
- MATH 119 Elementary Statistics
- MATH 121 Basic Techniques of Applied Calculus I
- MATH 122 Basic Techniques of Calculus II
- MATH 141 Precalculus
- MATH 150 Calculus with Analytic Geometry I
- MATH 151 Calculus with Analytic Geometry II
- MATH 181 Mecomtronics College Algebra and Trigonometry I (City)
- MATH 182 Mecomtronics College Algebra and Trigonometry II (City)
- MATH 183 Mecomtronics Calculus I (City)
- MATH 184 Mecomtronics Calculus II (City)
- MATH 210A Concepts of Elementary School Mathematics I
- MATH 210B Concepts of Elementary School Mathematics II
- MATH 245 Discrete Mathematics
- MATH 252 Calculus with Analytic Geometry III
- MATH 254 Introduction to Linear Algebra
- MATH 255 Differential Equations
- PHIL 101 Symbolic Logic
- PSYC 258 Behavioral Science Statistics (City, Mesa)
Area C. Arts, Literature, Philosophy and Foreign Languages:
No fewer than nine semester units (12-15 quarter units), including one course in C1, one course in C2, and a third course from either C1 or C2.

C1: Arts (Art, Dance, Music, Theatre)

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
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<tbody>
<tr>
<td>ARTF 100</td>
<td>Art Orientation</td>
</tr>
<tr>
<td>ARTF 109</td>
<td>Nineteenth and Twentieth Century Art</td>
</tr>
<tr>
<td>ARTF 110</td>
<td>Art History: Prehistoric to Gothic</td>
</tr>
<tr>
<td>ARTF 111</td>
<td>Art History: Renaissance to Modern</td>
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<tr>
<td>ARTF 113</td>
<td>African, Oceanic, Native American Art (Mesa)</td>
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<tr>
<td>ARTF 115</td>
<td>African Art (City, Mesa)</td>
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<tr>
<td>ARTF 120</td>
<td>North American Indian Art (Mesa)</td>
</tr>
<tr>
<td>ARTF 125</td>
<td>Art History: Survey Far Eastern Art (Miramar)</td>
</tr>
<tr>
<td>BLAS 110</td>
<td>Afro-American Art (City, Mesa)</td>
</tr>
<tr>
<td>BLAS 111</td>
<td>African Art History (Mesa)</td>
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<tr>
<td>BLAS 120</td>
<td>Black Music (City, Mesa)</td>
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<tr>
<td>DANC 181</td>
<td>Introduction to Dance (City, Mesa)</td>
</tr>
<tr>
<td>DRAM 105</td>
<td>Introduction to Dramatic Arts</td>
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<tr>
<td>DRAM 120</td>
<td>Dramatic Heritage (Miramar)</td>
</tr>
<tr>
<td>DRAM 136</td>
<td>History of Canonized Theatre - Ancient Greece to the Restoration (City)</td>
</tr>
<tr>
<td>DRAM 137</td>
<td>History of Canonized Western Theatre - Restoration to the Present (City)</td>
</tr>
<tr>
<td>DRAM 151</td>
<td>Cinema as Art and Communication II (Mesa)</td>
</tr>
<tr>
<td>MUSI 100</td>
<td>Introduction to Music</td>
</tr>
<tr>
<td>MUSI 101</td>
<td>Music History I (Mesa, Miramar)</td>
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<tr>
<td>MUSI 102</td>
<td>Music History II (Mesa, Miramar)</td>
</tr>
<tr>
<td>MUSI 105</td>
<td>Music of Our Time (Mesa)</td>
</tr>
<tr>
<td>MUSI 109</td>
<td>World Music</td>
</tr>
<tr>
<td>MUSI 111</td>
<td>Jazz-History and Development</td>
</tr>
<tr>
<td>MUSI 125</td>
<td>Music, the Arts and Humanity (Mesa, Miramar)</td>
</tr>
<tr>
<td>RTVC 160</td>
<td>Introduction to Cinematography (City)</td>
</tr>
</tbody>
</table>

C2: Humanities (Literature, Philosophy, Foreign Languages)

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
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<tbody>
<tr>
<td>AMSL 100</td>
<td>American Sign Language (City, Mesa)</td>
</tr>
<tr>
<td>AMSL 101</td>
<td>American Sign Language II (City, Mesa)</td>
</tr>
</tbody>
</table>

Note: AMSL 100 and AMSL 101 are not certifiable if taken with a foreign language.

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
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<tbody>
<tr>
<td>ARAB 101</td>
<td>First Course in Arabic (City)</td>
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<tr>
<td>ARAB 102</td>
<td>Second Course in Arabic (City)</td>
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<tr>
<td>BLAS 150</td>
<td>Black Women in Literature and the Media (City, Mesa)</td>
</tr>
<tr>
<td>BLAS 155</td>
<td>Afro-American Literature (City, Mesa)</td>
</tr>
<tr>
<td>CHIC 130</td>
<td>Mexican Literature in Translation (City)</td>
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<tr>
<td>CHIC 135</td>
<td>Chicano Literature (City, Mesa)</td>
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<tr>
<td>CHIC 138</td>
<td>Literature of La Raza in Latin America in Translation (City, Mesa)</td>
</tr>
<tr>
<td>CHIC 203</td>
<td>Introductory Spanish for Spanish Speakers (City)</td>
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<tr>
<td>CHIC 204</td>
<td>Intermediate Spanish for Spanish Speakers (City)</td>
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<tr>
<td>CHIC 210</td>
<td>Chicano Culture (City, Mesa)</td>
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<tr>
<td>CHIN 101</td>
<td>First Course in Mandarin Chinese (Mesa)</td>
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<tr>
<td>CHIN 102</td>
<td>Second Course in Mandarin Chinese (Mesa)</td>
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<tr>
<td>CHIN 201</td>
<td>Third Course in Mandarin Chinese (Mesa)</td>
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<tr>
<td>ENGL 208</td>
<td>Introduction to Literature</td>
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<td>ENGL 209</td>
<td>Literary Approaches to Film</td>
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<tr>
<td>ENGL 210</td>
<td>American Literature I</td>
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<td>ENGL 211</td>
<td>American Literature II</td>
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<tr>
<td>ENGL 215</td>
<td>English Literature I: 800-1799</td>
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<td>ENGL 216</td>
<td>English Literature II: 1800-1900</td>
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<tr>
<td>ENGL 220</td>
<td>Masterpieces of World Literature I: 1500 BCE - 1600 CE</td>
</tr>
<tr>
<td>ENGL 221</td>
<td>Masterpieces of World Literature II: 1600 - Present</td>
</tr>
<tr>
<td>ENGL 230</td>
<td>Asian American Literature (Mesa)</td>
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<tr>
<td>ENGL 237</td>
<td>Women in Literature (City, Miramar)</td>
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<tr>
<td>ENGL 238</td>
<td>Evaluating Children's Literature (City, Mesa)</td>
</tr>
<tr>
<td>FREN 101</td>
<td>First Course in French (City, Mesa)</td>
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<tr>
<td>FREN 102</td>
<td>Second Course in French (City, Mesa)</td>
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<td>FREN 201</td>
<td>Third Course in French (City, Mesa)</td>
</tr>
<tr>
<td>FREN 202</td>
<td>Fourth Course in French (City, Mesa)</td>
</tr>
<tr>
<td>GERM 101</td>
<td>First Course in German (City, Mesa)</td>
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<tr>
<td>GERM 102</td>
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<tr>
<td>GERM 201</td>
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<tr>
<td>HIST 100</td>
<td>World History I (City, Mesa)</td>
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<tr>
<td>HIST 101</td>
<td>World History II (City, Mesa)</td>
</tr>
<tr>
<td>HIST 105</td>
<td>Introduction to Western Civilization I</td>
</tr>
<tr>
<td>HIST 106</td>
<td>Introduction to Western Civilization II</td>
</tr>
<tr>
<td>HIST 120</td>
<td>Introduction to Asian Civilizations</td>
</tr>
<tr>
<td>HIST 121</td>
<td>Asian Civilizations in Modern Times</td>
</tr>
<tr>
<td>HIST 125</td>
<td>History/England and the Commonwealth I (Mesa)</td>
</tr>
<tr>
<td>HIST 126</td>
<td>History/England and the Commonwealth II (Mesa)</td>
</tr>
<tr>
<td>HIST 154</td>
<td>Ancient Egypt (Mesa)</td>
</tr>
<tr>
<td>HUMA 101</td>
<td>Introduction to Humanities I</td>
</tr>
<tr>
<td>HUMA 102</td>
<td>Introduction to Humanities II</td>
</tr>
<tr>
<td>HUMA 103</td>
<td>Introduction to the New Testament (Mesa)</td>
</tr>
<tr>
<td>HUMA 104</td>
<td>Introduction to the Old Testament (Mesa)</td>
</tr>
</tbody>
</table>
Area D. Social, Political and Economic Institutions and Behavior; Historical Background:

No fewer than nine semester units (12-15 quarter units) including three courses from at least two different disciplines. D1 through D0 each represent different disciplines.

### D1: Anthropology and Archaeology

- ANTH 103 Introduction to Cultural Anthropology
- ANTH 107 Introduction to Archaeology
- ANTH 200 Introduction to North American Indians (Mesa)
- ANTH 210 Introduction to California Indians (City, Mesa)
- ANTH 215 Cultures of Latin America (City, Mesa)

### D2: Economics

- ECON 120 Principles of Economics I
- ECON 121 Principles of Economics II

### D3: Ethnic Studies

- ANTH 200 Introduction to North American Indians (Mesa)
- ANTH 210 Introduction to California Indians (City, Mesa)
- ANTH 215 Cultures of Latin America (City, Mesa)
- BLAS 104 Black Psychology (City, Mesa)
- BLAS 115 Sociology from a Black Perspective (City)
- BLAS 116 Contemporary Social Problems from a Black Perspective (City)
- BLAS 125 Dynamics of the Black Community (Mesa)
- BLAS 130 The Black Family (City, Mesa)
- BLAS 135 Introduction to Black Politics (City)
- BLAS 140A History of the U.S., Black Perspective
- BLAS 140B History of the U.S., Black Perspective
- CHIC 110A Introduction to Chicano Studies (City, Mesa)
- CHIC 110B Introduction to Chicano Studies (City, Mesa)
- CHIC 141A U.S. History from a Chicano Perspective (City, Mesa)
- CHIC 141B U.S. History from a Chicano Perspective (City, Mesa)
- CHIC 170 La Chicana (Mesa)
### D4: Gender Studies

- **CHIC 201** Pre-Columbian Cultures of MesoAmerica (City, Mesa)
- **FILI 100** Filipino American Experience (Mesa, Miramar)
- **HIST 113** Race in United States History (Mesa)
- **HIST 123** U. S. History from the Asian Pacific American Perspective (Mesa)

### D5: Geography

- **GEOG 102** Cultural Geography
- **GEOG 104** World Regional Geography (City, Mesa)
- **GEOG 154** Introduction to Urban Geography (Mesa)

### D6: History

- **BLAS 140A** History of the U.S., Black Perspective
- **BLAS 140B** History of the U.S., Black Perspective
- **BLAS 145A** Introduction to African History (City, Mesa)
- **BLAS 145B** Introduction to African History (City)
- **CHIC 141A** U.S. History from a Chicano Perspective (City, Mesa)
- **CHIC 141B** U.S. History from a Chicano Perspective (City, Mesa)
- **CHIC 150** History of Mexico (City, Mesa)
- **HIST 100** World History I (City, Mesa)
- **HIST 101** World History II (City, Mesa)
- **HIST 109** History of the United States I
- **HIST 110** History of the United States II
- **HIST 111** History of the Americas I (City, Mesa)
- **HIST 114** History of the Americas II (City, Mesa)
- **HIST 123** U. S. History from the Asian Pacific American Perspective (Mesa)
- **HIST 125** History/ of England and the Commonwealth I (Mesa)
- **HIST 126** History/ of England and the Commonwealth II (Mesa)
- **HIST 130** The Middle East Today (Mesa)
- **HIST 150** Native Americans in U.S. History (Mesa, Miramar)
- **HIST 151** Native Americans in U.S. History (Mesa, Miramar)
- **HIST 154** Ancient Egypt (Mesa)

### D7: Interdisciplinary Social or Behavioral Science

- **CHIL 101** Human Growth and Development
- **CHIL 141** The Child, Family and Community
- **ENGL 202** Introduction to Linguistics (City, Mesa)
- **PHIL 108** Perspectives on Human Nature and Society (City, Mesa)
- **PHIL 109** Issues in Social Philosophy (Mesa)

### D8: Political Science, Government, and Legal Institutions

- **BLAS 135** Introduction to Black Politics (City)
- **POLI 101** Introduction to Politics
- **POLI 102** American Political System
- **POLI 103** Comparative Politics
- **POLI 140** Contemporary International Politics

### D9: Psychology

- **BLAS 104** Black Psychology (City, Mesa)
- **PSYC 101** General Psychology
- **PSYC 121** Introduction to Child Psychology (Mesa, Miramar)
- **PSYC 123** Adolescent Psychology (Mesa, Miramar)
- **PSYC 133** Psychology of Women (Mesa, Miramar)
- **PSYC 155** Introduction to Personality (City, Mesa)
- **PSYC 211** Learning
- **PSYC 230** Psychology of Lifespan Development (Mesa, Miramar)

### D0: Sociology and Criminology

- **BLAS 115** Sociology from a Black Perspective (City)
- **BLAS 116** Contemporary Social Problems from a Black Perspective (City, Mesa)
- **BLAS 125** Dynamics of the Black Community (Mesa)
- **BLAS 130** The Black Family (City, Mesa)
- **HIST 113** Race in United States History (Mesa)
- **SOCO 101** Principles Sociology
- **SOCO 110** Contemporary Social Problems
- **SOCO 125** Sociology of the Family (Mesa)
Area E. Lifelong Understanding and Self-Development:
No fewer than three semester units (4-5 quarter units).

Note: A DD-214 will not clear this requirement.

- BIOL 120 The Environment of Man (Mesa)
- BIOL 135 Biology of Human Nutrition (Miramar)
- HEAL 101 Health and Life Style
- NUTR 150 Nutrition (Mesa, Miramar)
- PERG 140 Life Skills and Personal Adjustment
- PHYE 103 Aerobic Dance
- PHYE 123 Fitness Activities
- PHYE 132 Individual Conditioning
- PHYE 182 Adapted Weight Training/Education Physically Limited (City, Mesa)
- PSYC 111 Psychological/Social Aspects of Aging (Mesa)
- PSYC 112 Interpersonal Relations (Mesa)
- PSYC 128 Biofeedback and Stress Management (Mesa)
- PSYC 132 Psychology of Gender Roles (Miramar)
- PSYC 135 Marriage and Family Relationship
- PSYC 137 Human Sexual Behavior
- PSYC 155 Introduction to Personality (City, Mesa)
- SPEE 180 Intercultural Communication

**Additional Requirements for CSU Graduation**

*Note: Not required for Certification.*

**American Institutions/California Government**

Students who intend to transfer may complete the American Institutions/California Government requirement with one three-unit course or a six-unit course sequence as follows:

**Three-Unit Course**

- POLI 102 The American Political System

**Six-Unit Sequences:**

- HIST 109 History of the United States I and
- HIST 110 History of the United States II

* HIST 115A History of the Americas I (City, Mesa) and
* HIST 115B History of the Americas II (City, Mesa)

- HIST 141 Women in United States History I (Mesa) and
- HIST 142 Women in United States History II (Mesa)

* HIST 150 Native Americans in U.S. History (Mesa, Miramar) and
* HIST 151 Native Americans in U.S. History (Mesa, Miramar)

**Six-Unit Combinations:**

- BLAS 140A History of the U.S., Black Perspective and
- HIST 110 History of the United States II or
- HIST 109 History of the United States I or
- HIST 109 History of the United States I and
- HIST 123 U.S. History from the Asian Pacific American Perspective (Mesa)

*Note: Students who have completed equivalent courses outside the State of California must...*
complete one of the following courses to satisfy the California government requirement.

- BLAS 140B History of the U.S., Black Perspective
- HIST 110 History of the United States II
- HIST 123 U.S. History from the Asian Pacific American Perspective (Mesa)
- HIST 175 California History (Mesa)
- POLI 102 The American Political System

Upon completion of this pattern of general education requirements students must petition for CSU General Education Certification in the Evaluations Office.

Students who are eligible for CSU Certification may also qualify for an Associate Degree in Liberal Arts if they have completed the San Diego Community College District requirements of: American Institutions, Multicultural Studies, Health Education 101, and two Physical Education activity courses.

Transfer to University of California
University of California Campuses

- University of California, Berkeley
- University of California, Davis
- University of California, Irvine
- University of California, Los Angeles
- University of California, Merced
- University of California, Riverside
- University of California, San Diego
- University of California, San Francisco
- University of California, Santa Barbara
- University of California, Santa Cruz

Students who plan to earn a university degree may find it advantageous to complete freshman and sophomore work at a California community college. A student may apply 70 transferable semester units (or 105 quarter units) from the community colleges toward a university degree.

The University of California is made up of eight campuses and a Health Sciences Center in San Francisco. Students who meet undergraduate admission requirements may apply for admission to a University of California campus.

Transfer students will be eligible for admission if they meet the following requirements:

1) Complete a minimum of 60 UC-transferable units;
2) Earn a minimum 2.4 grade point average;
3) Clear all Area “A-F” subject requirement omissions/deficiencies from high school.

Subject requirement deficiencies may be cleared with the three-course pattern from one college course in mathematics, one in English, and one selected from U.S. History, laboratory sciences, or foreign language, all with grades of “C” or better. Details related to the “A-F” subject requirements are available in the Counseling Department and in each University of California catalog.

Note: Specific admission criteria vary among University of California campuses. Please see a counselor.

The UC system limits the credit that will be accepted for transfer for Art, Music, Drama, (Theater Arts), Computer Science, Engineering, and Independent Study courses. It is expected that students will plan their transfer program carefully and enroll in general education as well as courses preparatory for their intended major at UC. If you have questions, please see a counselor.

University of California, San Diego
Transfer Admission Guarantee (UCSD-TAG)

Students are encouraged to attend a TAG workshop and consult a counselor for specific transfer requirements.

The TAG program guarantees admission to the student’s choice of college, i.e., John Muir, Thurgood Marshall, Earl Warren, Revelle, Eleanor Roosevelt, and sixth college and to the term of transfer. Under the terms of the agreement, students are required to plan their programs with a counselor at City, Mesa, or Miramar College and comply with all TAG provisions. The following requirements must be satisfied:

1. Earn 60 UC-transferable semester units (or 90 UC-transferable quarter units). At least 28 of the last 36 transferable semester units must be taken at a TAG participating community college.
2. Achieve a UC transferable GPA of 2.8 or better.
3. Satisfy the UCSD core requirements for general education: with a minimum of a “C” grade. Requirements include one year (two-semesters) of a transferable sequence in (a) writing, (b) the humanities, (c) the social sciences, (d) a foreign language, and (e) calculus or a natural science.
list of course sequences for each of the five areas that will satisfy the UCSD general education core requirements follows.

TAG Core Requirements
Select a one-year (two-course) sequence from one department in each of the following areas:

The following information is based on 2001-2002 articulation agreements and/or course offerings and is subject to change. Please contact the Counseling Department for updates.

A. Writing: ENGL 101 and 205 OR 105 and 205

B. Humanities: Choose a two-course sequence from one subject:
1. Art-Fine Art 109 and 111, OR 110 and 111, OR 113 (Mesa) and 115 (City, Mesa)
2. Black Studies 145A (City, Mesa) and 145B (City)
3. Chicano Studies 135 (City, Mesa) and 138 (City, Mesa)
4. Dramatic Arts 136 (City) and 137 (City), OR 150 (Mesa) and 151 (Mesa)
5. English 210 and 211, OR 215 and 216, OR 220 and 221.
6. History 100 (City, Mesa) and 101 (City, Mesa), OR 105 and 106, OR 115A (City, Mesa) and 115B (City, Mesa), OR 120 and 121, OR 125 (Mesa) and 126 (Mesa)
7. Humanities 101 and 102
8. Music 100 and one of the following: 105 (Mesa), 109, or 111
9. Philosophy 102A and 102B, OR 104A (City, Mesa) and 104B (City, Mesa), OR 103 (Mesa) and 106 (City, Mesa)

C. Foreign Language: Complete two-semesters in the same language:
1. AMSL 100 (City, Mesa), 101 (City, Mesa), 200 (City, Mesa), 201 (City, Mesa)
2. ARAB 101 (City), 102 (City)
3. CHIN 101 (Mesa), 102 (Mesa), 201 (Mesa)
4. FREN 101 (City, Mea), 102 (City, Mesa), 201 (City, Mesa), 202 (City, Mesa)
5. GERM 101 (City, Mesa), 102 (City, Mesa), 201 (City, Mesa)
6. ITAL 101 (City, Mesa), 102 (City, Mesa), 201 (City, Mesa)
7. JAPN 101 (Mesa, Miramar), 102 (Mesa, Miramar), 201 (Mesa), 202 (Mesa)
8. LATI 101 (Mesa), 102 (Mesa), 201 (Mesa)
9. RUSS 101 (Mesa), 102 (Mesa), 201 (Mesa)
10. SPAN 100 (Mesa), 101, 102, 199 (Mesa), 201, 202
11. TAGA 101 (Mesa), 102 (Mesa)
12. VIET 101 (Mesa), 102 (Mesa)

Note: If your national language of instruction is anything other than English, please contact the Admissions Office at UCSD.

D. Social Science: Complete a two-course sequence from one subject:
1. ANTH 102 and 103, OR 102 OR 103 and one of the following: 107, 200 (Mesa), 210 (City, Mesa), or 215 (City, Mesa)
2. BLAS 140A and 140B
3. CHIC 110A (City, Mesa) and CHIC 110B (City, Mesa), OR 141A (City, Mesa) and 141B (City, Mesa)
4. ECON 120 and 121
5. HIST 109 and 110, OR 109 and 123 (Mesa), OR 150 (Mesa, Miramar) and 151 (Mesa, Miramar)
6. POLI 101, 102, 103, or 140 (any two)
7. PSYC 101 and one of the following: 121 (Mesa, Miramar), 123 (Mesa, Miramar), 155 (City, Mesa), 211, 245 (Mesa, Miramar), or 260
8. SOCO 101, 110, or 201 (Mesa) (any two)

E. Calculus or Natural Science: Complete a two-course sequence from one subject:
1. BIOL 105 (Miramar) and 106 (Miramar), (see Note) OR 107, (City, Mesa) OR 210A, and one of the following: 205, 210B, 215, 230, 235, or 250 (Mesa, Miramar)

Note: Biology 106 laboratory is required by the San Diego Community College District as a prerequisite to selected 200 level biology courses.
2. CHEM 200 and 201
3. MATH 121 and 122, OR 150 and 151, OR 151 and 252

Note: Students who elect to take the Calculus course sequence in Area E must complete an
approved Natural Science course within their program to meet district general education graduation requirements for the Transfer Studies AA degree.

program to meet district general education graduation requirements.

4. PHYS 120A (City) and 120B (City), OR 124A and 124B, OR 195A (City, Mesa) and 195B, (City, Mesa) OR 195C (City, Mesa)

Note: Students who select options 1, 2, or 4 above must also satisfy the UC transfer math requirement.

Students who complete TAG core requirements may also qualify for an Associate Degree in Liberal Arts if they have completed the San Diego Community College District requirements of: American Institutions, Multicultural Studies, Health Education 101, and two Physical Education activity courses.

University of California, Davis Transfer Admission Agreement (TAA)
Under the Transfer Admission Agreement (TAA), students who earn 60 UC-transferable units at City, Mesa, or Miramar College and meet certain other requirements will be guaranteed admission to the University of California, Davis (UCD) and to the major of their choice. Admission to certain majors may be competitive. Under the terms of the TAA, students must plan their programs with a counselor at City, Mesa, or Miramar College. Further information is available in the Counseling Department.

University of California, Berkeley Cooperative Admissions Program (CAP)
Students must apply to UC, Berkeley CAP Program while still in high school.

The Cooperative Admissions Program (CAP) gives students the opportunity to combine lower division study at a community college with a guarantee of admission to the University of California, Berkeley (UCB) upon completion of 60 UC-transferable units and a minimum GPA of 3.0 (specific majors may require a higher GPA). The program is specifically for students who apply in high school to UCB for freshman admission, and are UC eligible (meet the minimum admission requirements for freshmen), but were not admitted as freshmen. Each participating college at UCB has specific academic requirements. Additional information about the Cooperative Admissions Program is available in the Counseling Department.

University of California and California State University

Intersegmental General Education Transfer Curriculum (IGETC)
The Intersegmental General Education Transfer Curriculum (IGETC) is a general education program which community college transfer students may use to fulfill lower-division general education requirements in either the California State University or University of California system. Completion of the IGETC is not a requirement for admission to CSU or UC, nor is it the only way to fulfill lower-division GE requirements. The IGETC is recommended for students who have not made a final decision about transferring to a particular CSU or UC campus. Students may be better served by following the CSU GE requirements or those of the UC campus to which they plan to transfer.

Students pursuing majors which require extensive lower-division major preparation may not find the IGETC option to be advantageous. There are other limitations. All courses used for IGETC must be passed with a minimum grade C (C minus is not acceptable.) A credit or pass is acceptable providing either is equivalent to a grade C or better.

Please make a counseling appointment to determine the most appropriate general education program for you.

Certification: All GE requirements must be completed before IGETC can be certified. Certification must take place prior to transfer to UC and/or CSU (note exception below). The Evaluations Office will complete the certification. Petitions are available in the Counseling Department. As a general rule, the IGETC can be certified for California community college transfers who have also completed transfer units at a CSU, UC, or independent college provided that the student has completed most of the transfer units at one or more California community colleges.
Please Note: Coursework completed at a foreign college or university, that is not accredited by one of the U.S. regional accrediting agencies, cannot be used to satisfy requirements for certification.

IGETC Certification after Transfer: Students who are approaching readiness for transfer, and for "good cause", are unable to obtain a maximum of two IGETC courses, may be eligible to complete IGETC after transferring. Students must complete a petition from the Counseling Office, explicitly describe the "good cause" on the form and provide supporting documentation. The petition should be submitted with supporting documentation to the Evaluations Office. Typical situations that constitute "good cause" for not completing a maximum of two IGETC courses are: illness, unavailable or canceled courses, military service and unexpected hardships, such as family or employment problems. Partial certification is allowed only in the student's final term before transfer. See the Counseling Office on campus for detailed information.

Restrictions: A student who has been registered at a UC campus and wishes to return to the same UC campus is NOT eligible for IGETC. This restriction does not apply to students who have taken UC summer session or Extension classes only.

The IGETC may NOT be used for transfer to the following schools:

- University of California, San Diego - Revelle and Eleanor Roosevelt Colleges.

The IGETC may NOT be the appropriate option for transfer to the following schools:

- University of California, Berkeley - Colleges of Business, Chemistry, Environmental Design (Architecture), Engineering, Natural Resources.
- University of California, Davis - College of Engineering
- University of California, Irvine - Schools of Engineering, Biological Sciences, or Physical Sciences
- University of California, Riverside - College of Engineering
- University of California, Santa Barbara - College of Engineering
- University of California, Berkeley - College of Optometry
- University of California, Los Angeles - School of Engineering and Applied Science and School of Nursing
- University of California, Riverside - College of Natural and Agricultural Sciences
- University of California, Santa Barbara - College of Creative Studies

The IGETC is NOT recommended for students planning to attend the following schools:

- University of California, Berkeley - College of Optometry
- University of California, Los Angeles - School of Engineering and Applied Science and School of Nursing
- University of California, Riverside - College of Natural and Agricultural Sciences
- University of California, Santa Barbara - College of Creative Studies

Advanced Placement Exams - Acceptable scores of 3, 4, or 5 may be used to satisfy any of the courses in IGETC subject areas. An acceptable score on an English exam may be used to meet the English Composition requirement but may NOT be used to meet the Critical Thinking-English Composition and Oral Communication requirements.

Only one Advance Placement course per area may be used to fulfill IGETC requirements.

@Students transferring to UC do not have to meet the Oral Communications requirement.

+ Transfer credit may be limited by either UC or CSU, or both. Please consult a counselor for additional information.

* Course is listed in more than one area but shall not be certified in more than one area.

Area 1 - English Communication
(2-3 courses, 6-9 semester/8-12 quarter units)

Group A: English Composition (1 course, 3 semester/4-5 quarter units)

ENGL 101 Reading and Composition
OR
Group B: Critical Thinking - English Composition (1 course, 3 semester/4-5 quarter units). Courses must have English Composition as a prerequisite.

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENGL 205</td>
<td>Critical Thinking and Intermediate Composition</td>
</tr>
<tr>
<td>PHIL 205</td>
<td>Critical Thinking and Writing in Philosophy</td>
</tr>
</tbody>
</table>

Group C: Oral Communication (1 course, 3 semester/4-5 quarter units)

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPEE 103</td>
<td>Oral Communication</td>
</tr>
<tr>
<td>SPEE 160</td>
<td>Argumentation</td>
</tr>
</tbody>
</table>

Area 2 - Mathematical Concepts and Quantitative Reasoning
(1 course, 3 semester/4-5 quarter units)
Courses must have Intermediate Algebra as a prerequisite.

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOL 200</td>
<td>Biological Statistics (City, Mesa)</td>
</tr>
<tr>
<td>+ MATH 116</td>
<td>College and Matrix Algebra</td>
</tr>
<tr>
<td>+ MATH 119</td>
<td>Elementary Statistics</td>
</tr>
<tr>
<td>+ MATH 121</td>
<td>Basic Techniques of Applied Calculus I</td>
</tr>
<tr>
<td>+ MATH 122</td>
<td>Basic Techniques of Calculus II</td>
</tr>
<tr>
<td>+ MATH 141</td>
<td>Precalculus</td>
</tr>
<tr>
<td>+ MATH 150</td>
<td>Calculus with Analytic Geometry I</td>
</tr>
<tr>
<td>+ MATH 151</td>
<td>Calculus with Analytic Geometry II</td>
</tr>
<tr>
<td>MATH 245</td>
<td>Discrete Mathematics</td>
</tr>
<tr>
<td>MATH 252</td>
<td>Calculus with Analytic Geometry III</td>
</tr>
<tr>
<td>+ MATH 254</td>
<td>Introduction to Linear Algebra</td>
</tr>
<tr>
<td>+ MATH 255</td>
<td>Differential Equations</td>
</tr>
<tr>
<td>PSYC 258</td>
<td>Behavioral Science Statistics (City, Mesa)</td>
</tr>
</tbody>
</table>

Area 3 - Arts and Humanities
(3 courses, 9 semester/12-15 quarter units). At least one course from the Arts and one from the Humanities.

3A: Arts Courses:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>ARTF 100</td>
<td>Art Orientation</td>
</tr>
<tr>
<td>+ ARTF 109</td>
<td>Nineteenth and Twentieth Century Art</td>
</tr>
<tr>
<td>ARTF 110</td>
<td>Art History: Prehistoric to Gothic</td>
</tr>
<tr>
<td>ARTF 111</td>
<td>Art History: Renaissance to Modern</td>
</tr>
<tr>
<td>+ ARTF 115</td>
<td>African Art (City, Mesa)</td>
</tr>
<tr>
<td>+ ARTF 120</td>
<td>North American Indian Art (Mesa)</td>
</tr>
<tr>
<td>+ ARTF 125</td>
<td>History of Art: Survey in Far Eastern Art (Miramar)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>BLAS 110</td>
<td>Afro-American Art (City, Mesa)</td>
</tr>
<tr>
<td>+ BLAS 111</td>
<td>African Art History (Mesa)</td>
</tr>
<tr>
<td>BLAS 120</td>
<td>Black Music (City, Mesa)</td>
</tr>
<tr>
<td>DRAM 105</td>
<td>Introduction to Dramatic Arts</td>
</tr>
<tr>
<td>DRAM 120</td>
<td>Dramatic Heritage (Miramar)</td>
</tr>
<tr>
<td>+ DRAM 136</td>
<td>History of Canonized Theatre-Ancient Greece to Restoration (City)</td>
</tr>
<tr>
<td>+ DRAM 137</td>
<td>History of Canonized Western Theatre- Restoration to the Present (City)</td>
</tr>
<tr>
<td>DRAM 150</td>
<td>Cinema as Art &amp; Communication I (Mesa)</td>
</tr>
<tr>
<td>DRAM 151</td>
<td>Cinema as Art &amp; Communication II (Mesa)</td>
</tr>
<tr>
<td>MUSI 100</td>
<td>Introduction to Music</td>
</tr>
<tr>
<td>MUSI 105</td>
<td>Music of Our Time (Mesa)</td>
</tr>
<tr>
<td>MUSI 109</td>
<td>World Music</td>
</tr>
<tr>
<td>MUSI 111</td>
<td>Jazz - History &amp; Development</td>
</tr>
<tr>
<td>MUSI 125</td>
<td>Music, The Arts, and Humanity (Mesa, Miramar)</td>
</tr>
</tbody>
</table>

3B: Humanities Courses:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>* BLAS 145A</td>
<td>Introduction to African History (City, Mesa)</td>
</tr>
<tr>
<td>*+ BLAS 145B</td>
<td>Introduction to African History (City)</td>
</tr>
<tr>
<td>BLAS 150</td>
<td>Black Women in Literature &amp; the Media (City, Mesa)</td>
</tr>
<tr>
<td>BLAS 155</td>
<td>Afro-American Literature (City, Mesa)</td>
</tr>
<tr>
<td>CHIC 130</td>
<td>Mexican Literature in Translation (City)</td>
</tr>
<tr>
<td>CHIC 135</td>
<td>Chicano Literature (City, Mesa)</td>
</tr>
<tr>
<td>CHIC 138</td>
<td>Literature of La Raza in Latin America in Translation (City, Mesa)</td>
</tr>
<tr>
<td>* CHIC 210</td>
<td>Chicano Culture (City, Mesa)</td>
</tr>
<tr>
<td>CHIN 102</td>
<td>Second Course in Mandarin Chinese (Mesa)</td>
</tr>
<tr>
<td>ENGL 208</td>
<td>Introduction to Literature</td>
</tr>
<tr>
<td>ENGL 209</td>
<td>Literary Approaches to Film</td>
</tr>
<tr>
<td>ENGL 210</td>
<td>American Literature I</td>
</tr>
<tr>
<td>ENGL 211</td>
<td>American Literature II</td>
</tr>
<tr>
<td>ENGL 215</td>
<td>English Literature I: 800-1799</td>
</tr>
<tr>
<td>ENGL 216</td>
<td>English Literature II: 1800- Present</td>
</tr>
<tr>
<td>ENGL 220</td>
<td>Masterpieces of World Literature I: 1500 BCE - 1600 CE</td>
</tr>
<tr>
<td>ENGL 221</td>
<td>Masterpieces of World Literature II: 1600 - Present</td>
</tr>
<tr>
<td>ENGL 230</td>
<td>Asian American Literature (Mesa)</td>
</tr>
<tr>
<td>ENGL 237</td>
<td>Asian American Literature (Mesa)</td>
</tr>
<tr>
<td>ENGL 240</td>
<td>Shakespeare (City, Mesa)</td>
</tr>
<tr>
<td>HIST 105</td>
<td>Introduction to Western Civilization I</td>
</tr>
<tr>
<td>HIST 106</td>
<td>Introduction to Western Civilization II</td>
</tr>
<tr>
<td>* HIST 120</td>
<td>Introduction to Asian Civilizations</td>
</tr>
<tr>
<td>* HIST 121</td>
<td>Asian Civilizations in Modern Times</td>
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</table>
### Area 4 - Social and Behavioral Sciences

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>HIST 125</td>
<td>History of England &amp; the Commonwealth I (Mesa)</td>
</tr>
<tr>
<td>HUMA 101</td>
<td>Introduction to the Humanities I</td>
</tr>
<tr>
<td>HUMA 102</td>
<td>Introduction to the Humanities II</td>
</tr>
<tr>
<td>HUMA 103</td>
<td>Introduction to the New Testament (Mesa)</td>
</tr>
<tr>
<td>HUMA 104</td>
<td>Introduction to the Old Testament (Mesa)</td>
</tr>
<tr>
<td>HUMA 106</td>
<td>World Religions (City, Mesa)</td>
</tr>
<tr>
<td>JAPN 102</td>
<td>Second Course in Japanese (Mesa, Miramar)</td>
</tr>
<tr>
<td>LATT 101</td>
<td>Third Course in Latin (Mesa)</td>
</tr>
<tr>
<td>PHIL 102A</td>
<td>Introduction to Philosophy: Reality &amp; Knowledge</td>
</tr>
<tr>
<td>PHIL 102B</td>
<td>Introduction to Philosophy: Values</td>
</tr>
<tr>
<td>PHIL 103</td>
<td>Historical Introduction to Philosophy (Mesa)</td>
</tr>
<tr>
<td>PHIL 104A</td>
<td>History of Western Philosophy (City, Mesa)</td>
</tr>
<tr>
<td>PHIL 104B</td>
<td>History of Western Philosophy (City, Mesa)</td>
</tr>
<tr>
<td>PHIL 106</td>
<td>Asian Philosophy (City, Mesa)</td>
</tr>
<tr>
<td>PHIL 107</td>
<td>Reflections on Human Nature</td>
</tr>
<tr>
<td>PHIL 108</td>
<td>Perspectives on Human Nature (City, Mesa)</td>
</tr>
<tr>
<td>PHIL 110</td>
<td>Philosophy of Religion (Mesa)</td>
</tr>
<tr>
<td>PHIL 111</td>
<td>Philosophy of Literature (City, Mesa)</td>
</tr>
<tr>
<td>PHIL 112</td>
<td>Philosophy of Science (Mesa)</td>
</tr>
<tr>
<td>PHIL 125</td>
<td>Philosophy of Women in World Cultures (City, Mesa)</td>
</tr>
<tr>
<td>PHIL 130</td>
<td>Philosophy of Art and Music (Mesa)</td>
</tr>
<tr>
<td>PSYC 207</td>
<td>Psychology of Religion (Mesa)</td>
</tr>
<tr>
<td>RUSS 201</td>
<td>Third Course in Russian (Mesa)</td>
</tr>
<tr>
<td>SPAN 102</td>
<td>Second Course in Spanish</td>
</tr>
<tr>
<td>SPAN 201</td>
<td>Third Course in Spanish</td>
</tr>
<tr>
<td>TAGA 102</td>
<td>Second Course in Tagalog (Mesa, Miramar)</td>
</tr>
<tr>
<td>VIET 201</td>
<td>Third Course in Vietnamese (Mesa)</td>
</tr>
<tr>
<td>ANTH 210</td>
<td>Introduction to California Indians (City, Mesa)</td>
</tr>
<tr>
<td>ANTH 215</td>
<td>Cultures of Latin America (City, Mesa)</td>
</tr>
<tr>
<td>ENGL 202</td>
<td>Introduction to Linguistics (City, Mesa)</td>
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**4B: Economics Courses:**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
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<tbody>
<tr>
<td>ECON 120</td>
<td>Principles of Economics I</td>
</tr>
<tr>
<td>ECON 121</td>
<td>Principles of Economics II</td>
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</table>

**4C: Ethnic Studies Courses:**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
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<tbody>
<tr>
<td>BLAS 104</td>
<td>Black Psychology (City, Mesa)</td>
</tr>
<tr>
<td>BLAS 116</td>
<td>Contemporary Social Problems From a Black Perspective (City, Mesa)</td>
</tr>
<tr>
<td>BLAS 130</td>
<td>The Black Family (City, Mesa)</td>
</tr>
<tr>
<td>BLAS 135</td>
<td>Introduction to Black Politics (City)</td>
</tr>
<tr>
<td>BLAS 140A</td>
<td>History of the U.S., Black Perspectives</td>
</tr>
<tr>
<td>BLAS 140B</td>
<td>History of the U.S., Black Perspectives</td>
</tr>
<tr>
<td>BLAS 145A</td>
<td>Introduction to African History (City, Mesa)</td>
</tr>
<tr>
<td>CHIC 110A</td>
<td>Introduction to Chicano Studies (City, Mesa)</td>
</tr>
<tr>
<td>CHIC 110B</td>
<td>Introduction to Chicano Studies (City, Mesa)</td>
</tr>
<tr>
<td>CHIC 141A</td>
<td>United States History From a Chicano Perspective (City, Mesa)</td>
</tr>
<tr>
<td>CHIC 141B</td>
<td>United States History From a Chicano Perspective (City, Mesa)</td>
</tr>
<tr>
<td>CHIC 150</td>
<td>History of Mexico (City, Mesa)</td>
</tr>
<tr>
<td>CHIC 170</td>
<td>La Chicana (Mesa)</td>
</tr>
<tr>
<td>CHIC 201</td>
<td>Pre-Columbian Cultures of Mesoamerica (City, Mesa)</td>
</tr>
<tr>
<td>CHIC 210</td>
<td>Chicano Culture (City, Mesa)</td>
</tr>
</tbody>
</table>

**4D: Gender Studies: (no courses)**

**4E: Geography Courses:**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
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</thead>
<tbody>
<tr>
<td>GEOG 102</td>
<td>Cultural Geography</td>
</tr>
<tr>
<td>GEOG 104</td>
<td>World Regional Geography (City, Mesa)</td>
</tr>
<tr>
<td>GEOG 154</td>
<td>Introduction to Urban Geography (Mesa)</td>
</tr>
</tbody>
</table>

**4F: History Courses:**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>HIST 109</td>
<td>History of the United States I</td>
</tr>
<tr>
<td>HIST 110</td>
<td>History of the United States II</td>
</tr>
<tr>
<td>HIST 113</td>
<td>Race in United States History (Mesa)</td>
</tr>
<tr>
<td>HIST 115A</td>
<td>History of the Americas I (City, Mesa)</td>
</tr>
</tbody>
</table>
**Area 5 - Physical and Biological Sciences**
*(At least 2 courses required; 7-9 semester/9-12 quarter units). One Physical Science course and one Biological Science course; at least one must include a laboratory.*

### 5A: Physical Science Courses:
- ASTR 101 Descriptive Astronomy
- ASTR 109 (Lab) Practice in Observing (City, Mesa)
- ASTR 111 Astronomy Laboratory (Mesa, Miramar)
- CHEM 100 Fundamentals of Chemistry
- CHEM 100L Fundamentals of Chemistry Laboratory
- CHEM 130 Introduction to Organic & Biological Chemistry
- CHEM 130L Introduction to Organic & Biological Chemistry Laboratory
- CHEM 151 (W/Lab) Introduction to General Chemistry (Miramar)
- CHEM 152 Introduction to General Chemistry (City, Mesa)
- CHEM 152L Introduction to General Chemistry Laboratory (City, Mesa)
- CHEM 200 General Chemistry I - Lecture
- CHEM 201 General Chemistry II - Lecture
- CHEM 201L General Chemistry II - Laboratory
- CHEM 231 Organic Chemistry I - Lecture (City, Mesa)
- CHEM 231L Organic Chemistry I - Laboratory (City, Mesa)
- CHEM 232L Organic Chemistry I - Lab Continued (City, Mesa)
- CHEM 233 Organic Chemistry II (City, Mesa)
- CHEM 233L Organic Chemistry II - Laboratory (City, Mesa)
- CHEM 234L Organic Chemistry II Lab continued (City, Mesa)
- GEOG 101 Physical Geography
- GEOG 101L Physical Geography Laboratory
- GEOG 103 Introduction to Meteorology (Mesa)
- GEOL 100 General Geology
- GEOL 101 General Geology Laboratory
- PHYN 100 Survey of Physical Science
- PHYN 101 Survey of Physical Science Laboratory
- PHYS 100 (W/Lab) Introductory Physics (Mesa)
- PHYS 120A General Physics I (City)
- PHYS 120B General Physics II (City)
- PHYS 121A General Physics Lab (City)
- PHYS 121B General Physics Lab (City)
Languages Other Than English

(UC Requirement Only). Students transferring to the University of California are required to demonstrate competence (proficiency) in a language other than English equal to two years of high school study. Competence may be demonstrated through the following mechanisms:

1. Completion of two years of the same foreign language of high school level work with grades of “C” or better;
2. Completion of a course (or courses) at a college or university, with a grade of “C” or better in each course. Usually, one semester of college work in a language other than English is equivalent to two years of high school work;

Any one of the following course(s) completed with a grade of “C” or better, will fulfill the requirement:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>ARAB 101</td>
<td>First Course in Arabic (City)</td>
</tr>
<tr>
<td>CHIN 101</td>
<td>First Course in Mandarin Chinese (Mesa)</td>
</tr>
<tr>
<td>FREN 101</td>
<td>First Course in French (City, Mesa)</td>
</tr>
<tr>
<td>GERM 101</td>
<td>First Course in German (City, Mesa)</td>
</tr>
<tr>
<td>ITAL 101</td>
<td>First Course in Italian (City, Mesa)</td>
</tr>
<tr>
<td>JAPN 101</td>
<td>First Course in Japanese (Mesa, Miramar)</td>
</tr>
<tr>
<td>LATI 101</td>
<td>First Course in Latin (Mesa)</td>
</tr>
<tr>
<td>RUSS 101</td>
<td>First Course in Russian (Mesa)</td>
</tr>
<tr>
<td>SPAN 100</td>
<td>First/Second Course in Spanish (Accelerated) (Mesa)</td>
</tr>
<tr>
<td>SPAN 101</td>
<td>First Course in Spanish</td>
</tr>
<tr>
<td>TAGA 101</td>
<td>First Course in Tagalog (Mesa, Miramar)</td>
</tr>
<tr>
<td>VIET 101</td>
<td>First Course in Vietnamese (Mesa)</td>
</tr>
</tbody>
</table>

3. Completion, with grades “C” or better, of two years formal schooling at the sixth grade level or higher at an institution where the language of instruction is not English. Documentation must be presented to substantiate required coursework was completed;
4. 500 or higher in the College Board Achievement tests in languages other than English;
5. 3 or higher in the College Board Advanced Placement Examinations in languages other than English;
6. 5 or higher in the International Baccalaureate Higher Level Examinations in languages other than English;
7. Completion of an achievement test administered by a community college (the San Diego Community College District does not administer this test), university or other college in a language other than English. The test will have to assess the student proficiency at the level equivalent to 2 years of high school language.

Completion of courses above proficiency level, with grades of C or better, may also be used to meet the
requirement. Special Topics and Civilization courses DO NOT meet this requirement. See a counselor.

Additional Requirements for CSU Graduation

Note: Not required for Certification.

American Institutions/California Government

Students who intend to transfer may complete the American Institutions/California Government requirement as follows:

Three-Unit Course:

POLI 102  The American Political System

Six-Unit Sequences:

^ BLAS 140A  History of the U.S., Black Perspective and
^ BLAS 140B  History of the U.S., Black Perspective OR
^ CHIC 141A  U.S. History from a Chicano Perspective (City, Mesa) and
^ CHIC 141B  U.S. History from a Chicano Perspective (City, Mesa) OR
HIST 109  History of the United States I and
HIST 110  History of the United States II OR
^ HIST 115A  History of the Americas I (City, Mesa) and
^ HIST 115B  History of the Americas II (City, Mesa) OR
HIST 141  Women in United States History I (Mesa) and
HIST 142  Women in United States History II (Mesa) OR
^ HIST 150  Native Americans in U.S. History (Mesa, Miramar) and
^ HIST 151  Native Americans in U.S. History (Mesa, Miramar)

Six-Unit Combinations:

BLAS 140A  History of the U.S., Black Perspective and
HIST 110  History of the United States II
OR
BLAS 140B  History of the U.S., Black Perspective and
HIST 109  History of the United States I OR
HIST 109  History of the United States I and
HIST 123  U. S. History from the Asian Pacific American Perspective (Mesa)

Note: The course or courses selected to meet this requirement may also be used to meet the general education requirement for Social and Behavioral Sciences. If a Black Studies or Chicano Studies course is selected, it may also be used to fulfill the multicultural studies requirement. Students who select POLI 102 to satisfy the American Institutions requirement may not use this course for general education credit. If a six-unit sequence or combo is selected to fulfill the American Institutions requirement, only three units may be used for general education credit.

Students who have completed the American Institutions requirement except for the California government portion must complete one of the following courses:

^ BLAS 140B  History of U.S., Black Perspective
HIST 110  History of the United States II
^ HIST 123  U. S. History from the Asian Pacific American Perspective (Mesa)
HIST 175  California History (Mesa)
POLI 102  The American Political System
American Institutions Courses:
Courses used to satisfy the CSU United States History, Constitution and the UC American History and Institutions requirement may not be counted in the Social and Behavioral Sciences Area 4.

Students who are eligible for IGETC Certification may also be awarded an Associate Degree in Liberal Arts if they have completed the San Diego Community College District requirements of American Institutions, Multicultural Studies, two Physical Education activity courses and Health Education 101.

California Articulation Number (CAN) System
The California Articulation Number (CAN) identifies some of the transferable, lower division, introductory, preparatory courses and sequences commonly taught within each academic discipline on college campuses. The system assures students that CAN courses and sequences on one participating campus will be acceptable “in lieu of” the comparable CAN course and sequence on another participating campus. For example: CAN ECON 4 on one campus will be acceptable for CAN ECON 4 on another participating campus. Each campus also maintains its own course numbering system.

California Articulation Numbers are listed after each course description in this catalog. Lists of courses and sequences from campuses participating in the CAN system are available in the Counseling Department. See a counselor for assistance. These courses are by no means the only transferable courses offered; other courses which transfer are listed in campus articulation agreements and elsewhere in this catalog.

Other Independent Colleges and Universities
Please check with the Counseling Department for the latest information regarding transfer to the following local independent colleges and universities.

Point Loma Nazarene University
3900 Lomaland Drive
San Diego, California 92106
(619) 221-2273

United States International University
San Diego Campus
10455 Pomerado Road
San Diego, California 92131
(858) 635-4772

National University
4141 Camino del Rio South
San Diego, California 92108
(619) 563-7100

University of San Diego
Alcala Park
San Diego, California 92110
(619) 260-4600

For transfer to other institutions of higher education contact the Counseling Department for information.

Recognition of High School Courses for College Credit
Students who successfully complete the articulated course/program and demonstrate acquisition of the knowledge, skills, and abilities via an examination administered at end of the course/program may earn college credit equivalent to the course(s) identified in the Articulation Table below. Successful completion is defined as the completion of the course(s)/program and a grade of “B” of better on the final examination administered upon completion. In order to receive the credit for an articulated college course/program, the student must complete a Tech Prep Articulation packet, which includes the college application and the Tech Prep Articulation Certification form, and submit it to the high school instructor. Forms will be processed annually each July. Seniors earning college credit may request a copy of their SDCCD transcript after July 31st. Other high school students earning Tech Prep articulated credit may request a copy of their SDCCD transcript the following Fall semester. If you have any questions, please contact the Associate Dean of Tech Prep at (619) 388-6572
**TECH PREP ARTICULATED COURSES**

<table>
<thead>
<tr>
<th>HIGH SCHOOL COURSE(S)/PROGRAM</th>
<th>HIGH SCHOOL SITE(S)</th>
<th>CITY COURSE(S)</th>
<th>UNITS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Academy of Finance Program</td>
<td>San Diego and Scripps Ranch</td>
<td>ACCT 102, ACCT 150, BUSE 90A, BUSE 90B, BUSE 90C, BUSE 90D, BUSE 92, BUSE 113, CBTE 180, CONF 110, ECON 120</td>
<td>up to 25.5</td>
</tr>
<tr>
<td>(3 years)</td>
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<td></td>
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<tr>
<td>Accounting 1-2 (1 year)</td>
<td>Crawford, Kearny, Lincoln, Mira Mesa, Morse, San Diego, Scripps Ranch and Serra</td>
<td>ACCT 102</td>
<td>3</td>
</tr>
<tr>
<td>Accounting 3-4 (1 year)</td>
<td>Crawford, Kearny, Lincoln, Morse, San Diego, Scripps Ranch and Serra</td>
<td>ACCT 150</td>
<td>3</td>
</tr>
<tr>
<td>Arts Management (1 year)</td>
<td>San Diego S.C.P.A.</td>
<td>BUSE 90A, BUSE 90B, BUSE 90C, BUSE 90D</td>
<td>up to 5.5</td>
</tr>
<tr>
<td>Computerized Accounting</td>
<td>Crawford, Kearny and Mira Mesa</td>
<td>ACCT 150, CBTE 140</td>
<td>up to 5</td>
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<tr>
<td>(1 year)</td>
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<tr>
<td>Business Environments or</td>
<td>Crawford, Mission Bay, San Diego, University City</td>
<td>BUSE 90A, BUSE 90B, BUSE 90C, BUSE 90D</td>
<td>up to 5.5</td>
</tr>
<tr>
<td>Sales &amp; Merchandising Program</td>
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<tr>
<td>(2 years)</td>
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<td></td>
<td></td>
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<tr>
<td>Business Management &amp;</td>
<td>Mira Mesa, Scripps Ranch and Serra</td>
<td>BUSE 100</td>
<td>3</td>
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<tr>
<td>Ownership (1 year)</td>
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<tr>
<td>Business &amp; Computer</td>
<td>Clairemont, Crawford, Gompers Secondary, Hoover, Kearny, Madison, Mira Mesa, Mission Bay, Morse, Patrick Henry, Point Loma, San Diego, Scripps Ranch, Serra and University City</td>
<td>CBTE 103, CBTE 120, CBTE 122, CBTE 126, CBTE 140, CBTE 151, CBTE 180, CBTE 210, CBTE 211, CISC 128</td>
<td>up to 23</td>
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<tr>
<td>Applications Program (2 years)</td>
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<tr>
<td>Computer Applications in</td>
<td>Clairemont, Crawford, Garfield, Kearny, Lincoln, Madison, Mira Mesa, Mission Bay, Morse, Patrick Henry, Point Loma, San Diego, San Diego S.C.P.A., Scripps Ranch, Serra and University City</td>
<td>CBTE 103</td>
<td>3</td>
</tr>
<tr>
<td>Business (1 year)</td>
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<tr>
<td>TECH PREP ARTICULATED COURSES</td>
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<tr>
<td><strong>HIGH SCHOOL COURSE(S)/PROGRAM</strong></td>
<td><strong>HIGH SCHOOL SITE(S)</strong></td>
<td><strong>CITY COURSE(S)</strong></td>
<td><strong>UNITS</strong></td>
</tr>
<tr>
<td>Computerized Graphic Design (1 year)</td>
<td>Crawford, Morse, Patrick Henry, San Diego S.C.P.A and Scripps Ranch</td>
<td>CBTE 162, CBTE 170, CISC 114, MULT 101</td>
<td>up to 9</td>
</tr>
<tr>
<td>Computer Repair (1 year)</td>
<td>Morse and University City</td>
<td>CISC 122, CISC 123, CISC 125A, CISC 125B, CISC 127</td>
<td>up to 4.5</td>
</tr>
<tr>
<td>Child Development Careers Program (2 years)</td>
<td>Clairemont, Hoover, Mira Mesa, Morse, Patrick Henry, San Diego, Scripps Ranch and University City</td>
<td>CHIL 160, CHIL 161, CHIL 270</td>
<td>up to 6</td>
</tr>
<tr>
<td>Financial Services (2 years)</td>
<td>Hoover</td>
<td>BUSE 90A, BUSE 90B, BUSE 90C, BUSE 90D, BUSE 245B, BUSE 245C, BUSE 277C</td>
<td>up to 14.5</td>
</tr>
<tr>
<td>Teaching Academy (2 years)</td>
<td>Mira Mesa</td>
<td>EDUC 200</td>
<td>3</td>
</tr>
<tr>
<td>Teaching Academy (2 years)</td>
<td>Patrick Henry</td>
<td>EDUC 200, CHIL 270, SPAN 085</td>
<td>up to 10</td>
</tr>
<tr>
<td>Teaching Careers Program ROP (1 year)</td>
<td>Clairemont, Hoover, Lincoln, Madison, Mira Mesa, Morse, Patrick Henry, Point Loma, San Diego, Scripps, and University City</td>
<td>CHIL 270</td>
<td>up to 4</td>
</tr>
<tr>
<td>Electronics Technician Program (2 years)</td>
<td>Kearny, Morse</td>
<td>ELDT 100, ELDT 124, ELDT 124L</td>
<td>up to 5</td>
</tr>
<tr>
<td>Machine Tool Technology Program (2 years)</td>
<td>Kearny, Monte Vista, Santana</td>
<td>MACT 140</td>
<td>4</td>
</tr>
<tr>
<td>Technology Support Services 1-2 (2 years)</td>
<td>Hoover, Madison, Patrick Henry, Serra and San Diego</td>
<td>CISC 121, CISC 122, CISC 123, CISC 125A, CISC 125B, CISC 130, CISC 132</td>
<td>up to 7</td>
</tr>
<tr>
<td>Website Design (1 year)</td>
<td>Mission Bay</td>
<td>CBTE 162</td>
<td>2</td>
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</table>
### TECH PREP ARTICULATED COURSES

<table>
<thead>
<tr>
<th>HIGH SCHOOL COURSE(S)/PROGRAM</th>
<th>HIGH SCHOOL SITE(S)</th>
<th>CITY COURSE(S)</th>
<th>UNITS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Multimedia Production ROP (2 years)</td>
<td>Clairemont, Kearny, Patrick Henry, Point Loma, San Diego S.C.P.A, Scripps Ranch</td>
<td>RTVC 151</td>
<td>3</td>
</tr>
</tbody>
</table>
Programs of Instruction
General Course Information
Not all courses listed will be offered each semester, and San Diego City College reserves the right to cancel any course if enrollment in such course is below a minimum number as set by the San Diego Community College District Board of Trustees. The hours indicated at the beginning of each course description, except where otherwise specified, denote the total number of clock hours the class meets each week.

Students enrolled in occupational and health occupation programs must earn a grade of “C” or better in courses required for the major.

Only one course in a student's major discipline may be used to meet the San Diego Community College district general education requirement.

Course Numbering System
The course numbering system has meaning with regard to level and transfer. See the description below:

- 1-49 Basic Skills or college preparatory courses. Credit does not apply toward an associate degree or transfer to a four-year college or university.
- 50-99 Course credit applies toward the associate degree but does not transfer to a four-year college or university.
- 100-299 Course credit applies toward the associate degree and credit is intended for transfer to a four-year college or university. (Some courses may be identified as associate degree.) Final decision in regard to transferability rests with the receiving institution.
- 300-399 Apprenticeship and in-service courses that may also count toward the associate degree, but credit may transfer.

Apprenticeship 345, 349, 349-D, DSPS 065, Field Experience/Internship 275, Independent Study 290, Individualized Instruction 296, Special Topics 23, 63, 265, Tutoring 044, and Work Experience courses 270, 272, 274, have Districtwide designated numbers.

Prerequisites, Corequisites and Limitations on Enrollment
All prerequisites, corequisites, and limitations on enrollment stated in the course descriptions listed in this catalog will be strictly enforced by ClassTalk and Reg-e at the time of registration. Students who do not meet the prerequisite, corequisite, or other limitation according to the college’s records, will not be permitted to register for the course. Students are strongly advised to have all transcripts of prior college work and other documentation on file well in advance of registration. This will minimize registration delays.

Students should plan their schedule early and see a counselor for assistance.

Challenge Procedures
Students may challenge a prerequisite, corequisite or limitation on enrollment. Contact the Counseling Office to obtain a Petition to Challenge and a copy of Procedures 5500.2. The completed petition must be filed no later than ten working days prior to the published add deadline for the course being challenged.

Generic Course Information
Any discipline or department may offer the courses listed below which do not appear individually in the catalog. If applicable to a particular subject area, it will be listed under the appropriate departmental heading (subject indicator) in the college class schedule. For further information, please check with the instructor or department chair.

Supervised Tutoring (044)
Supervised tutoring courses are available in each discipline. To enroll in a supervised tutoring course, a student must be enrolled in a college or basic skills course in the respective discipline. The courses are designed to prepare the student to succeed in the corequisite or subsequent courses. Supervised tutoring may be taken four times, each time with a different corequisite. Credit does not apply to the associate degree.

Applied Application and Software Skills (045L)
This is an open entry/open exit supplemental course designed to assist students to succeed in completing computer assignments in a companion course. This course may be taken four times with different companion subject-matter courses as needed. Credit does not apply to the associate degree.

Special Topics Courses (265)
Special topics courses that examine current problems or issues of interest may be offered in some disciplines. See the class schedule for specific titles and course details.

Work Experience (270)
Program of on-the-job learning experiences for students employed in a job related to the major. The combined maximum credit for all work experience courses from all disciplines may not exceed 16 units. To receive credit, a student must complete a minimum of seven units.
during the semester, including work experience.
Transfer Credit: CSU and/or private coll/univ.

**Service Learning**

Students gain hands-on experience in project planning, development, implementation and evaluation. Students meet weekly to receive support training and development opportunities regarding best practices in Service Learning. The service-learning options are as follows:

**Service Learning - High School Projects (277A)**

Students in this course develop and implement service-learning projects to help high school students under the supervision of college faculty and in cooperation with high school teachers, counselors and resource teachers. Projects may include collaboration with high school classes, educational projects for high school students, mentoring, and shadowing. This course is intended for students from any discipline who are interested in project development, development of teaching skills, or enhancement of communication and planning skills. Course segments may be taken in any order. The combined credit for all 277A discipline courses may not exceed three units. Transfer Credit: CSU and/or private coll/univ.

**Elementary and High School Projects (277B)**

Students in this course develop and implement service learning projects to help elementary and junior high school students under the supervision of college faculty and in cooperation with elementary and junior high school teachers, counselors and resource teachers. Projects may include collaboration with elementary and junior high school classes, educational projects for elementary and junior high school students, mentoring, and shadowing. This course is intended for students from any discipline who are interested in project development, development of teaching skills, or enhancement of communication and planning skills. Course segments may be taken in any order. The combined credit for all 277B discipline courses may not exceed three units. Transfer Credit: CSU and/or private coll/univ.

**Service Learning - Community (277C)**

Students in this course develop and implement service-learning projects to help the college’s community under the supervision of college faculty and in cooperation with the staff of community organizations and agencies. Projects may include collaboration with off-campus community organizations and educational service oriented projects for the college’s community. This course is intended for students from any discipline who are interested in project development, development of teaching skills, or enhancement of communication and planning skills. Course segments may be taken in any order. The combined credit for all 277C discipline courses may not exceed three units. Transfer Credit: CSU and/or private coll/univ.

**Service Learning - On Campus (277D)**

Students in this course develop and implement service-learning projects to help the college's students under the supervision of college faculty and in cooperation with college counselors and staff. Projects may include collaboration with college classes, educational projects for college students, mentoring, and shadowing. This course is intended for students from any discipline who are interested in project development, development of teaching skills, or enhancement of communication and planning skills. Course segments may be taken in any order. The combined credit for all 277D discipline courses may not exceed three units. Transfer Credit: CSU and/or private coll/univ.

**Independent Study (290)**

This course is for students who wish to conduct additional research, a special project, or learning activities in a specific discipline/subject area and is not intended to replace an existing course in the discipline. In this course students will have a written contract with their instructor for activities such as: preparing problem analysis, engaging in primary research, preparing reports, and meeting with the instructor at specific intervals. This course may be taken four times with different content, for a maximum of six units. The credit may be used for the associate degree and the courses are transferable to four-year institutions.

**Individualized Instruction (296)**

This course provides supplemental instruction to reinforce achievement of the learning objectives of a course in the same discipline under the supervision of the instructor of the designated course. Learning activities may employ a variety of self-paced multimedia learning systems, language labs, print and electronic resources, laboratory, or field research arrangements, to assist student in reaching specific learning objectives. This open entry/open exit course is offered concurrently with designated courses. The credit may be used for the associate degree and the courses are transferable to four-year institutions.

**Definition of Terms**

Courses in the San Diego Community College District which transfer to public four-year universities in
California are identified at the end of each course description with the following statements:

**Transfer Credit: CSU and/or private coll/univ.; UC:** Course is certified for transfer to the 20 campuses of the California State University and to the 9 campuses of the University of California.

**Transfer Credit: CSU and/or private coll/univ.; UC transfer limitations.** See a counselor: Course is certified for transfer to California State University campuses and will transfer to the University of California campuses with some restrictions. Students should see a counselor concerning these limitations.

The UC system limits the credit that will be accepted for Art, Music, Drama (Theater Arts), Computer Science, Engineering, and Independent Study courses. It is expected that students will plan their transfer program carefully and enroll in general education as well as courses preparatory for their intended major at UC. If you have questions, please see a counselor.

**Transfer Credit: CSU and/or private coll/univ.:** Course is certified for transfer to California State University campuses.

**CAN:** The notation CAN stands for California Articulation Number. The course is accepted at other participating campuses (see page “California Articulation Number (CAN) System” on page 89).

Information concerning transferability to CSU or UC systems is based on information available at the time the catalog is printed. For the latest information, see a counselor. Other symbols include:

**Field Trip: (FT)** All courses identified at the end of the course description with the symbol (FT) may have field trips required. Detailed information concerning costs incurred will be provided by the instructor.

**Physical Education Classes/Intercollegiate Sports - Disclaimer**

Participation in all sports and physical education activities involves certain inherent risks. Risks may include, but are not limited to, neck and spinal injuries that may result in paralysis or brain injury, injury to bones, joints, ligaments, muscles, tendons and other aspects of the muscular skeleton system; and serious injury, or impairment, to other aspects of the body and general health, including death. The San Diego Community College District, its officers, agents and employees are not responsible for the inherent risks associated with participation in physical education classes/intercollegiate sports.

Students are strongly advised to consult a physician prior to participating in any physical education activity.

**Accounting**

See “Business Studies” on page 125.
Description
The Air Conditioning, Refrigeration, and Environmental Control Technology program offers a comprehensive program in refrigeration, air conditioning and heating, including solar energy and ventilation, dealing with the technology of controlled environments for structures, enclosures and processes from water fountains to large central air conditioning systems. Alternative energy systems such as solar and wind systems are explored.

Program Emphasis
The program has a series of complementary certificates which, with the appropriate general education and graduation requirements, lead to an Associate in Science degree. The program offers Certificates in Basic Refrigeration and Control Systems; Air Conditioning, Heating, and Advanced Refrigeration; Heating, Ventilation, and Air Conditioning, Refrigeration Systems Design; Stationary Engineering Hospital and General Maintenance Technology; and an Associate Degree in Air Conditioning, Refrigeration, and Environmental Control Technology. E.P.A. Examination preparation is included in AIRE 100 and AIRE 103 courses. The college program is an authorized E.P.A. testing center. Exams are offered a number of times during the year.

Faculty
Jeremiah Lynch T-317 (619) 388-3569

Career Options
Air conditioning and refrigeration contractor, dispatcher, manufacturer’s service representative, sales engineer, service engineer, service manager, and service technician.

Academic Programs
The certificates of completion and achievement and associate degree require completion of the courses listed below.

Certificate of Completion:
Basic Refrigeration and Control Systems*

Courses: Units
AIRE 100, Thermal and Refrigeration Theory ............ 4
AIRE 103, Thermal/Refrigeration Lab ..................... 2
AIRE 124, Control Systems Theory ........................ 3
AIRE 125, Control Systems Lab ............................. 2
Total Units = 11

*This is a department award in recognition of information on the transcript and does not imply that a graduation requirement has been met.

Certificate of Achievement:
Air Conditioning, Refrigeration, and Environmental Control Technology
Air Conditioning, Heating, and Advanced Refrigeration

Courses Required for the Major: Units
AIRE 100, Thermal and Refrigeration Theory ............ 4
AIRE 103, Thermal and Refrigeration Lab ................ 2
AIRE 122, Cost Estimating/Blueprints .................... 3
AIRE 123, Cost Estimating/Blueprints Lab ................ 1
AIRE 124, Control Systems Theory ........................ 3
AIRE 125, Control Systems Lab ............................. 2
AIRE 126, Fluid Flow Dynamics ............................. 3
AIRE 127, Fluid Flow Dynamics Lab ....................... 2
AIRE 132, Advanced Refrigeration Theory ............... 3
AIRE 133, Advanced Refrigeration Lab .................... 2
AIRE 134, Heating, Solar & Alternative Energy Systems Theory .............................................. 4
AIRE 135, Heating, Solar & Alternative Energy Systems Laboratory ............................................. 2
Total Units = 31

Certificate of Achievement:
Air Conditioning, Refrigeration, and Environmental Control Technology
Heating, Ventilation, and Air Conditioning, Refrigeration Systems Design

Courses Required for the Major: Units
AIRE 100, Thermal and Refrigeration Theory ............ 4
AIRE 103, Thermal and Refrigeration Lab ................ 2
AIRE 122, Cost Estimating/Blueprints .................... 3
AIRE 123, Cost Estimating/Blueprints Lab ................ 1
AIRE 124, Control Systems Theory ........................ 3
AIRE 125, Control Systems Lab ............................. 2
AIRE 126, Fluid Flow Dynamics ............................. 3
AIRE 127, Fluid Flow Dynamics Lab ....................... 2
AIRE 138, HVAC/Refrigeration Systems Design .......... 3
Certificate of Achievement:
Air Conditioning, Refrigeration, and Environmental Control Technology
Stationary Engineering Hospital and General Maintenance Technician

<table>
<thead>
<tr>
<th>Courses Required for the Major:</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>AIRE 100, Thermal and Refrigeration Theory</td>
<td>4</td>
</tr>
<tr>
<td>AIRE 103, Thermal and Refrigeration Lab</td>
<td>2</td>
</tr>
<tr>
<td>AIRE 122, Cost Estimating/Blueprints</td>
<td>3</td>
</tr>
<tr>
<td>AIRE 123, Cost Estimating/Blueprints Lab</td>
<td>1</td>
</tr>
<tr>
<td>AIRE 124, Control Systems Theory</td>
<td>3</td>
</tr>
<tr>
<td>AIRE 125, Control Systems Lab</td>
<td>2</td>
</tr>
<tr>
<td>AIRE 126, Fluid Flow Dynamics</td>
<td>3</td>
</tr>
<tr>
<td>AIRE 127, Fluid Flow Dynamics Lab</td>
<td>2</td>
</tr>
<tr>
<td>AIRE 134, Heating, Solar &amp; Alternative Energy Systems Theory</td>
<td>4</td>
</tr>
<tr>
<td>AIRE 135, Heating, Solar &amp; Alternative Energy Systems Laboratory</td>
<td>2</td>
</tr>
<tr>
<td>BLDC 260, Building Codes and Zoning (Mesa only)</td>
<td>3</td>
</tr>
<tr>
<td>BUSE 150, Human Relations in Business</td>
<td>3</td>
</tr>
<tr>
<td><strong>Total Units</strong></td>
<td><strong>25</strong></td>
</tr>
</tbody>
</table>

Certificate of Achievement: Air Conditioning, Refrigeration, and Environmental Control Technology

<table>
<thead>
<tr>
<th>Courses Required for the Major:</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>AIRE 138, HVAC/Refrigeration Systems Design</td>
<td>3</td>
</tr>
<tr>
<td>AIRE 139, HVAC/Refrigeration Systems Design Lab</td>
<td>2</td>
</tr>
<tr>
<td><strong>Total Units</strong></td>
<td><strong>25</strong></td>
</tr>
</tbody>
</table>

Associate in Science Degree: Air Conditioning, Refrigeration, and Environmental Control Technology

Additional general education and graduation requirements for the associate degree are listed in the catalog. The associate degree requires a minimum of 60 units.

<table>
<thead>
<tr>
<th>Courses Required for the Major:</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Certificate of Achievement, Air Conditioning, Heating and Advanced Refrigeration</td>
<td>32</td>
</tr>
<tr>
<td>AIRE 138, HVAC/Refrigeration Systems Design</td>
<td>3</td>
</tr>
<tr>
<td>AIRE 139, HVAC/Refrigeration Systems Design Lab</td>
<td>2</td>
</tr>
<tr>
<td><strong>Total Units</strong></td>
<td><strong>32</strong></td>
</tr>
</tbody>
</table>


Air Conditioning, Refrigeration, and Environmental Control Technology (AIRE)

100 Thermal and Refrigeration Theory
4 hours, 4 units
Grade Only

Advisory: Completion of or concurrent enrollment in AIRE 103 with a grade of "C" or better, or equivalent.

Limitation on Enrollment: This course is not open to students with credit for Environmental Control Technology 100.

This course is a study of conceptual elementary thermodynamics, including molecular theory of temperature, pressure and heat. Emphasis is placed on the refrigeration cycle, cycle components, their thermal performance and applications. Course content includes an introduction to the refrigeration and solar industry, its history, publications, organizations and employment opportunities. Transfer Credit: CSU and/or private coll/univ.

103 Thermal/Refrigeration Lab
6 hours lab, 2 units
Grade Only

Limitation on Enrollment: This course is not open to students with credit for Environmental Control Technology 103.

A hands-on project-oriented course on the tooling, materials, methods, and equipment used in the “HVAC” and refrigeration field. Includes system evacuation, charging, leak testing, temperature pressure, and precision measurement. Demonstration projects of fundamentals of heat transfer and saturation. Transfer Credit: CSU and/or private coll/univ.

122 Cost Estimating/Blueprints
3 hours, 3 units
Grade Only

Limitation on Enrollment: This course is not open to students with credit for Environmental Control Technology 122.

Covers generation blueprints from source to construction, how “HVAC” area is integrated into a business structure; job planning, sources, and use of pricing guides; municipal, county, state, and federal codes, energy impact statements, specifications. Computer utilization for estimating and instruction in computer use using BASIC is included. Transfer Credit: CSU and/or private coll/univ.
123 Cost Estimating/Blueprints Lab
3 hours lab, 1 unit
Grade Only

Limitation on Enrollment: This course is not open to students with credit for Environmental Control Technology 123.
A lab course to provide practice in the reading of blueprints for structures and machinery, plumbing, electrical, structural, and architectural components and the preparation of quantity surveys and cost benefit analyses; use of pricing guides for “HVAC” and refrigeration; use of basic drafting equipment, engineering and architectural scales; elementary sketching and drawing. Transfer Credit: CSU and/or private coll/univ.

124 Control Systems Theory
3 hours, 3 units
Grade Only

Corequisite: Completion of or concurrent enrollment in AIRE 125 with a grade of “C” or better, or equivalent. Limitation on Enrollment: This course is not open to students with credit for Environmental Control Technology 124.
This course is a study of electricity as it relates to the prime movers and controls for Heating, Ventilation and Air Conditioning (HVAC) and refrigeration. Emphasis is placed on the theory, construction and application of the elementary refrigeration system, electrical control and circuits, compressor relays and other electromechanical controls. Transfer Credit: CSU and/or private coll/univ.

125 Control Systems Lab
6 hours lab, 2 units
Grade Only

Limitation on Enrollment: This course is not open to students with credit for Environmental Control Technology 125.
Survey of electrical instrumentation and hardware used in the field of “HVAC” and refrigeration and accessories. Projects designed to develop ability to sketch, test, and fabricate complete basic electrical control systems for refrigeration and elementary air conditioning units. Includes logic and schematic circuits and their construction. Transfer Credit: CSU and/or private coll/univ. and/or private coll/univ.

126 Fluid Flow Dynamics
3 hours, 3 units
Grade Only

Corequisite: Completion of or concurrent enrollment in AIRE 127 with a grade of “C” or better, or equivalent.

127 Fluid Flow Dynamics Lab
6 hours lab, 2 units
Grade Only

Limitation on Enrollment: This course is not open to students with credit for Environmental Control Technology 127.
Designed to provide practice in fluid measuring methods and instrumentation, such as pitot tube devices and velometers showing the interaction of fluid system curves. Includes air psychrometries, air and hydronic system balancing, and measurement of sound. Transfer Credit: CSU and/or private coll/univ.

132 Advanced Refrigeration Theory
3 hours, 3 units
Grade Only

Limitation on Enrollment: This course is not open to students with credit for Environmental Control Technology 132.
A comprehensive analysis of refrigeration systems involving Molier diagrams and system balance in terms of heat and equipment. Standard multi-stage, low temperature, and cascade systems are included. Complex mechanical system controls studied. Fluid velocities and correct piping methods, lubrication systems and lubricants, refrigerant performance, centrifugal, screw and absorption systems are included. Transfer Credit: CSU and/or private coll/univ.

133 Advanced Refrigeration Lab
6 hours lab, 2 units
Grade Only

Limitation on Enrollment: This course is not open to students with credit for Environmental Control Technology 133.
A rigorous series of projects on the functioning of normal and abnormal refrigeration systems designed to equip students with the ability to solve difficult mechanical problems. Preparation of Molier diagrams for refrigeration systems and heat pumps, adjustment and installation of various systems, specific control devices such as back pressure regulators, head pressure...
controls, etc. Transfer Credit: CSU and/or private coll/univ.

134 Heating, Solar and Alternative Energy Systems Theory
4 hours, 4 units
Grade Only

Limitation on Enrollment: This course is not open to students with credit for Environmental Control Technology 134.

This course covers basic heating principles, equipment and processes; the process of combustion, including the chemistry of combustion is studied with respect to a variety of common fuels. The technology utilized in the actual combustion processes and the equipment are studied and maintenance procedures and the sizing of vent systems are included. Theory, equipment sizing and operation of solar systems and the integration of solar and standard hydronic heating systems are included in this course as well as solar heat load calculation and system estimating. The economics of energy systems and alternative energy systems are explored. Transfer Credit: CSU and/or private coll/univ.

135 Heating, Solar and Alternative Energy Systems Laboratory
6 hours lab, 2 units
Grade Only

Limitation on Enrollment: This course is not open to students with credit for Environmental Control Technology 135.

This course involves a series of demonstrations and lab projects to provide knowledge and understanding of the operation of heating and solar energy systems. Combustion testing equipment and instrumentation are utilized. Orsatt Analysis and use of electronic and combustion analyzers are included. Training and practice on common types of heating and solar systems includes hydronic balancing, solar angle determination and optimization, collector efficiencies and shadow grapey construction. Transfer Credit: CSU and/or private coll/univ.

138 HVAC/Refrigeration System Design
3 hours, 3 units
Grade Only

Limitation on Enrollment: This course is not open to students with credit for Environmental Control Technology 138.

An intensive course on the theory of design for heating, refrigeration, air conditioning, and solar energy systems. Includes building envelope heat load calculations, equipment selection criteria, system selection and optimization. Energy conservation techniques in design and hydronic system design applications are included. Transfer Credit: CSU and/or private coll/univ.

139 HVAC/Refrigeration System Design Lab
6 hours lab, 2 units
Grade Only

Limitation on Enrollment: This course is not open to students with credit for Environmental Control Technology 139.

Applied design techniques for the development of complete “HVAC” refrigeration and solar designs in an occupationally similar environment. A series of design projects includes applied heat load estimation; applied psychrometries; system and equipment selection criteria; and use of design manuals, tables, and manufacturers catalogs. Applied energy conservation techniques are included. Transfer Credit: CSU and/or private coll/univ.

198 Computer Applications in Air Conditioning, Refrigeration, Environmental Control Technology
2 hours lecture, 3 hours lab, 3 units
Grade Only

Limitation on Enrollment: This course is not open to students with credit for Environmental Control Technology 198.

Presentation of computer applications in Air Conditioning, Refrigeration, Environmental Control Technology as required for employment in local business and industry. Instruction will be on a specific software and hardware as currently used in Air Conditioning, Refrigeration, Environmental Control. Specific software and hardware will be announced for each course section, each semester. (FT) Associate Degree Credit.

270 Work Experience in Air Conditioning, Refrigeration, Environmental Control Technology
Hours by Arrangement, 1-4 units
Grade Only

Limitation on Enrollment: Must obtain an Add Code from Work Experience Coordinator for registration. To receive credit a student must complete a minimum of seven units during the semester, including work experience. This course is not open to students with credit for Environmental Control Technology 270.

A program of on-the-job learning experience for students employed in a job related to their major. The combined maximum credit for all work experience
courses from all disciplines may not exceed 16 units. Transfer Credit: CSU and/or private coll/univ.

290 Independent Study in Air Conditioning, Refrigeration, Environmental Control Technology

Hours by Arrangement: 1-3 units
Grade Only

Limitation on Enrollment: Must obtain an Add Code from instructor for registration. This course is not open to students with credit for Environmental Control Technology 290.

For students who wish to study special problems. This course may be taken four times with different content for a maximum of six units. Transfer Credit: CSU and/or private coll/univ.

This discipline may offer specialized instruction in one or more of the following areas: Supervised Tutoring (044), Special Topics (265), Independent Study (290), Individualized Instruction (296), Service Learning (277), Applied Applications and Software Skills (045L), or Work Experience (270). Detailed course descriptions are listed on page 94. Please refer to the class schedule and/or see the dean or department chair for availability.

Alcohol and Other Drug Studies
See “Behavioral Sciences” on page 101.

American Sign Language
See “Languages” on page 252.

Anthropology
See “Behavioral Sciences” on page 101.

Arabic
See “Languages” on page 252.

Art-Fine Art and Art-Graphic Arts
See “Visual and Performing Arts” on page 313

Astronomy
See “Physical and Earth Sciences” on page 289
Certificate of Achievement:

Behavioral Sciences

Alcohol and Other Drug Studies

Courses Required for the Major: Units
AODS 150, Introduction to Chemical Dependency .... 3
AODS 152, Physiology & Pharmacology of Psychoactive Drugs ......................... 3
AODS 154, Prevention, Intervention, Legal & Ethical Issues of Psychoactive Drug Use .......... 3
AODS 156, Chemical Dependency Case Management . 3
AODS 158, Chemical Dependency Family Counseling Techniques ................................ 3
AODS 160, Group Dynamics in Chemical Dependency Counseling Seminar ...................... 3
AODS 162, Chemical Dependency Internship Seminar ........................................... 3
AODS 163*, Chemical Dependency Internship ........ 3
PSYC 101, General Psychology ......................................................... 3
PSYC 161, Introduction to Counseling .................... 3
SOCO 101, Principles of Sociology .................................. 3
Total Units = 33

*Alcohol and Other Drug Studies 270 must be substituted for 163 if a student has a paid internship.

Associate in Science:

Behavioral Sciences

Alcohol and Other Drug Studies

The associate degree with an emphasis in Alcohol and Other Drug Studies requires completion of the Certificate of Achievement, Alcohol and Other Drug Studies. Recommended elective: Alcohol and Other Drug Studies 270. Additional general education and graduation requirements for the associate degree are listed in the catalog. The associate degree requires a minimum of 60 units.

Transfer Information

Baccalaureate institutions which offer further study in alcohol and other drug studies include: California State University, Fullerton, United States International University and the Union Institute. Students planning to transfer to a four-year college or university should complete courses required for the university major and the general education pattern required by that transfer institution. See catalog TRANSFER INFORMATION section. Additional courses may be required to meet university lower-division requirements. Course requirements at the transfer institution are subject to change and may be verified by a counselor or by consulting the current university catalog. Many Baccalaureate in Arts degrees require third semester competency in a foreign language. Consult the current catalog of the transfer institution and consult with a counselor.

COURSES

Alcohol and Other Drug Studies (AODS)

150 Introduction to Chemical Dependency

3 hours, 3 units
Grade Only

Advisory: English 43 and English 42, each with a grade of “C” or better, or equivalent, or Assessment Skill Levels W4 and R4; and completion of or concurrent enrollment in Psychology 101, or Sociology 101 with a grade of “C” or better, or equivalent.

Limitation on Enrollment: This course is not open to students with credit in Behavioral Sciences 150 or Psychology 265: Introduction to Chemical Dependency.

An interdisciplinary examination of the history of chemical dependency; myths about chemical dependency and those involved; sociocultural factors relating to use and/or abuse; issues and patterns of dependency and recovery. (FT) Transfer Credit: CSU and/or private coll/univ.

152 Physiology and Pharmacology of Psychoactive Drugs

3 hours, 3 units
Grade Only

Advisory: English 43 and English 42, each with a grade of “C” or better, or equivalent, or Assessment Skill Levels W4 and R4; and completion of or concurrent enrollment in Psychology 101, or Sociology 101 with a grade of “C” or better, or equivalent.

Limitation on Enrollment: This course is not open to students with credit in Behavioral Sciences 150 or Psychology 265: Physiology and Pharmacology of Psychoactive Drugs.

This course provides an examination of the basic functions of the biological system as they are altered by addictive psychoactive chemicals. Genetic predispositions will be noted. Particular attention will be given to chemical influence on the nervous system. The course will also examine temporary and permanent medical consequences of addictive behavior, including nutritional deficiencies, Korsakov's syndrome, effects on sexual behavior, and fetal alcohol syndrome. Physiological and nutritional considerations in treatment and recovery will be examined. (FT) Transfer Credit: CSU and/or private coll/univ.
154 Prevention, Intervention, Legal & Ethical Issues of Psychoactive Drug Use
3 hours, 3 units
Grade Only
Advisory: English 43 and English 42, each with a grade of “C” or better, or equivalent, or Assessment Skill Levels W4 and R4; and completion of or concurrent enrollment in Psychology 101, or Sociology 101 with a grade of “C” or better, or equivalent.
Limitation on Enrollment: This course is not open to students with credit in Behavioral Sciences 154 or Psychology 265: Prevention, Intervention, Legal & Ethical Issues of Psychoactive Drug Use.
An interdisciplinary examination of current legal and ethical aspects of consuming and serving psychoactive substances, employment issues, patients’ rights and confidentiality, and professional responsibilities. It also addresses prevention and education strategies, community needs and resources, client assessment, intervention, crisis techniques, and referral. (FT) Transfer Credit: CSU and/or private coll/univ.

156 Chemical Dependency Case Management
3 hours, 3 units
Grade Only
Advisory: Alcohol and Other Drug Studies 150 and 152 and 154 and Psychology 161 and Sociology 101, each with a grade of “C” or better, or equivalent.
Limitation on Enrollment: This course is not open to students with credit in Behavioral Sciences 156 or Psychology 265: Chemical Dependency Case Management.
An interdisciplinary approach to case management topics of assessment, orientation, treatment planning, and relapse prevention. (FT) Transfer Credit: CSU and/or private coll/univ.

158 Chemical Dependency Family Counseling Techniques
3 hours, 3 units
Grade Only
Advisory: Alcohol and Other Drug Studies 150 and 152 and 154 and Psychology 161 and Sociology 101, each with a grade of “C” or better, or equivalent.
Limitation on Enrollment: This course is not open to students with credit in Behavioral Sciences 158 or Psychology 265: Chemical Dependency Family Counseling Techniques.
A course focusing on the special issues entailed in counseling the chemically dependent person and his/her family. Focus is directed toward interdisciplinary aspects of the helping relationship in which the counselor aids the chemically dependent client and his/her family to mobilize resources, resolve problems and/or modify attitudes and values. (FT) Transfer Credit: CSU and/or private coll/univ.

160 Group Dynamics in Chemical Dependency Counseling
3 hours, 3 units
Grade Only
Advisory: Alcohol and Other Drug Studies 150 and 152 and 154 and Psychology 161 and Sociology 101, each with a grade of “C” or better, or equivalent.
Limitation on Enrollment: This course is not open to students with credit in Behavioral Sciences 160.
A study of the therapeutic application of group interaction with emphasis on chemical dependency problems. The dynamics of small-group interaction (i.e. communicating within groups, effective interpersonal skills in groups, and goal setting) will be explored from an interdisciplinary viewpoint. (FT) Transfer Credit: CSU and/or private coll/univ.

162 Chemical Dependency Internship Seminar
1-3 hours, 1-3 units
Grade Only
Advisory: Alcohol and Other Drug Studies 156 and 158 and 160, each with a grade of “C” or better, or equivalent.
Limitation on Enrollment: This course is not open to students with credit in Behavioral Sciences 162.
This course provides an opportunity to evaluate and enhance learning from experiences encountered in Chemical Dependency Internship. By analyzing, discussing, and evaluating learning and exploring appropriate interdisciplinary materials, students will develop a broader perspective of the field. (FT) Transfer Credit: CSU and/or private coll/univ.

163 Chemical Dependency Internship
5-15 hours lab, 1-3 units
Grade Only
Advisory: Alcohol and Other Drug Studies 156 and 158 and 160, each with a grade of “C” or better, or equivalent; and completion of or concurrent enrollment in Alcohol and Other Drug Studies 162.
Limitation on Enrollment: This course is not open to students with credit in Behavioral Sciences 163.
The Chemical Dependency Internship provides a “hands-on” learning experience via directed field work in a community based agency or program doing work in chemical dependency prevention, intervention, treatment or aftercare. Students will choose an internship site and complete 255 hours. Students seeking further chemical dependency credentialing as counselors must complete an internship at a site that
allows them to work in the 12 core function areas of a chemical dependency counselor. Transfer Credit: CSU and/or private coll/univ.

270 Work Experience in Chemical Dependency
Hours by Arrangement: 1-4 units
Grade Only

Limitation on Enrollment: Must obtain an Add Code from Work Experience Coordinator for registration. To receive credit a student must complete a minimum of seven units during the semester, including work experience. Work Experience in Chemical Dependency provides “hands-on” learning experience resulting from the cooperative effort of the employer, the college instructor/coordinator, and the student. It enables the student who is employed or volunteering in chemical dependency work to receive college credit for achieving new, meaningful, and measurable learning objectives, acquainting the student with as many interdisciplinary aspects of chemical dependency as possible. The combined maximum credit for all work experience courses from all disciplines may not exceed 16 units. Transfer Credit: CSU and/or private coll/univ.

This discipline may offer specialized instruction in one or more of the following areas: Supervised Tutoring (044), Special Topics (265), Independent Study (290), Individualized Instruction (296), Service Learning (277), Applied Applications and Software Skills (045L), or Work Experience (270). Detailed course descriptions are listed on page 94. Please refer to the class schedule and/or see the dean or department chair for availability.

Behavioral Sciences:
Anthropology

Description
Anthropology is a scientific discipline that studies humans and human behavior. The subject is divided into five broad fields: physical and cultural anthropology, linguistics and archaeology, and applied anthropology. Physical anthropology is concerned with hominid evolution and the biological features of human populations. Cultural anthropology deals with cross-cultural studies of learned behavior, such as language, kinship, religion, economics, technology, values and personality. Linguistics is the study of the origin and evolution of languages and how they reflect the behavioral patterns of people. Archaeology is involved in the recovery of material remains of past peoples with the objective of reconstructing the past. Applied Anthropology applies what we have learned from the other four fields to promote change. As both a biological and social science, anthropology seeks to understand and describe humankind.

Program Emphasis
The anthropology program has been developed to provide the student with a broad perspective of human biological and cultural origins and change which prepares the student for transfer to a four-year institution. It also offers a limited course curriculum in archaeology. A certificate of completion is available for the student who has an interest in the recovery, identification, and analysis of prehistoric and early historic artifacts related to archaeological research projects.

Faculty
Stephen J. Bouscaren
A1-S
(619) 388-3260

Career Options
Most careers related to anthropology require education beyond the associate degree, however, an understanding of broad anthropological and archaeological concepts provides some preparation for work in museums and local excavations. A partial list of possible career options follows: archaeologist, cultural anthropologist, ethnic relations specialist, ethnologist, exhibit designer, expedition guide, film ethnographer, health researcher, linguist, medical anthropologist, museum curator, physical anthropologist, primatologist, paleoanthropologist, population analyst, public health analyst, social gerontologist, transcultural nurse specialist, travel consultant, urban planner, international business consultant and international development specialist.
Certificate of Completion:
Archaeology*

Courses: Units
ANTH 103, Introduction to Cultural Anthropology .... 3
ANTH 210, Introduction to California Indians ........ 3
ANTH 115, Introduction to Archaeological Field Work .................................................... 4
ANTH 120, Archaeological Artifact Analysis ............ 3
Total Units = 16

*This is a department award in recognition of information on the transcript and does not imply that a graduation requirement has been met.

Associate in Arts Degree:
Behavioral Sciences

Anthropology Emphasis

The associate degree in anthropology requires completion of the courses listed below. Additional general education and graduation requirements for the associate degree are listed in the catalog. The associate degree requires a minimum of 60 units.

Courses Required for the Major: Units
ANTH 102, Introduction to Physical Anthropology .... 3
ANTH 103, Introduction to Cultural Anthropology .... 3
ANTH 107, Introduction to Archaeology................ 3
ANTH 115, Introduction to Archaeological Field Work .................................................... 4
*PSYC 258, Behavioral Science Statistics OR
MATH 119, Elementary Statistics........................ 3
Electives, transferable, lower division..................... 6
Total Units = 18

Recommended electives: Anthropology 215, 290.

*Note: Check University Statistics course requirement.

Transfer Information

Students planning to transfer to a four-year college or university should complete courses required for the university major and the general education pattern required by that transfer institution. See catalog TRANSFER INFORMATION section. Additional courses may be required to meet university lower-division requirements. Course requirements at the transfer institution are subject to change and may be verified by a counselor or by consulting the current university catalog. Many Baccalaureate in Arts degrees require third semester competency in a foreign language. Consult the current catalog of the transfer institution and consult with a counselor.

San Diego State University


University of California, San Diego

Anthropology, B.A.: Anthropology 102 and 103; Mathematics 119 or Psychology 258 or Psychology 255 (Mesa).

Archaeology, B.A.: Mathematics 119 or Psychology 255 (Mesa) or Psychology 258.

Biological Anthropology B.A.: Anthropology 102; Mathematics 119 or Psychology 255 (Mesa) or Psychology 258; Biology 210A and 210B.

Courses

Anthropology (ANTH)

102 Introduction to Physical Anthropology
3 hours, 3 units

Advisory: English 51 and 56, each with a grade of “C” or better, or equivalent, or Assessment Skill Levels W5 and R5.

A survey of human evolution and human variation through the study of primates, human heredity, variability of modern populations and fossil record of early human primates. (FT) Transfer Credit: CSU and/or private coll/univ.; UC. (CAN ANTH 2)

103 Introduction to Cultural Anthropology
3 hours, 3 units

Advisory: English 51 and 56, each with a grade of “C” or better, or equivalent, or Assessment Skill Levels W5 and R5.

A survey of various designs for living in different parts of the world. A comparative cross-cultural approach to how societies develop behaviors to meet biological, social, psychological, environmental and economic needs. FT) Transfer Credit: CSU and/or private coll/univ.; UC. (CAN ANTH 4)

107 Introduction to Archaeology
3 hours, 3 units

Advisory: English 51 and 56, each with a grade of “C” or better, or equivalent, or Assessment Skill Levels W5 and R5.

Prehistoric cultures, archaeological techniques, basic inventions, cultural innovations, and the development of urban civilizations. (FT) Transfer Credit: CSU and/or private coll/univ.; UC. (CAN ANTH 6)
115 Introduction to Archaeological Field Work  
2 hours lecture, 6 hours lab, 4 units  
Advisory: English 51 and 56, each with a grade of “C” or better, or equivalent, or Assessment Skill Levels W5 and R5.  
Limitation on Enrollment: This course is not open to students with credit for Anthropology 265: Introduction to Archaeological Field Work.  
This course provides an introduction to the basic techniques of archaeological field work, including site survey, site layout, excavation, laboratory analysis, and report writing. (FT) Transfer Credit: CSU and/or private coll/univ.

120 Archaeological Artifact Analysis  
2 hours lecture, 3 hours lab, 3 units  
Advisory: English 51 and 56, each with a grade of “C” or better, or equivalent, or Assessment Skill Levels W5 and R5.  
Limitation on Enrollment: This course is not open to students with credit for Anthropology 265: Archaeological Artifact Analysis or Laboratory Analysis of Archaeological Materials.  
Description, classification, and analysis of archaeological materials including laboratory work in cataloging and documentation, methods used in artifact typology and serration, and the preparation of archaeological reports. (FT) Transfer Credit: CSU and/or private coll/univ.

210 Introduction to California Indians  
3 hours, 3 units  
Advisory: English 51 and 56, each with a grade of “C” or better, or equivalent, or Assessment Skill Levels W5 and R5.  
This course is a comparative study of numerous Native American cultures located in California and peripherally related cultural areas. Anthropological materials for ethnographic, ethnohistorical, ethnological and archaeological sources will be utilized. Transfer Credit: CSU and/or private coll/univ.; UC.

215 Cultures of Latin America  
3 hours, 3 units  
Advisory: English 51 and 56, each with a grade of “C” or better, or equivalent, or Assessment Skill Levels W5 and R5.  
A review of the non-industrialized people living in contemporary Latin America will include Native American Indian cultures in Mexico, Central America and South America in contrast with their peasant Mestizo neighbors, and in turn these cultures in contrast with their urban counterparts. Contemporary anthropological research, ethnohistoric, historic and archaeological data will be used to discover the diversity of cultures throughout Spanish and Portuguese America. Transfer Credit: CSU and/or private coll/univ.; UC.

Behavioral Sciences: Human Services

Program Emphasis
The Human Services and Social Welfare program is designed to prepare for employment or retraining in private and public community service agencies such as welfare departments, child development and adult, including elderly, programs and other human service organizations and institutions. Students learn the skills and knowledge necessary to work as paraprofessionals or professional aids under the supervision of workers with professional degrees. Completion of the Certificate of Achievement also provides a basis for further academic preparation for university social work, gerontology, and other human service professional degrees.

Career Options
Employment and career ladder opportunities available upon successful completion of the Human Services Certificate of Achievement and/or Associate in Arts degree include client advocate, case manager aide, crisis relief worker, homeless shelter worker, substance abuse counselor aide, rehabilitation counselor aide, child care assistant, senior day care and counselor aide, community agency volunteer. Core courses also provide the basis for transfer to university human service programs. Refer to the Transfer Information section of the program for specific course requirements for university transfer.

Behavioral Sciences/Human Services Certificate of Completion

Health and Human Services Aide*

The Health and Human Services Aide Certificate of Completion is designed for persons interested in working in health and mental health agencies and other settings as case aides. Under the supervision of qualified professionals, case aides assist clients with completion of papers for financial assistance, emergency assistance and other funding programs and with eligibility screening for appropriate services. The certificate also provides fundamental information related to social work principles and fields of service.
HUMS 120 is articulated with San Diego State University's Social Work 120.

**Courses:**

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>HUMS 100, Public Assistance and Benefits Programs</td>
<td>1</td>
</tr>
<tr>
<td>HUMS 110, Social Work Fields of Service</td>
<td>3</td>
</tr>
<tr>
<td>HUMS 120, Introduction to Social Work</td>
<td>3</td>
</tr>
<tr>
<td>HUMS 115, Human Service Internship or</td>
<td></td>
</tr>
<tr>
<td>HUMS 125, Health Services Field of Practice</td>
<td>3</td>
</tr>
<tr>
<td>CISC 110, Microcomputer Applications</td>
<td></td>
</tr>
</tbody>
</table>

**Total Units = 13**

*This is a department award in recognition of information on the transcript and does not imply that a graduation requirement has been met.

**Certificate of Achievement: Behavioral Sciences**

**Human Services Emphasis**

The Certificate of Achievement provides basic training both in the classroom and through agency internships or work experience in social work concepts and community agency structure and program characteristics. Students select one (or more) area(s) of emphasis in the Adult/Gerontology, Alcohol and other Drugs and/or Early Childhood Tracks. Students who are interested in preparing for transfer to baccalaureate programs are advised to complete requirements for the Associate in Arts Degree in Human Services and consult specific university degree preparation in the Transfer Information section.

**Courses Required for the Major:**

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>HUMS 100, Public Assistance and Benefits Programs</td>
<td>1</td>
</tr>
<tr>
<td>HUMS 110, Social Work Fields of Service</td>
<td>3</td>
</tr>
<tr>
<td>HUMS 120, Introduction to Social Work</td>
<td>3</td>
</tr>
<tr>
<td>HUMS 115, Human Service Internship or</td>
<td></td>
</tr>
<tr>
<td>HUMS 270, Work Experience</td>
<td>3-4</td>
</tr>
<tr>
<td>HEAL 101, Health and Life Style</td>
<td>3</td>
</tr>
<tr>
<td>PSYC 101, General Psychology</td>
<td>3</td>
</tr>
<tr>
<td>SOCO 101, Principles of Sociology</td>
<td>3</td>
</tr>
<tr>
<td>AODS 158, Chemical Dependency Family Counseling Techniques</td>
<td>3</td>
</tr>
<tr>
<td>PSYC 135, Marriage and Family Relations or</td>
<td></td>
</tr>
<tr>
<td>CHIL 141, Child, Family and Community</td>
<td>3</td>
</tr>
</tbody>
</table>

**Total Units = 31-32**

**Associate in Arts Degree: Behavioral Sciences**

**Human Services Emphasis**

The Associate in Arts Degree with an emphasis in Human Services requires completion of the Certificate of Achievement, Human Services Emphasis. Additional general education and graduation requirements for the associate degree are listed in the catalog. The associate degree requires a minimum of 60 units.

**Recommended electives:** Alcohol & Other Drug Studies 150, 154, 156; Anthropology 102, 103, Biology 107; Business 101; Child Development 151, 160, 165, 175, 180; Spanish language competence.

**Transfer Information**

Students planning to transfer to a four-year college or university should complete the courses required for the university major and the general education pattern required by that institution. See catalog **TRANSFER INFORMATION** section. Additional courses may be required to meet lower-division course requirements. **Course requirements at the transfer institution are subject to change and may be verified by a counselor or by consulting the current university catalog. Many Baccalaureate in Arts degrees require third semester competency in a foreign language. Consult the current catalog of the transfer institution and consult with a counselor.**

**San Diego State University**

Child and Family Development, B.S.: Biology 105 and 106 (Miramar) or 107 (City, Mesa); Child Development 101*, 141; Psychology 135; Child Development 151, 160 and six units from 111, 121, 131; Mathematics 119 or Psychology 258; Psychology 101; Sociology 101.
*Acceptable only if Psychology 101 or Sociology 101 are taken prior to transfer.

Gerontology, B.A.: Human Services 101 (City), Biology 107 or 105 and 106 (Miramar); Health Education 101; Psychology 135, Psychology 101; Human Services 110 (City); Foreign language competence and additional general education courses are required.

Social Work, B.A.: Biology 107 or any three-unit Biology course; Economics 120 or 121; Health Education 101; Human Services 110 (City), 120 (City); Psychology 101; Sociology 101; Psychology 258 or Mathematics 119 or Biology 200. Foreign language competence and additional general education courses are required.

### Courses

#### Human Services (HUMS)

**100 Public Assistance and Benefits Program**

1 hour, 1 unit  
Grade Only

*Advisory:* English 51 and 56, each with a grade of “C” or better, or equivalent, or Assessment Skill Levels W5 and R5.

This course is an introduction to and an overview of public assistance and benefits awarded by local, state and federal programs. Students gain a working knowledge of eligibility, appeal process and fiscal aspects of benefits programs as well as major changes effected under the Welfare Reform Act. This course is designed for training of paraprofessional workers and retaining of caseworkers in local agencies. (FT) Transfer Credit: CSU and/or private coll/univ.

**101 Introduction to Human Aging**

3 hours, 3 units  
Grade Only

*Advisory:* English 51 and 56, each with a grade of “C” or better, or equivalent, or Assessment Skill Levels W5 and R5.

This course is an introduction to the field of social gerontology. A multidisciplinary approach is utilized to examine the basic biological, psychological and social theories of aging. Emphasis is placed on the special needs and problems impacting the aged population. Historical, social and cross-cultural issues in aging are examined. (FT) Transfer Credit: CSU and/or private coll/univ.

**110 Social Work Fields of Service**

3 hours, 3 units  
Grade Only

*Advisory:* English 51 and 56, each with a grade of “C” or better, or equivalent, or Assessment Skill Levels W5 and R5.

This course is an introduction to the major fields of social work practice in institutions, public and private agencies and other community settings. Students examine and differentiate between the predominant settings in which social work is practiced and the role of social work in contemporary society in relation to social injustice, diversity, cross-cultural issues and economic factors. (FT) Transfer Credit: CSU and/or private coll/univ.

**115 Human Services Internship**

1 hour lecture, 6 hours lab, 3 units  
Grade Only

*Advisory:* English 51 and 56, each with a grade of “C” or better, or equivalent, or Assessment Skill Levels W5 and R5; and Human Services 110 and 120, each with a grade of “C” or better, or equivalent.

This course is designed to provide students in the Human Services Certificate program with practical experience in the field of human services. Students will provide internship support, working as a paraprofessional or professional aide in public or private community service agencies under the supervision of workers with professional degrees. (FT) This course offered during the spring semester. Transfer Credit: CSU and/or private coll/univ.

**120 Introduction to Social Work**

3 hours, 3 units  
Grade Only

*Advisory:* English 51 and 56, each with a grade of “C” or better, or equivalent, or Assessment Skill Levels W5 and R5.

This course is an introduction to the field of social work. It covers the historical development of social work as a profession. The core knowledge base, including theoretical perspectives underpinning the profession are introduced. Emphasis is placed on social work roles, training, and methods on intervention and core social work values and ethics. Human Services 120 requires students to complete 40 hours of volunteer work with a social services agency. (FT) This course offered during the fall semester. Transfer Credit: CSU and/or private coll/univ.
125 Health Services Fields of Practice
3 hours lecture, 3 units
Grade Only
Advisory: English 51 and 56, each with a grade of “C” or better, or equivalent, or Assessment Skill Levels W5 and R5.
This course is an introduction to and overview of private, public and clinical community health settings and the health services field. Students gain a working knowledge of public and private community health care systems and delivery, with emphasis on services provided by public and social agencies. Issues relating to access to health care, vulnerable populations, ethical issues and policy development are examined. This course helps prepare for beginning positions and/or retraining in public and private agencies and for community volunteer work in health and human service settings. (FT) Transfer Credit: CSU and/or private coll/univ.

270 Work Experience
Hours by arrangement
Grade Only
Advisory: English 51 and 56, each with a grade of “C” or better, or equivalent, or Assessment Skill Levels W5 and R5; and Human Services 110 and 120, each with a grade of “C” or better, or equivalent. To receive credit a student must complete a minimum of seven units during the semester, including work experience. This course is designed to provide on the job learning experience for students employed in a job related to the Human Services major. The combined maximum credit for all work experience courses from all disciplines may not exceed 16 units. Students must complete a minimum of seven units during the semester, including work experience. (FT) Transfer Credit: CSU and/or private coll/univ.

Behavioral Sciences: Psychology
Description
Psychology is a behavioral science that emphasizes the understanding of behavior (feelings, actions, and thoughts) of individuals. It should be noted that psychology typically focuses on the study of humans though psychologists have interests in other species. Psychology as a science is most closely related to the biological sciences, although its application often involves personal and/or cultural philosophical beliefs or values. Students who major in psychology are expected to be able to think critically and scientifically about behavior, and be able to apply the principles of psychology to the understanding of behavior.

Program Emphasis
The psychology program has two primary goals. The first is to provide the basic science courses that are foundations for further understanding of other courses in psychology and related fields as well as preparation for transfer to other institutions for further study. The second goal is to provide courses that may include additional information regarding psychology that are of general interest to community college students or are applications of psychological principles.

Faculty
Office Telephone
Alice Cydell A1-R (619) 388-3606
James Evans A1-R (619) 388-3257
William Weiner A1-U (619) 388-3654
Kathleen Young A1-U (619) 388-3371

Career Options
Most career options directly related to psychology require graduate level degrees. However, there are several applied and paraprofessional occupations that may not require education beyond the associate degree. The following is a sample of the many career options available with preparation in this major beyond the associate degree: advertising researcher, clinical psychologist, community college instructor, school counselor, counseling psychologist, drug abuse counselor, employment counselor, engineering psychologist, industrial psychologist, manager, marriage and family counselor, mental health worker, organizational psychologist, personnel analyst, probation officer, psychometrist, and research psychologist.

Academic Programs
The associate degree in Behavioral Sciences with an emphasis in Psychology requires completion of the courses listed below. Additional general education and graduation requirements for the associate degree are listed in the catalog. The associate degree requires a minimum of 60 units.

Associate in Arts Degree: Behavioral Sciences
Psychology Emphasis
Courses Required for the Major: Units
PSYC 101, General Psychology ......................... 3
PSYC 211, Learning ..................................... 3
PSYC 258, Behavioral Science Statistics OR
MATH 119, Elementary Statistics ..................... 3
PSYC 260, Introduction to Physiological Psychology . 3
Electives - transferable, general education .............. 6
Total Units = 18

Recommended electives: Psychology 135, 137, 155, 290, 296; transferable science, computer, mathematics, and other general education courses in biology and philosophy. SDSU Note: Current lower division psychology course requirements for San Diego State University psychology majors are met by the City College Associate in Arts degree, Psychology Emphasis. Consult with a counselor for other District requirements.

Transfer Information
Students planning to transfer to a four-year college or university should complete courses required for the university major and the general education pattern required by that transfer institution. See catalog TRANSFER INFORMATION section. Additional courses may be required to meet university lower-division requirements. Course requirements at the transfer institution are subject to change and may be verified by a counselor or by consulting the current university catalog. Many Baccalaureate in Arts degrees require third semester competency in a foreign language. Consult the current catalog of the transfer institution and consult with a counselor.

- California State University, San Marcos

- San Diego State University
  Psychology, B.A.: Psychology 101, 211, 230 (Mesa), 258, 260; Biology 107 (City and Mesa) or Biology 105, 106 (Miramar). Third semester foreign language competency.

- University of California, San Diego
  Psychology, B.A.: Three courses from: Biology 210A (or 210A and 210B), Psychology 260, Chemistry 100, 100L or 200, 200L or 201, 201L or 130, 130L or 160, 160L, Physics 120A, 121A, 121B, 120B or 195A, 195B, 195C. Three formal skills courses (at least one must be calculus) from Mathematics 121 and 122 or 150, 151 and 252 or Philosophy 101; one computer programming course from Computer Information Systems 190 or 192 or Engineering 115 (Mesa); and Mathematics 119 or Psychology 255 (Mesa) or 258.

Courses
161 Introduction to Counseling  
**3 hours, 3 units**

**Advisory:** English 51 and 56, each with a grade of "C" or better, or equivalent, or Assessment Skill Levels W5 and R5.

Survey of basic counseling concepts used to maintain and change behavior. Emphasis on experiential learning in the skills of effective relating and problem-solving. Transfer Credit: CSU and/or private coll/univ.

211 Learning  
**3 hours lecture, 3 units**

**Prerequisite:** Psychology 101 with a grade of "C" or better, or equivalent.

**Limitation on Enrollment:** This course is not open to students with previous credit for Psychology 210.

Students learn about the basic principles and research in animal and human learning. Subjects include scientific versus nonscientific approaches to behavior studies, operant and respondent conditioning, observational and cognitive learning, and motivation as related to self-control. Transfer Credit: CSU and/or private coll/univ; UC.

258 Behavioral Science Statistics  
**3 hours, 3 units**

**Prerequisite:** Mathematics 96 with a grade of “C” or better, or equivalent, or Assessment Skill Level M50.

**Advisory:** English 51 and 56, each with a grade of "C" or better, or equivalent, or Assessment Skill Levels W5 and R5.

Quantitative methods in the behavioral sciences. Frequency distributions, percentiles, central tendency and variability, application of the normal probability distribution, correlation, and elementary significance testing procedures. Transfer Credit: CSU and/or private coll/univ. UC Transfer Credit: Psychology (PSYC) 258 combined with Mathematics 119 or Biology 200: maximum credit, one course. (CAN PSY 6)

260 Introduction to Physiological Psychology  
**3 hours lecture, 3 units**

**Prerequisite:** Psychology 101 with a grade of "C" or better, or equivalent.

Students learn about the physiological determinants of behavior. Subjects include behavior evolution, the nervous system, and endocrine glands as well as their relationship to perception, learning, motivation, emotion, and personality. Transfer Credit: CSU and/or private coll/univ; UC. (CAN PSY 10)

**Behavioral Sciences:**

**Social Work**

**Description**
Social work is an applied behavioral science that emphasizes the application of behavioral science principles in a variety of cultural contexts. Although it is a behavioral science, its application typically involves personal and/or cultural philosophical beliefs or values. Social Work students are expected to be able to think critically and scientifically about behavior, and be able to apply the principles of the behavioral sciences, and have an understanding of the role of values in cultural settings. As a profession, social work focuses on methods to improve the quality of life for people by working with many different kinds of social groups.

**Program Emphasis**
The social work program has two primary goals. The first is to provide the basic science courses that are foundations for further understanding of other courses in social work and related fields as well as preparation for transfer to other institutions for further study. The second goal is to provide courses that may include additional information regarding the Behavioral Sciences that are of general interest to community college students, or are applications of Behavioral Science principles.

**Faculty**
There are no full-time faculty in the social work program.

**Career Options**
Most career options directly related to professional (licensed) social work require graduate level degrees. However, there are several applied and paraprofessional occupations that may not require education beyond the associate degree. The following is a sample of the many settings in which individuals with preparation in social work beyond the associate degree may find employment: social services departments, hospitals, academic and community mental health facilities, child care programs, services for the aged, alcohol and other drug treatment programs, family services agencies, and other community organizations.

**Academic Programs**
The associate degree in social work requires completion of the courses listed for the degree. Additional general education and graduation requirements for the associate degree are listed in the catalog. The associate degree requires a minimum of 60 units.
Associate in Science Degree: Behavioral Sciences

Social Work Emphasis

Courses Required for the Major: Units

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
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<tbody>
<tr>
<td>BIOL 107, General Biology, Lecture &amp; Laboratory</td>
<td>4</td>
</tr>
<tr>
<td>ECON 120, Principles of Economics I</td>
<td>3</td>
</tr>
<tr>
<td>HEAL 101, Health and Life-Style</td>
<td>3</td>
</tr>
<tr>
<td>PSYC 101, General Psychology</td>
<td>3</td>
</tr>
<tr>
<td>PSYC 135, Marriage and Family Relationships</td>
<td>3</td>
</tr>
<tr>
<td>SOCO 101, Principles of Sociology</td>
<td>3</td>
</tr>
<tr>
<td>SOCO 110, Contemporary Social Problems</td>
<td>3</td>
</tr>
<tr>
<td>PSYC 258, Behavioral Statistics OR</td>
<td></td>
</tr>
<tr>
<td>MATH 119, Elementary Statistics</td>
<td>3</td>
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</table>

Total Units = 25

Transfer Information

Students planning to transfer to a four-year college or university should complete courses required for the university major and the general education pattern required by that transfer institution. See catalog TRANSFER INFORMATION section. Additional courses may be required to meet university lower-division requirements. Course requirements at the transfer institution are subject to change and may be verified by a counselor or by consulting the current university catalog. Many Baccalaureate in Arts degrees require third semester competency in a foreign language. Consult the current catalog of the transfer institution and consult with a counselor.

San Diego State University

Social Work, B.A. : Biology 105, 106 (Miramar) or 107; Economics 120 or 121; Health Education 101; Human Services 110 (City), 120 (City); Psychology 101; Biology 200 or Psychology 258 or Mathematics 119; Sociology 101.

University of California, San Diego

The social work major is not offered by UCSD.

Courses

There are no courses specific to the Social Work discipline.

Behavioral Sciences: Sociology

Description

Sociology is a behavioral science that emphasizes relationships among people from simple face-to-face relationships through formal organizations to whole societies. Sociology’s subject matter ranges from the intimate family to the hostile mob, from crime to religion, from divisions of race and social class to the shared beliefs of a common culture, from the sociology of work to the sociology of sports. Sociologists seek to understand interaction of individuals with institutions and social organizations and the norms, values, beliefs, and traditions that make social life possible and meaningful. It stresses how behavior is influenced by societal structures and how consensus (agreement) and conflict (disagreement) among groups affects society. Sociology students are expected to be able to think critically and scientifically about human behavior, and to be able to apply the principles of sociology to an understanding of behavior.

Program Emphasis

The sociology program has two goals. The first goal is to provide basic sociology courses that are foundations for further understanding of other courses in sociology and related fields and to prepare for transfer to baccalaureate institutions for further study. The second goal is to offer courses that may provide additional information regarding sociology of interest to community college students, or that are applications of sociological principles.

Faculty

There are no full time faculty members in the Sociology program.

Career Options

Most career options directly related to sociology require graduate level degrees. However, there are several applied and paraprofessional occupations that may not require education beyond the associate degree. The list following includes some of the many career options available with preparation in sociology beyond the associate degree: advertising researcher, community college professor, criminologist, manager, probation officer, social services professional, and university professor.

Academic Programs

The associate degree with a major in Behavioral Sciences with an emphasis in Sociology requires completion of the courses listed below. Additional general education and graduation requirements for the associate degree are listed in the catalog. The associate degree requires a minimum of 60 units.
Associate in Arts Degree: Behavioral Sciences
Sociology Emphasis

Courses Required for the Major: Units
SOCO 101, Principles of Sociology ...................... 3
SOCO 110, Contemporary Social Problems .............. 3
PSYC 258, Behavioral Statistics OR
MATH 119, Elementary Statistics ........................ 3
Electives - transferable, general education .......... 9
Total Units = 18

Recommended electives: Sociology 290; transferable
computer, mathematics and philosophy courses.

Transfer Information
Students planning to transfer to a four-year college or
university should complete courses required for the
university major and the general education pattern
required by that transfer institution. See catalog
TRANSFER INFORMATION section. Additional courses
may be required to meet university lower-division
requirements. Course requirements at the transfer
institution are subject to change and may be verified
by a counselor or by consulting the current university
catalog. Many Baccalaureate in Arts degrees require
third semester competency in a foreign language.
Consult the current catalog of the transfer institution
and consult with a counselor.

California State University - San Marcos
Sociology, B.A.: Sociology 101 and Psychology 258.

San Diego State University
Sociology, B.A.: Sociology 101 and 110; Psychology
258 or Mathematics 119. Third semester foreign
language competency.

University of California, San Diego
Sociology, B.A.: Sociology 101 and 110 or 201 (Mesa);
Psychology 255 (Mesa).

Courses

Sociology (SOCO)

101 Principles of Sociology 3 hours, 3 units
Advisory: English 51 and 56, each with a grade of “C” or
better, or equivalent, or Assessment Skill Levels W5
and R5.
The basic facts, concepts and generalizations of
sociology. The scientific study of social interaction and
organization with special reference to present-day
America. (FT) Transfer Credit: CSU and/or private coll/
univ.; UC transfer limitations. See a counselor. (CAN
SOC 2)

110 Contemporary Social Problems 3 hours, 3 units
Advisory: English 51 and 56, each with a grade of “C” or
better, or equivalent, or Assessment Skill Levels W5
and R5.
Identification and analysis of present-day social
problems in the United States, with emphasis on
sociological factors involved. Scientific method of
approach to and criteria for evaluating proposals for
social betterment. (FT) Transfer Credit: CSU and/or
private coll/univ.; UC. (CAN SOC 4)
Description
The Bilingual Studies program provides an interdisciplinary approach to the interaction of the Chicano with other cultures in a bilingual, multicultural setting. It helps to prepare students for transfer to a four-year university major in Liberal Studies with an emphasis in Elementary Education. Bilingual Studies enhances understanding of one of the country’s fastest growing population groups.

Program Emphasis
Bilingual Studies courses are taught in English and the curriculum is designed to meet District and baccalaureate general education and multicultural course requirements. The program offers courses in bilingual studies, Chicano culture, history of Mexico and the United States, language and literature, speech, music and physical education.

Faculty Office Telephone
Ternot MacRenato A1-M (619) 388-3634
Cruz Rangel A1-C (619) 388-3237

Career Options
Students completing the associate degree in Bilingual Studies will be able to work as teachers’ aides in bilingual elementary classrooms. Students who complete the additional lower division transfer requirements for San Diego State University will be able to transfer with junior standing in the Liberal Studies major with emphasis in Elementary Education. This major prepares students to become elementary school teachers both in traditional and bilingual, bicultural classrooms.

Academic Programs
The associate degree in Bilingual Studies requires completion of the courses listed below. Additional general education and graduation requirements for the associate degree are listed in the catalog. The associate degree requires a minimum of 60 units.

Associate in Arts Degree:
Bilingual Studies

Courses Required for the Major: Units
CHIC 141A, 141B, U.S. History from Chicano Perspective ................................................................. 3,3
CHIC 203, Introduction to Spanish for Spanish Speakers AND
CHIC 204, Intermediate Spanish for Spanish Speakers OR
SPAN 201, Third Course in Spanish AND
SPAN 202, Fourth Course in Spanish ....................... 10
ENGL 101, Reading and Composition ........................... 3
MUSI 110, Music for Elementary School Teachers ...... 3
PHYE 240, Physical Education in the Elementary School ................................................................. 3
SPEE 103, Oral Communication .................................. 3
Total Units = 28

Recommended electives: Courses that meet lower division preparation for the San Diego State University Liberal Studies major with an emphasis in Education. See a counselor.

Transfer Information
Students planning to transfer to a four-year college or university should complete courses required for the university major and the general education pattern required by that transfer institution. See catalog TRANSFER INFORMATION section. Additional courses may be required to meet university lower-division requirements. Course requirements at the transfer institution are subject to change and may be verified by a counselor or by consulting the current university catalog. Many Baccalaureate in Arts degrees require third semester competency in a foreign language. Consult the current catalog of the transfer institution and consult with a counselor.

San Diego State University
Liberal Studies Major with Emphasis in Education, B.A.: Consult a counselor for additional lower division general education and major preparation requirements.

University of California, San Diego
UCSD does not offer a Bilingual Studies major. See the UCSD catalog, Literature and Teacher Education major.
Biology

Description
Biology is a natural science that focuses on physical and chemical processes of living organisms. This discipline explores how organisms acquire and use energy to maintain homeostasis, how they reproduce, and how they interact with each other and their environment. Scientific processes are emphasized as a means of answering these biological questions. Biologists rely heavily on a chemistry foundation since living organisms are chemical systems.

Program Emphasis
The biology program serves four areas of study. First, it provides a broad background of studies for the biology major preparing for transfer to a four-year institution. Second, the Applied Biology curriculum provides preparation for entry level employment as a biotechnology technician. The biology program also offers support courses in human anatomy, human physiology and general microbiology which may be used to satisfy prerequisites for nursing programs and other allied health fields. Fourth, the biology program provides courses in natural science to fulfill general education requirements.

Faculty Office Telephone
Dianne L. Anderson A-229 (619) 388-3289
Joyce Costello A-229 (619) 388-3581
Minou Djawdan-Spradley A-229 (619) 388-3290
Michael J. Leboffe A-228 (619) 388-3285
David Singer A-227 (619) 388-3277
Gary Wisehart A-227 (619) 388-3789

Career Options
The following list is a sample of the many career options available for the biology major. A few of these require an associate degree; most require a baccalaureate degree and some require a graduate level degree: agricultural consultant, animal health technician, biotechnology technician, dentist, environmental consultant, field biologist, forester, horticulturist, high school or college teacher, marine biologist, microbiologist, public health technician, physician, pharmaceutical researcher, research biologist and veterinarian. In addition, a background in biology may be required for the following: registered nurse, physical therapist, respiratory therapist, dental hygienist, medical technician, physician's assistant and optometrist.

Academic Programs
The three associate degrees in biology require completion of the courses listed below. Additional general education and graduation requirements for the associate degree are listed in the catalog. The Associate Degree requires a minimum of 60 units.

Certificate of Completion:
Applied Biotechnology*

Students may take the specific biotechnology courses (Biology 132 and 133 at Miramar College, or Biology 206 or 207 at City College) and receive a Certificate of Completion authorized and issued by the academic department. It is not intended to nor will it be recognized as an official state approved program. It is intended to provide students with intensive laboratory skills development experience to meet entry-level employment requirements in the biotechnology industry.

Courses:

<table>
<thead>
<tr>
<th>BIOL 132, Applied Biotechnology I (Miramar) &amp;</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOL 133, Applied Biotechnology II (Miramar)</td>
<td></td>
</tr>
<tr>
<td>OR</td>
<td></td>
</tr>
<tr>
<td>BIOL 206, Biotechnology Instrumentation</td>
<td></td>
</tr>
<tr>
<td>OR</td>
<td></td>
</tr>
<tr>
<td>BIOL 207, Bioproduction Technology ..........</td>
<td>6-8</td>
</tr>
</tbody>
</table>

Total Units = 6 - 8

*This is a department award in recognition of information on the transcript and does not imply that a graduation requirement has been met.

Certificate of Completion:
Lab Assistant*

Successful completion of this program qualifies individuals for employment as lab assistants in settings such as the biotechnology industry, bioscience research institutions and academic institutions. Eligibility for Mathematics 96 is strongly recommended before taking this program. Required courses must be completed with a grade of “C” or better. Further education beyond this
program could lead to broader opportunities as a lab technician.

**Courses**

<table>
<thead>
<tr>
<th>Courses</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHEM 100, Fundamentals of Chemistry</td>
<td>3</td>
</tr>
<tr>
<td>CHEM 100L, Fundamentals of Chemistry Lab</td>
<td>1</td>
</tr>
<tr>
<td>BIOL 124, Basic Lab Skills in Biology</td>
<td>3</td>
</tr>
</tbody>
</table>

**Total Units = 7**

*This is a department award in recognition of information on the transcript and does not imply that a graduation requirement has been met.

### Associate in Science Degree: Biology

#### Transfer Track

**Courses Required for the Major:**

<table>
<thead>
<tr>
<th>Courses</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOL 210A &amp; 210B, Introduction to the Biological Sciences I, II</td>
<td>4,4</td>
</tr>
<tr>
<td>CHEM 200, 200L, General Chemistry I &amp; Laboratory</td>
<td>3,2</td>
</tr>
<tr>
<td>CHEM 201, 201L, General Chemistry II &amp; Laboratory</td>
<td>3,2</td>
</tr>
<tr>
<td>MATH 121, Basic Techniques of Applied Calculus I &amp;</td>
<td></td>
</tr>
<tr>
<td>MATH 122, Basic Techniques of Calculus II</td>
<td></td>
</tr>
<tr>
<td>OR MATH 150, Calculus Analytical Geometry I</td>
<td>5-6</td>
</tr>
</tbody>
</table>

**Total Units = 23 - 24**

**Recommended electives:** Biology 100, 101 (City), 110, 115, 124, 130 (Mesa), 180, 200, 205, 215, 230, 232, 235, 250 (Mesa & Miramar) 290, 296.

### Associate in Science Degree: Biology

#### Applied Biology Track

**Courses Required for the Major:**

<table>
<thead>
<tr>
<th>Courses</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOL 105, 106, Principles of Biology &amp; Laboratory (Miramar)</td>
<td>3,1</td>
</tr>
<tr>
<td>OR BIOL 107, General Biology - Lecture &amp; Laboratory</td>
<td>4</td>
</tr>
<tr>
<td>BIOL 205, General Microbiology</td>
<td>5</td>
</tr>
<tr>
<td>BIOL 230, Human Anatomy</td>
<td>4</td>
</tr>
<tr>
<td>BIOL 235, Human Physiology</td>
<td>4</td>
</tr>
<tr>
<td>CHEM 100, 100L, Fundamentals of Chemistry &amp; Laboratory</td>
<td>3,1</td>
</tr>
</tbody>
</table>

**Total Units = 21**

**Recommended electives:** Biology 101 (City), 130 (Mesa), 180, 205, 215, 250; Chemistry 130, 130L.

### Transfer Information

Students planning to transfer to a four-year college or university should complete courses required for the university major and the general education pattern required by that transfer institution. See catalog TRANSFER INFORMATION section. Additional courses may be required to meet university lower-division requirements. Course requirements at the transfer institution are subject to change and may be verified by a counselor or by consulting the current university catalog. Many Baccalaureate in Arts degrees require competency in a foreign language. Consult the current catalog of the transfer institution and consult with a counselor.

**California State University, San Marcos**

**Biological Sciences, B.S.:** Complete the associate degree in Biology, Transfer Track, and add Chemistry 231, 231L, 233, 233L; and Mathematics 150 and 151 (City, Mesa).
San Diego State University

Biology, B.S., Applied Arts & Sciences,
General: Biology 210A, 210B or 215 and 250;
Chemistry 200, 200L, 201, 201L, 213, 213L or 232L;
Mathematics 121, 122; Physics 120A, 120B, 121A, 121B or Physics 124A, 124B.

Biology, Single Subject Teaching Credential,
B.S.: Biology 210A, 210B, 200; Chemistry 200, 200L, 201, 201L, 231, 231L or 232L;
Mathematics 121, 122 or 150; Physics 120A, 120B, 121A, 121B, 124A, 124B; Astronomy 101; Geology 100, 101.

Bioengineering, B.S.: Biology 210A, 210B; Chemistry 200, 200L, 201, 201L, 213 or 232 and 232L;
Engineering 200, 210, 260; Mathematics 150, 151, 252; Physics 195A, 195B, 195C.

University of California, San Diego

Biology, General Biology, B.S.: Select three courses from the following: Biology 210A and 210B, Chemistry 100 and 100L, 130 and 130L, 200 and 200L, 201 and 201L, Physics 195A, 195B, 195C; Select three courses (at least one from Calculus) from: Mathematics 121, 122, 150, 151, 252, Philosophy 101; Computer and Information Sciences 192; Mathematics 119. Note: Chemistry 231, 231L, 232L, 233 may be taken in preparation for this major.

Bioengineering, B.S., Biotechnology: Mathematics 150, 151, 252, 254, 255; Physics 195A,B,C; Computer and Information Sciences 192 or Engineering 115(Mesa); Biology 210A; Chemistry 200, 200L, 201, 201L.

*Admission by department approval only.

Courses

Biology (BIOL)

101 Issues in Environmental Biology
3 hours lecture, 3 hours lab, 4 units

Prerequisite: English 51 and 56, each with a grade of "C" or better or equivalent, or Assessment Skill Levels W5 and R5.

Limitation on Enrollment: This course is not open to students with credit for Biology 100.

This is a course in contemporary issues in environmental biology. Topics include basic ecological principles, biodiversity, human population dynamics, human resource management, and pollution. These are viewed within the context of their environmental, economic, cultural, and ethical setting. Issues are examined utilizing the process of scientific inquiry. The laboratory is coordinated with lectures, and emphasizes the environmental issues of Southern California. Several field trips will be required, some on the weekend. (FT) Transfer Credit: CSU and/or private coll/univ. UC Transfer Credit: Biology (BIOL) 100, 101, and 120 combined: maximum credit, one course. No credit for Biology 101 if taken after 100.

107 General Biology - Lecture and Laboratory
3 hours lecture, 3 hour lab, 4 units

Grade Only

Advisory: English 51 and 56, each with a grade of “C” or better, or equivalent, or Assessment Skill Levels W5 and R5; and Mathematics 95 with a grade of “C” or better, or equivalent, or Assessment Skill Level M40.

Limitation on Enrollment: This course is not open to students with credit for Biology 103, 104, or 105, 106, or 210A and 210B.

This course is an examination of living organisms and their environment. The lecture and laboratory are intended for students planning on taking more advanced courses in the Life Sciences or students majoring in Education, Child Development, Physiological Psychology, or related areas. Topics that are emphasized in this course include the fundamental chemical and physical processes common to all living organisms, the interactions between organisms and their environment, classical and molecular genetics, metabolism, plant and animal anatomy and physiology, animal behavior, evolution, cellular and molecular biology, and the experimental and cognitive processes used to examine these fields. (FT) Transfer Credit: CSU and/or private coll/univ. UC Transfer Credit: No credit for Biology (BIOL) 105, 106 or 107 if taken after 210AB. (CAN BIOL 2) (CAN BIOL SEQ A=BIOL 107+215+250)

110 Introduction to Oceanography
3 hours, 3 units

Advisory: English 51 and 56, each with a grade of “C” or better, or equivalent, or Assessment Skill Levels W5 and R5.

This is an introductory course designed to acquaint the student with general oceanography. Topics include history of oceanography, sea floor properties, plate tectonics, properties of sea water, ocean currents, waves and tides, life in the sea, pollution, and the significance of the oceans to humans. (FT) Transfer Credit: CSU and/or private coll/univ.; UC.
115 Marine Biology
3 hours lecture, 3 hours lab, 4 units
Advisory: Completion of or concurrent enrollment in English 51 and 56, each with a grade of “C” or better, or equivalent, or Assessment Skill Levels W5 and R5. This course in biology is designed to serve as an elective in the natural sciences. This is a survey of the marine organisms, emphasizing their natural history and special adaptations to the ocean environment. Topics include the marine environment, plankton, marine plants, marine invertebrates, fishes, marine birds, and marine mammals. Several field trips are required to local marine habitats, Sea World, Stephen Birch Aquarium and the Natural History Museum. (FT) Transfer Credit: CSU and/or private coll/univ.; UC.

124 Basic Laboratory Skills in Biology
2 hours lecture, 3 hours lab, 3 units
This course is designed to develop the basic laboratory skills including measurement, preparation of lab reagents, safety and disposal practices, and regulations, aseptic technique, chromatography and electrophoresis. (FT) Transfer Credit: CSU and/or private coll/univ.

130 Human Heredity
3 hours, 3 units
Advisory: English 51 with a grade of “C” or better, or equivalent, or Assessment Skill Level W5.
A course studying mechanisms of human heredity, effects of inheritance on human processes and implications of recent genetic knowledge on the welfare of man. (FT) Transfer Credit: CSU and/or private coll/univ.; UC.

180 Plants and People
3 hours, 3 units
Advisory: English 51 and 56, each with a grade of “C” or better, or equivalent, or Assessment Skill Levels W5 and R5.
This is an introductory course that examines the interdependence of humans and plants and meets Natural Science General Education requirements. Emphasis is on plant ecology as well as the basic biology of plant groups that provide us with food, medicine, recreation, decoration, and material goods as well as those that produce stimulating, intoxicating, or harmful effects. Basic principles of taxonomy, cell structure, plant physiology, plant anatomy, ecology and genetics are explored as they relate to these plants. Current environmental and economic issues and the role of molecular genetics in future plant development and the importance of genetic diversity are also examined. (FT) Transfer Credit: CSU and/or private coll/univ.; UC.

200 Biological Statistics
2 hours lecture, 3 hours lab, 3 units
Grade Only
Prerequisite: Biology 105 and 106, or Biology 107 and Mathematics 116, each with a grade of “C” or better, or equivalent.
This is an introductory course in statistics using biological examples and experimental design. Students learn methods and gain experience in defining and solving quantitative problems in biology. Descriptive and inferential statistics, basic probability, binomial and normal distributions are introduced. Students learn to estimate population parameters, test hypotheses, linear regression and correlation using clinical and biological data and experiments. This course is applicable for biological science majors and required for preparation for San Diego State University biology majors. (FT) Transfer Credit: CSU and/or private coll/univ. UC Transfer Credit: Biology (BIOL) 200 combined with Mathematics 119 or Psychology 258: maximum credit, one course.

205 General Microbiology
3 hours lecture, 6 hours lab, 5 units
Prerequisite: Biology 105 and 106 or Biology 107 and Chemistry 100 and 100L, each with a grade of “C” or better, or equivalent.
This introductory course covers fundamental aspects of microbiology including taxonomy, anatomy, growth and reproduction, metabolism, genetics and applications, host-parasite relations, immunology, and control of microorganisms. Emphasis in the laboratory is upon basic methods for culturing, staining, enumerating, differentiating and identifying microorganisms. The course meets requirements to enter paramedical or medical fields. (FT) Transfer Credit: CSU and/or private coll/univ.; UC. (CAN BIOL 14)

206 Biotechnology Instrumentation
3 hours lecture, 9 hours lab, 6 units
Grade Only
Prerequisite: Biology 105 and 106 or 107, and Biology 205, and Chemistry 200, 200L, and Chemistry 201 and 201L, each with a grade of “C” or better, or equivalent.
This is an advanced lecture/laboratory course implementing major techniques used in the biotechnology industry. It includes experiences in media preparation, assays and manipulation of DNA and protein, growth of cells and viruses, scientific information retrieval, and technical writing. (FT) Associate Degree Credit.
207 Bioproduction Technology  
3 hours lecture, 9 hours lab, 6 units  
Grade Only

**Prerequisite:** Biology 205 and Chemistry 152 and 152L, each with a grade of "C" or better, or equivalent.

**Limitation on Enrollment:** This course is not open to students with credit for Biology 265, Biology Production Technology.

This course prepares students to work in the biosciences industry as production technicians. A production technician operates and maintains the equipment used to manufacture pharmaceutical products. Students grow bacterial, yeast, insect and mammalian cells and recover and analyze the proteins produced. Students are required to follow good manufacturing practices by maintaining records in order to comply with quality assurance procedures and government regulations. (FT) Transfer Credit: CSU and/or private coll/univ.

210A Introduction to the Biological Sciences I  
3 hours lecture, 3 hours lab, 4 units  
Grade Only

**Prerequisite:** Chemistry 151 or Chemistry 152 and Chemistry 152L, each with a grade of "C" or better, or equivalent.

**Advisory:** English 51 and English 56, each with a grade of "C" or better, or equivalent, or Assessment Skill Level W5 and R5. Concurrent enrollment in CHEM 200 and 200L.

This course covers biological chemistry, cell structure and function, cellular metabolism, classical and molecular genetics, and evolutionary biology. This is the first semester of a two-semester sequence designed for biological science and pre-professional majors. (FT) Transfer Credit: CSU and/or private coll/univ. UC Transfer Credit: Biology (BIOL) 210AB combined with 215 and 250: maximum credit: one series. (CAN BIOL 4). (CAN BIOL SEQ A=BIOL 107+215+250)

210B Introduction to the Biological Sciences II  
3 hours lecture, 3 hours lab, 4 units  
Grade Only

**Prerequisite:** Biology 205 and 106 or 107, each with a grade of "C" or better, or equivalent.

Advisory: Biology 230 and Chemistry 100 and 100L, each with a grade of "C" or better, or equivalent.

This introductory course is a continuation of Biology 210A. This course emphasizes the developmental and physiological processes of the Five Kingdoms, the phylogenetic relationships of major evolutionary groups of organisms, behavior, and ecological principles including population and community ecology. (FT) Transfer Credit: CSU and/or private coll/univ. UC Transfer Credit: Biology (BIOL) 210A/B combined with 215 and 250: maximum credit, one series.

215 Introduction to Zoology  
2 hours lecture, 6 hours lab, 4 units  
Grade Only

**Prerequisite:** Biology 105 and 106 or 107, each with a grade of "C" or better, or equivalent.

The basic principles of animal biology, surveying the morphology and life processes, and evolutionary relationships of the invertebrate and vertebrate animals. Laboratories include identification of organisms, dissection and anatomy of various types, embryological development, histology, and field trips. (FT) Transfer Credit: CSU and/or private coll/univ. UC Transfer Credit: Biology (BIOL) 210AB combined with 215 and 250: maximum credit: one series. (CAN BIOL 4). (CAN BIOL SEQ A=BIOL 107+215+250)

230 Human Anatomy  
2 hours lecture, 6 hours lab, 4 units  
Grade Only

**Prerequisite:** Biology 105 and 106, or 107, each with a grade of "C" or better, or equivalent.

This course is a systems approach to the study of human body structure from the microscopic level of organization to the gross level. Structure is related to function from the study of histological slides, photomicrographs, anatomical models and charts, and mammalian (cat) dissection. This course is intended to meet the requirements of students in the fields of nursing, physical therapy, recreational therapy, occupational therapy, athletic training, chiropractic, psychology, physical education, and biology or those who wish to extend their knowledge of the human body beyond the scope of introductory biology. Transfer Credit: CSU and/or private coll/univ., UC. (CAN BIOL 10) (CAN BIOL SEQ B = BIOL 230 + 235.)

232 Experience in Human Dissection  
3 hours lab, 1 units

**Prerequisite:** Biology 230 with a grade of “C” or better, or equivalent.

Advisory: Preregistration counseling with instructor is highly recommended.

This course provides a supervised study and actual experience in human dissection. Mastery of dissection techniques and human anatomy at this level assists students pursuing careers in nursing, medicine, and other allied health professions. (FT) Transfer Credit: CSU and/or private coll/univ.

235 Human Physiology  
3 hours lecture, 3 hours lab, 4 units

**Prerequisite:** Biology 230 with a grade of “C” or better, or equivalent.

Advisory: Biology 230 and Chemistry 100 and 100L, each with a grade of “C” or better, or equivalent.
This is an introductory course which investigates the functions of the human body with emphasis on the nervous, endocrine, muscular, cardiovascular, respiratory, digestive, excretory and reproductive systems. This course is intended to meet requirements for students in the fields of nursing, paramedical sciences, psychology, biology and physical education.

Transfer Credit: CSU and/or private coll/univ.; UC. (CAN BIOL 12) (CAN BIOL SEQ B = BIOL 230 + 235)

290 Independent Study

Hours by Arrangement: 1-3 units

Limitation on Enrollment: Must obtain an Add Code from instructor for registration.

A student may sign up for 1 to 3 units each semester for a maximum of 6 units. For advanced students in biology who wish to continue with a special investigation. The course consists of individualized research problems, conferences with the instructor at prearranged intervals and a final report on the work completed. This course may be taken four times with different content for a maximum of six units. Transfer Credit: CSU and/or private coll/univ.; UC transfer limitations. See a counselor.

This discipline may offer specialized instruction in one or more of the following areas: Supervised Tutoring (044), Special Topics (265), Independent Study (290), Individualized Instruction (296), Service Learning (277), Applied Applications and Software Skills (045L), or Work Experience (270). Detailed course descriptions are listed on page 94. Please refer to the class schedule and/or see the dean or department chair for availability.

Description

The Black Studies program at City College provides an interdisciplinary and systemic approach to the historical and contemporary study of African people in Africa and in the Americas. The program is designed to provide enrichment in the social sciences and humanities by giving students in these areas the opportunity to link the tools of formal analysis to a specific cultural area in the African experience. The student’s career and future alternatives may be increased by adding a specialized dimension at the undergraduate level. Students preparing for transfer to a four-year university may major in a African Studies or humanities, law, social work, or public administration. This will enhance their opportunities in local, national and international organizations, both public and private, through participation in the program.

Program Emphasis

Black Studies courses are taught in English. The curriculum includes transfer courses which help to meet District and baccalaureate general education and multicultural requirements. The program offers courses in African history, as well as art, economics, United States history, literature, music, Psychology, Sociology and politics from a Black perspective.

Faculty  Office  Telephone
Nathan Katungi  A1-E  (619) 388-3365
Alazar Tesfamariam  A1-E  (619) 388-3366
Donna Watson  C224-B  (619) 388-3795

Career Options

Most careers related to Black Studies require education beyond the associate degree. A list of some sample careers include: social scientist, counselor, international business person, historian, social worker, teacher and public administrator.

Academic Programs

The associate degree in Black Studies requires completion of the courses listed below. Additional general education and graduation requirements for the associate degree are listed in the catalog. The associate degree requires a minimum of 60 units.
### Associate in Arts Degree: Black Studies

**Courses Required for the Major:**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>BLAS 100</td>
<td>Introduction to Black Studies</td>
<td>3</td>
</tr>
<tr>
<td>BLAS 104, OR</td>
<td>Black Psychology</td>
<td>3</td>
</tr>
<tr>
<td>BLAS 130</td>
<td>The Black Family</td>
<td>3</td>
</tr>
<tr>
<td>BLAS 110, OR</td>
<td>Afro-American Art</td>
<td>3</td>
</tr>
<tr>
<td>BLAS 120</td>
<td>Black Music</td>
<td>3</td>
</tr>
<tr>
<td>BLAS 115, OR</td>
<td>Sociology from a Black Perspective</td>
<td>3</td>
</tr>
<tr>
<td>BLAS 116</td>
<td>Contemporary Social Problems from a Black Perspective</td>
<td>3</td>
</tr>
<tr>
<td>BLAS 135</td>
<td>Introduction to Black Politics</td>
<td>3</td>
</tr>
<tr>
<td>BLAS 140A</td>
<td>History U.S., Black Perspective</td>
<td>3</td>
</tr>
<tr>
<td>BLAS 140B</td>
<td>History U.S., Black Perspective</td>
<td>3</td>
</tr>
<tr>
<td>BLAS 145A</td>
<td>Introduction to African History</td>
<td>3</td>
</tr>
<tr>
<td>BLAS 145B</td>
<td>Introduction to African History</td>
<td>3</td>
</tr>
<tr>
<td>BLAS 150</td>
<td>Black Women in Literature and the Media OR</td>
<td>3</td>
</tr>
<tr>
<td>BLAS 155</td>
<td>Afro-American Literature</td>
<td>3</td>
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</tbody>
</table>

**Total Units = 21**

**Recommended electives:** Black Studies 165, 290, 296.

---

### Courses

**Black Studies (BLAS)**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>100</td>
<td>Introduction to Black Studies</td>
<td>3</td>
<td>3 hours lecture, 3 units&lt;br&gt;Advisory: English 51 or English 56 with a grade of &quot;C&quot; or better, or equivalent, or Assessment Skill Levels W5 or R5.&lt;br&gt;This course is a survey of the Black Studies discipline including its social and academic origins, goals and development. Emphasis is placed on providing students with an understanding of the fundamental areas of study within the field and of the interdisciplinary approach to studying the African experience in America and the world. This course is intended for students who wish to major in Black Studies and/or who wish to gain general knowledge of the Black experience. Transfer Credit: CSU and/or private coll/univ.; UC.</td>
</tr>
<tr>
<td>104</td>
<td>Black Psychology</td>
<td>3</td>
<td>3 hours, 3 units&lt;br&gt;Advisory: English 51 or 56 with a grade of &quot;C&quot; or better, or equivalent, or Assessment Skill Level W5 or R5.&lt;br&gt;An introduction to some of the psychological principles and concepts of understanding the Black experience. A course in psychology recommended for students interested in broadening their understanding of Black behavior. Transfer Credit: CSU and/or private coll/univ. UC Transfer Credit: Black Studies (BLAS) 104 combined with Chicano Studies 105 or Psychology 101: maximum credit, one course.</td>
</tr>
<tr>
<td>110</td>
<td>Afro-American Art</td>
<td>3</td>
<td>3 hours, 3 units&lt;br&gt;Advisory: English 51 or 56 with a grade of “C” or better, or equivalent, or Assessment Skill Level W5 or R5.&lt;br&gt;An historical approach to the foundations of the Art of Black Americans from 1650 to present, including the influence of African and European art styles and traditions. Transfer Credit: CSU and/or private coll/univ.; UC.</td>
</tr>
<tr>
<td>115</td>
<td>Sociology from a Black Perspective</td>
<td>3</td>
<td>3 hours, 3 units&lt;br&gt;Advisory: English 51 or 56 with a grade of “C” or better, or equivalent, or Assessment Skill Level W5 or R5.&lt;br&gt;A course which examines origins, nature, structure, and dynamics of Afro-American life through a systematic analysis of Black society and culture. Transfer Credit: CSU and/or private coll/univ. UC Transfer Credit: Black</td>
</tr>
</tbody>
</table>

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**San Diego State University**

Africana Studies, B.A.: Black Studies 140A, 140B or Black Studies 104.

**University of California, San Diego**

Ethnic Studies, B.A.: History 113 (Mesa).
Studies (BLAS) 115 and Sociology 101 combined: maximum credit, one course.

116 Contemporary Social Problems from a Black Perspective

3 hours, 3 units
Advisory: English 51 or 56 with a grade of “C” or better, or equivalent, or Assessment Skill Level W5 or R5.
A sociological analysis of institutional variation and the process of social change, and how it affects the Black American. An exploration of those group variations in life style which cannot be accounted for by social condition. Emphasizes contemporary urban situations. An examination of the relations between various racial, cultural, ethnic, and minority groups. Transfer Credit: CSU and/or private coll/univ.; UC.

120 Black Music

3 hours, 3 units
Advisory: English 51 or 56 with a grade of “C” or better, or equivalent, or Assessment Skill Level W5 or R5.
An understanding and appreciation of African music and dance. Comparison and contrast of the Black experience in Africa and America as exemplified by their respective cultures. Transfer Credit: CSU and/or private coll/univ.; UC.

130 The Black Family

3 hours, 3 units
Advisory: English 51 or 56 with a grade of “C” or better, or equivalent, or Assessment Skill Level W5 or R5.
A sociological and psychological consideration of the Black family in America. Emphasis is on the socioeconomic/political factors that impinge on the Black family structure. Transfer Credit: CSU and/or private coll/univ.; UC.

135 Introduction to Black Politics

3 hours lecture, 3 units
Advisory: English 51 or English 56 with a grade of "C" or better, or equivalent, or Assessment Skill Levels W5 or R5.
This course is a survey of African American experiences with the United States political system from the Colonial era to the present. Emphasis is placed on the role of race in American political culture, practices and institutions as well as the ideas, tactics and organizations developed and employed by African Americans in their struggle for political power. This course is intended for students who wish to major in Black Studies and/or who wish to gain general knowledge of the Black experience. (FT) Transfer Credit: CSU and/or private coll/univ.; UC.

140A History of the U.S., Black Perspectives

3 hours, 3 units
Grade Only
Advisory: English 51 or 56 with a grade of “C” or better, or equivalent, or Assessment Skill Level W5 or R5.
This course is a survey of American history from the colonial period to 1877, with emphasis on the experience of African Americans and the contributions they have made to the political, social, economic, and cultural development of the country. This course is intended for transfer students planning to major in African American Studies, history, political science, or other social sciences. The complete one-year course, 140A and 140B, satisfies the graduation requirement in American Institutions. (FT) Transfer Credit: CSU and/or private coll/univ. UC Transfer Credit: Black Studies 140AB combined with Chicano Studies 141AB, History 109, 110, or 150, 151: maximum credit, one series.

140B History of the U.S., Black Perspectives

3 hours, 3 units
Grade Only
Advisory: English 51 or 56 with a grade of “C” or better, or equivalent, or Assessment Skill Level W5 or R5.
This course covers the history of the United States from Reconstruction to the present with emphasis on African American experience and contributions. It focuses on political, social, economic, cultural, and intellectual trends, the persistence of racism, and the struggle for full equality for all Americans. NOTE: The complete one-year course of Black Studies 140A and 140B satisfies the graduation requirements in American institutions and California state government. Transfer Credit: CSU and/or private coll/univ. UC Transfer Credit: Black Studies 140AB combined with Chicano Studies 141AB, History 109, 110 or 150, 151: maximum credit, one series.

145A Introduction to African History

3 hours lecture, 3 units
Advisory: English 51 and English 56 each with a grade of "C" or better, or equivalent, or Assessment Skill Levels W5 and R5.
This course is a survey of African History from the Stone Age through the beginnings of European colonization in the 1870s. Emphasis is placed on providing students with a broad presentation of the geographical features of the continent and its connections to the rest of the world, local and regional ways of life and institutions, slavery, European conquest and colonization and African resistance to colonization. (FT) Transfer Credit: CSU and/or private coll/univ.; UC.
145B Introduction to African History
3 hours, 3 units
Advisory: English 51 or 56 with a grade of “C” or better, or equivalent, or Assessment Skill Level W5 or R5.
A study of African history in its broad aspects from the 1870s to the present. European colonial rule, African independence movements, nation-building after independence, and the continued struggle for decolonization in Southern Africa will be emphasized.
(FT) Transfer Credit: CSU and/or private coll/univ.; UC.

150 Black Women in Literature and the Media
3 hours, 3 units
Advisory: English 51 or 56 with a grade of “C” or better, or equivalent, or Assessment Skill Level W5 or R5.
Analyzes the literary achievements of Black women. Examines the images of Black women in literature and the media, past and present, including realistic self-images as presented by Black women themselves. (FT) Transfer Credit: CSU and/or private coll/univ.; UC.

155 Afro-American Literature
3 hours, 3 units
Advisory: English 51 or 56 with a grade of “C” or better, or equivalent, or Assessment Skill Level W5 or R5.
Surveys the literary works of Afro-Americans from 1746 to the present. Comparisons are also made to works by non-Black authors. (FT) Transfer Credit: CSU and/or private coll/univ.; UC.

165 Sexuality and Black Culture
3 hours, 3 units
Grade Only
Advisory: English 51 or 56 with a grade of “C” or better, or equivalent, or Assessment Skill Level W5 or R5.
Limitation on Enrollment: This course is not open to students with credit for Black Studies 265: Psychology and Social Aspects of Black Sexuality.
An in-depth examination and analysis of social and psychological factors that determine the nature of human sexuality in the Black community. Transfer Credit: CSU and/or private coll/univ. UC Transfer Credit: Black Studies (BLAS) 165 and Psychology 137: maximum credit, one course.

This discipline may offer specialized instruction in one or more of the following areas: Supervised Tutoring (044), Special Topics (265), Independent Study (290), Individualized Instruction (296), Service Learning (277), Applied Applications and Software Skills (045L), or Work Experience (270). Detailed course descriptions are listed on page 94. Please refer to the class schedule and/or see the dean or department chair for availability.
# BUSINESS STUDIES DEGREE

## CORE

The Core is required for the associate degree in all Business Studies emphasis. All courses in the Core are articulated with San Diego State University courses and some meet California State University and University of California general education requirements. The Core courses also meet all the District general education requirements for an AS Degree except for the science requirement. Business 119 also meets the Districts reading and written expression requirement. To receive a degree in Business Studies, the student must complete the Core and complete one of the six emphasis.

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>BUS 112</td>
<td>Principles of Economics</td>
<td>3</td>
</tr>
<tr>
<td>BUS 113</td>
<td>Business Law &amp; the Legal Environment</td>
<td>4</td>
</tr>
<tr>
<td>CISC 110</td>
<td>Information Processing &amp; Computer Programming</td>
<td>3</td>
</tr>
<tr>
<td>CISC 116</td>
<td>Introduction to Computer Systems &amp; Applications</td>
<td>3</td>
</tr>
<tr>
<td>CISC 128</td>
<td>Computer Science - Software Applications</td>
<td>3</td>
</tr>
</tbody>
</table>

## EMPHASIS

The choice of one of two specializations. The Core must complete the Core and complete one of the six emphases in Business Studies. The Core courses also meet all the District general education requirements. The Core courses also meet all the University of California, San Diego, and California State University general education requirements. All courses in the Core, Emphasis, and Transfer Option are accepted for the associate degree in all Business Studies emphases. All courses in the Core, Emphasis, and Transfer Option are accepted for the associate degree in all Business Studies emphases.

## TRANSFER OPTIONS

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>BUS 100</td>
<td>Business Management</td>
<td>3</td>
</tr>
<tr>
<td>BUS 150</td>
<td>Business Law &amp; the Legal Environment</td>
<td>3</td>
</tr>
<tr>
<td>BUS 155</td>
<td>Business Communications</td>
<td>3</td>
</tr>
<tr>
<td>BUS 157</td>
<td>Marketing Management</td>
<td>3</td>
</tr>
<tr>
<td>BUS 160</td>
<td>Business Research Methods</td>
<td>3</td>
</tr>
<tr>
<td>BUS 161</td>
<td>Business Ethics</td>
<td>3</td>
</tr>
<tr>
<td>BUS 162</td>
<td>Business Communications</td>
<td>3</td>
</tr>
<tr>
<td>BUS 164</td>
<td>Business Law &amp; the Legal Environment</td>
<td>3</td>
</tr>
<tr>
<td>BUS 166</td>
<td>Business Ethics</td>
<td>3</td>
</tr>
<tr>
<td>BUS 168</td>
<td>Business Research Methods</td>
<td>3</td>
</tr>
<tr>
<td>BUS 170</td>
<td>Business Law &amp; the Legal Environment</td>
<td>3</td>
</tr>
<tr>
<td>BUS 172</td>
<td>Business Research Methods</td>
<td>3</td>
</tr>
</tbody>
</table>

## Notes

- Italics = Finance Academy Articulation
- Bold = Articulate to SDSU and other four-year institutions
- * = class meets general education or district graduation requirements
Description
A wide variety of programs are offered for both transfer and career-focused students. Employment mini-certificates, certificates of achievement and associate degree programs are available to students interested in entry-level employment or in upgrading business skills.

Program Emphasis
The Business Studies department offers eight program emphases. These include: the Business Studies Transfer option and seven entry level vocational emphases: Small Business Accounting, Small Business Management, Computer Technology: Computer Repair, Computer Technology: Software Applications, Navy Acquisition Management Training, Labor Studies, and Real Estate. See each emphasis for course requirements for specific vocations.

Faculty Office Telephone
Leroy Brady A-10 (619) 388-3999
Janet Brashars A-16 (619) 388-3660
M. Salley Deaton A-1 (I) (619) 388-3279
Armando Dubon A-16 (G) (619) 388-3663
Barbara Hansen A-10 (619) 388-3899
Alex Obiya A-1 (I) (619) 388-8665

Careers
Career opportunities available upon successful completion of each of the Business Studies emphases are described in each curriculum section. Most careers listed may require education beyond the associate degree level.

Academic Programs
The associate degree in Business Studies requires completion of the courses listed in each degree emphasis. Additional general education and graduation requirements for the associate degree are listed in the Academic Requirements section of the catalog. The Business Studies Transfer Emphasis provides lower division transfer preparation for San Diego State University and School of Business Administration. The associate degree requires a minimum of 60 units.

Core Curriculum
The Business Studies Core Curriculum is required for the associate degree in all Business Studies emphases. All courses in the core are articulated with San Diego State University courses and some meet California State University and University of California general education requirements.

Courses: Units
*BUSE 119, Business Communications OR
   ENGL 101, Reading and Composition............ 3
   BUSE 140, Business Law & the Legal Environment.... 3
   CISC 181, Principles of Information Systems......... 4
   ECON 120, Principles of Economics I ...................... 3
   PHIL 102B, Introduction to Philosophy: Values........ 3
   Total Units = 16

*Business 119 is required for San Diego State University School of Business Administration degrees in Finance, Information Decision Systems, Management, and Marketing.

Transfer Emphasis

Associate in Science Degree:
Business Studies
San Diego State University Business Administration

Courses Required for the Major: Units
Business Studies Core Curriculum..........................16
   ACCT 116A, Principles of Accounting-Financial........ 4
   ACCT 116B, Principles a Accounting-Managerial ...... 4
   ECON 121, Principles of Economics II ................. 3
   MATH 119, Elementary Statistics ....................... 3
   MATH 121, Basic Techniques of Applied Calculus I.... 3
   Total Units = 33

Transfer Information
Students planning to transfer to a four-year college or university should complete courses required for the university major and the general education pattern required by that transfer institution. See catalog TRANSFER INFORMATION section. Additional courses may be required to meet university lower-division requirements. Course requirements at the transfer institution are subject to change and may be verified by a counselor or by consulting the current university catalog. Many Baccalaureate in Arts degrees require third semester competency in a foreign language. Consult the current catalog of the transfer institution and consult with a counselor.
California State University, San Marcos

Business Administration, B.S.: Accounting 116A, 116B; Business 140; Economics 120, 121; Mathematics 121; Psychology 101 or Sociology 101; and computer competency.

San Diego State University

Business Administration, Accounting, B.S.: Accounting 116A, 116B; Business 140; Computer & Information Systems 181; Economics 120, 121; Mathematics 119; Mathematics 116 and 121 or 150.

Economics, B.A.: Economics 120, 121; Computer & Information Sciences 181; Mathematics 119; Mathematics 116 and 121 or 150; Accounting 116A.

Information and Decision Systems, B.S.: Accounting 116A, 116B; Business 119, 140; Computer & Information Sciences 181; Mathematics 116 and 121 or 150; Mathematics 119.

International Business, Latin American Emphasis, B.A.: Accounting 116A, 116B; Economics 120, 121; Business 140; Computer & Information Sciences 181; History 115A, 115B; Mathematics 119; Spanish 202, 210, 211.

Business Administration, Management or Marketing, B.S.: Accounting 116A, 116B; Business 119, 140; Computer & Information Sciences 181; Economics 120, 121; Mathematics 119; Mathematics 116 and 121 or 150.

University of California, Berkeley

Business Administration, B.A.: Accounting 116A, 116B; Computer Information Science 181; Economics 120, 121; Mathematics 119 or Psychology 258; Mathematics 150, 151. Note: Additional English and foreign language courses are required. Consult a counselor.

University of California, San Diego

Economics B.A.: Economics 120 and 121; Mathematics 150, 151 and 252 or Mathematics 121 and 122

Economics, Management Science, B.S.: Accounting 116A or 116B; Mathematics 150, 151, 252 and 254; Economics 120 and 121.

University of San Diego

Economics, B.A.: Business 140; Accounting 116A and 116B; Computer and Information Sciences 181; Economics 120 and 121; Mathematics 150 or 121.

Small Business Accounting Emphasis

<table>
<thead>
<tr>
<th>Small Business Accounting Requirements:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Core</td>
</tr>
<tr>
<td>Certificate of Completion (Some classes may be required in more than one certificate or core)</td>
</tr>
<tr>
<td>Tax preparer</td>
</tr>
<tr>
<td>Small Business Bookkeeper</td>
</tr>
<tr>
<td>Other Requirements</td>
</tr>
<tr>
<td>Accounting 116A/B</td>
</tr>
<tr>
<td>Business 101</td>
</tr>
<tr>
<td>Business 245C</td>
</tr>
<tr>
<td>Speech 180</td>
</tr>
</tbody>
</table>

Many general education and district requirements are already included in the degree requirement. Additional requirements for an AS degree:

- Science
- Health Education
- American Institutions
- P. E.
- Elective

Certificate of Completion:

Tax Preparer*

Completion of the Tax Preparer certificate meets State of California requirements (60 hours of course work) for application for the Tax Preparer's license.

Courses: Units
ACCT 102, Basic Accounting............................ 3
ACCT 120, Federal Income Tax............................ 3
ACCT 121, California Income Tax............................ 1
Total Units = 7

*This is a department award in recognition of information on the transcript and does not imply meeting a graduation requirement.
Certificate of Completion: Small Business Bookkeeper*

The Small Business Bookkeeper's certificate prepares for entry-level employment as a small business bookkeeper.

Courses: Units
ACCT 102, Basic Accounting........................... 3
ACCT 128A, Small Business Accounting - Recordkeeping.......................... 1.5
ACCT 128B, Small Business Accounting - Payroll......1.5
ACCT 150, Computer Accounting Applications ............ 3
Total Units = 9

*This is a department award in recognition of information on the transcript and does not imply meeting a graduation requirement.

Associate in Science Degree:
Business Studies
Small Business Accounting Emphasis

The Small Business Accounting associate degree prepares for entry-level positions as bookkeepers, account clerks, accounting technicians, tax aides or accounting trainees.

Courses Required for the Major Units
(note: some classes may be required in more than one certificate or core):
Business Studies Core Curriculum..........................16
Certificate of Completion, Tax Preparer .................... 7
Certificate of Completion, Bookkeeper .................... 9
Accounting 116A/116B, Business 101/245C,
Speech 180..................................................17
Total Units = 49

Additional general education and graduation requirements for the associate degree are listed in the Academic Requirements section of the catalog. Students interested in careers as professional accountants should select the Business Studies San Diego State University Transfer Option. The associate degree requires a minimum of 60 units.

Small Business Management Emphasis

The Small Business Management emphasis prepares individuals for a variety of employment opportunities in business. Specialization include starting and managing a small business, entry level positions in the financial services industry, the development and management of community service projects; and a cultural understanding of doing business in Mexico.

Small Business Management Emphasis:
(Starting and Managing a Small Business)

Starting and Managing a Small Business Requirements:

<table>
<thead>
<tr>
<th>Core</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Certificate of Achievement (Some classes may be required in more than one certificate or core)</td>
<td></td>
</tr>
<tr>
<td>Management and Team Building Certificate of Completion</td>
<td></td>
</tr>
<tr>
<td>Starting a Business Certificate of Completion</td>
<td></td>
</tr>
<tr>
<td>Business Communications Certificate of Completion</td>
<td></td>
</tr>
</tbody>
</table>

Many general education and district requirements are already included in the degree requirement. Additional requirements for an AS degree:

| Science |       |
| Health Education |       |
| American Institutions |       |
| P. E. |       |
| Elective |       |

Certificate of Completion: Management and Team Building*

This certificate is designed for persons who currently own, operate or work for a small business and want to strengthen business skills.

Courses: Units
BUSE 155, Managing the Small Business ................. 3
BUSE 119, Business Communications.................... 3
BUSE 150, Human Relations in Business ................. 3
MARK 100, Principles of Marketing...................... 3
Total Units = 12

*This is a department award in recognition of information on the transcript and does not imply meeting a graduation requirement.
Certificate of Completion:  
Starting a Business*  
This certificate is designed for persons planning to start or operate a small business who want a “quick start.”

Courses:  
ACCT 128A, Small Business Accounting - Recordkeeping ............................................1.5  
ACCT 128B, Small Business Accounting - Payroll ...........................................1.5  
BUSE 119, Business Communications .........................................................3  
BUSE 155, Managing the Small Business ..........................................................3  
BUSE 157, Starting a Small Business ...............................................................3  
Total Units = 12  
*This is a department award in recognition of information on the transcript and does not imply meeting a graduation requirement.

Certificate of Completion:  
Business Communications*  
This certificate is designed to enhance communication skills for individuals working in a business environment by improving speaking skills, negotiating skills, presentation skills, and multicultural awareness.

Courses:  
BUSE 119, Business Communications .........................................................3  
BUSE 150, Human Relations in Business ..........................................................3  
SPEE 103, Oral Communication .................................................................3  
SPEE 180, Intercultural Communications ....................................................3  
Total Units = 12  
*This is a department award in recognition of information on the transcript and does not imply meeting a graduation requirement.

Certificate of Achievement:  
Business Studies  
Small Business Management Emphasis:  
(Starting and Managing a Small Business)  
This program is designed for persons planning to start, operate or work in a small business. The focus is on managerial, marketing, financial, legal, communication and practical day-by-day decision-making concerns in small business.

Courses Required for the Major  
Units  
Certificate of Completion, Management and Teambuilding ..................................................12  
Certificate of Completion, Starting a Business ..................................................12  
Certificate of Completion, Business Communications ..................................................12  
BUSE 101, Business Mathematics .................................................................3  
BUSE 140, Business Law and the Legal Environment ..................................................3  
CISC 110, Microcomputer Applications OR  
CBTE 180, Microsoft Office .................................................................2-3  
Select 6 units from:  
BUSE 245A, Small Business Internship-Marketing  
BUSE 245B, Small Business Internship-Operations  
BUSE 245C, Small Business Internship-Accounting  
BUSE 245D, Small Business Internship-Buying and Inventory ..................................................6  
Total Units = 50-51

Associate in Science:  
Business Studies  
Small Business Management Emphasis:  
(Starting and Managing a Small Business)  
Courses Required for the Major  
Units  
Business Studies Core Curriculum .................................................................16  
Certificate of Achievement, Small Business Management Emphasis ........ 50-51  
Total Units = 66-67  
Additional general education and graduation requirements for the associate degree are listed in the Academic Requirements section of the catalog. Students who plan to transfer to a four-year college or university should select the Business Studies San Diego State University Transfer option. The associate degree requires a minimum of 60 units.

Recommended electives:  Business 100, 142, 201.
Small Business Management Emphasis: (Community Service)

<table>
<thead>
<tr>
<th>Community Service Requirements:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Core</td>
</tr>
<tr>
<td>Certificate of Completion (Some classes may be required in more than one certificate or core)</td>
</tr>
<tr>
<td>Working Education</td>
</tr>
<tr>
<td>Students in Free Enterprise</td>
</tr>
<tr>
<td>Business Presentations</td>
</tr>
<tr>
<td>Marketing</td>
</tr>
</tbody>
</table>

Other Requirements
- Business 101
- Business 150
- Business 155
- Speech 180

Many general education and district requirements are already included in the degree requirement. Additional requirements for an AS degree:
- Science
- Health Education
- American Institutions
- P. E.

Certificate of Completion: Working Education*

This certificate is designed for persons who want actual job experience running a small business. Areas of specialization include marketing, operations, accounting, and buying and inventory.

Courses: Units
Complete 6-12 units from:
- BUSE 245A, Small Business Internship-Marketing
- BUSE 245B, Small Business Internship-Operations
- BUSE 245C, Small Business Internship-Accounting
- BUSE 245D, Small Business Internship-Buying and Inventory

Total Units = 6-12

*This is a department award in recognition of information on the transcript and does not imply meeting a graduation requirement.

Certificate of Completion: Students in Free Enterprise (SIFE)*

This certificate is designed for persons who want actual job experience in teamwork, leadership, and management. Areas of specialization include projects in the community, elementary and junior high, high school, and on-campus educational activities.

Courses: Units
Complete 6-12 units from:
- BUSE 158A, SIFE - High School Projects OR
  - BUSE 277A, Service Learning-High School Projects
- BUSE 158B, SIFE - Elementary and Junior High Projects OR
  - BUSE 277B, Service Learning-Elementary and Junior High School Projects
- BUSE 158C, SIFE - Community Projects OR
  - BUSE 277C Service Learning - Community
- BUSE 158D, SIFE - On-Campus Educational Projects OR
  - BUSE 277D, Service Learning - on Campus .... 6-12

Total Units = 6-12

*This is a department award in recognition of information on the transcript and does not imply meeting a graduation requirement.

Certificate of Completion: Business Presentations*

This certificate is designed for persons who want to improve their verbal, written, and computer skills.

Courses: Units
BUSE 119, Business Communications .................. 3
CISC 110, Microcomputer Applications OR
CBTE 180, Microsoft Office ........................... 2-3
SPEE 103, Oral Communication ......................... 3

Total Units = 8-9

*This is a department award in recognition of information on the transcript and does not imply meeting a graduation requirement.

Certificate of Completion: Marketing*

This certificate is designed for persons who want a real life experience marketing a real product for a real business.

Courses: Units
BUSE 244, Automobile Promotion Internship......... 3
MARK 100, Principles of Marketing ................. 3
Total Units = 6

*This is a department award in recognition of information on the transcript and does not imply meeting a graduation requirement.

**Associate in Science: Business Studies**

**Small Business Management Emphasis:**
(Community Service)

<table>
<thead>
<tr>
<th>Courses Required for the Major</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Business Studies Core Curriculum</td>
<td>16</td>
</tr>
<tr>
<td>Certificate of Completion, Working Education</td>
<td>6-12</td>
</tr>
<tr>
<td>Certificate of Completion, Students in Free Enterprise</td>
<td>6-12</td>
</tr>
<tr>
<td>Certificate of Completion, Business Presentations</td>
<td>8-9</td>
</tr>
<tr>
<td>Business 101/150/155, Speech 180</td>
<td>12</td>
</tr>
</tbody>
</table>

Total Units = 54-67

Additional general education and graduation requirements for the associate degree are listed in the Academic Requirements section of the catalog.

Students who plan to transfer to a four-year college or university should select the Business Studies San Diego State University Transfer option. The associate degree requires a minimum of 60 units.

**Recommended electives:** Business 100, 142, 201.

**Small Business Management Emphasis:**
(Community Service)

<table>
<thead>
<tr>
<th>Financial Services Requirements:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Core</td>
</tr>
<tr>
<td>Certificate of Completion (Some classes may be required in more than one certificate or core)</td>
</tr>
<tr>
<td>Financial Services</td>
</tr>
<tr>
<td>Job Skills</td>
</tr>
<tr>
<td>Small Business Bookkeeper (See page 125)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Other Requirements</th>
</tr>
</thead>
<tbody>
<tr>
<td>Business 101</td>
</tr>
<tr>
<td>Business 245C</td>
</tr>
<tr>
<td>Speech 180</td>
</tr>
</tbody>
</table>

Many general education and district requirements are already included in the degree requirement. Additional requirements for an AS degree:

- Science
- Health Education
- American Institutions
- P. E.
- Elective

**Certificate of Completion:**

**Financial Services**

This certificate is designed to prepare students for entry-level positions in the financial services industry. Students will study basic financial and investment planning techniques, portfolio management, basic computerized bookkeeping, and current banking and global corporate trends.

<table>
<thead>
<tr>
<th>Courses:</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACCT 102, Basic Accounting</td>
<td>3</td>
</tr>
<tr>
<td>BUSE 113, International Finance</td>
<td>3</td>
</tr>
<tr>
<td>CBTE 180, Microsoft Office</td>
<td>3</td>
</tr>
<tr>
<td>CONF 110, Personal Financial Management</td>
<td>3</td>
</tr>
<tr>
<td>ECON 120, Principles of Economics I</td>
<td>3</td>
</tr>
</tbody>
</table>

Total Units = 15

*This is a department award in recognition of information on the transcript and does not imply meeting a graduation requirement.

**Certificate of Completion:**

**Job Skills**

This certificate concentrates on developing and understanding skills necessary to secure and keep a job such as preparing for interviews and writing resumes.
Learning techniques for time management and organization are also taught.

Courses: Units
BUSE 090A, Learning Skills ..........................1.5
BUSE 090B, Work Success ..............................1.5
BUSE 090C, Business Internship Seminars ..........1
BUSE 090D, Workplace Competencies ..............1.5

Total Units = 5.5

*This is a department award in recognition of information on the transcript and does not imply meeting a graduation requirement.

Certificate of Completion:

Writing/Computation*
This certificate concentrates on improving written and computational skills necessary for entry-level jobs.

Courses: Units
BUSE 101, Business Mathematics .........................3
BUSE 092, Introduction to Business Communications
OR BUSE 119, Business Communications ............3

Total Units = 6

*This is a department award in recognition of information on the transcript and does not imply meeting a graduation requirement.

Associate in Science:

Business Studies

Small Business Management Emphasis:
(Commercial Services)

Courses Required for the Major Units
(note: some classes may be required in more than one certificate or core):
Business Studies Core Curriculum ......................16
Certificate of Completion, Financial Services ........15
Certificate of Completion, Job Skills ....................5.5
Certificate of Completion, Small Business
Bookkeeper ..................................................9
Business 101/245C, Speech 180 .......................9

Total Units = 54.5

Additional general education and graduation requirements for the associate degree are listed in the Academic Requirements section of the catalog. Students who plan to transfer to a four-year college or university should select the Business Studies San Diego State University Transfer option. The associate degree requires a minimum of 60 units.

Recommended electives: Business 100, 142, 201.

Small Business Management Emphasis:
(International)

Certificate of Completion:

Business in Mexico*
This certificate is designed for students who want to improve their international business skills in Mexico. Areas of emphasis include business communications in Spanish, NAFTA law, and understanding the Latin culture.

Courses: Units
ANTH 103, Introduction to Cultural Anthropology ....3
BUSE 142, North American Free Trade Agreement (NAFTA) and the Legal Environment .........3
SPAN 085, Occupational Spanish .........................3

Total Units = 9

*This is a department award in recognition of information on the transcript and does not imply meeting a graduation requirement.

Certificate of Completion:

Bilingual Business Skills*
This certificate is designed for students who want to improve their Spanish while learning business skills.
Classes will be taught in Spanish and English. You must have completed Business in Mexico, Mini-Certificate.

**Courses:**

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACCT 102, Basic Accounting (in Spanish and English)</td>
<td>3</td>
</tr>
<tr>
<td>BUSE 119, Business Communications (in Spanish and English)</td>
<td>3</td>
</tr>
<tr>
<td>CISC 110, Microcomputer Applications (in Spanish and English)</td>
<td>2</td>
</tr>
</tbody>
</table>

Total Units = 8

*This is a department award in recognition of information on the transcript and does not imply meeting a graduation requirement.

### Associate in Science: Business Studies

**Small Business Management Emphasis:** (International)

Courses Required for the Major

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Business Studies Core Curriculum</td>
<td>16</td>
</tr>
<tr>
<td>Certificate of Completion, Business in Mexico</td>
<td>9</td>
</tr>
<tr>
<td>Certificate of Completion, Bilingual Business Skills</td>
<td>8</td>
</tr>
<tr>
<td>Anthropology 102, Business 101, History 115A/B, Marketing 100, Spanish 101/102</td>
<td>25</td>
</tr>
</tbody>
</table>

Total Units = 58

Additional general education and graduation requirements for the associate degree are listed in the Academic Requirements section of the catalog. Students who plan to transfer to a four-year college or university should select the Business Studies San Diego State University Transfer option. The associate degree requires a minimum of 60 units.

**Recommended electives:** Business 100, 142, 201.

### Labor Studies Emphasis

**Labor Studies Requirements:**

<table>
<thead>
<tr>
<th>Core</th>
</tr>
</thead>
<tbody>
<tr>
<td>Certificate of Achievement (Some classes may be required in more than one certificate or core)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Other Requirements</th>
</tr>
</thead>
<tbody>
<tr>
<td>Labor 106B</td>
</tr>
<tr>
<td>Labor 108</td>
</tr>
<tr>
<td>Labor 110</td>
</tr>
</tbody>
</table>

Many general education and district requirements are already included in the degree requirement. Additional requirements for an AS degree:

- Science
- Health Education
- American Institutions
- P. E.
- Multicultural
- Electives
Certificate of Achievement:
Business Studies
Labor Studies

This program is designed for union representatives, members of unions, labor leaders, industry coordinators and others interested in labor management relations and studies.

Courses Required for the Major: Units
LABR 100, American Labor Movement.................. 3
LABR 102, Labor Law......................................... 3
LABR 104, Collective Bargaining.......................... 3
LABR 106A, Grievance Handling.......................... 3
LABR 112, California Workers Compensation.......... 3
Select three units from:
LABR 106B, 108, 110........................................ 3
Total Units = 18

Associate in Science Degree:
Business Studies
Labor Studies Emphasis

Courses Required for the Major Units
(note: some classes may be required in more than one certificate or core):
Business Studies Core Curriculum..........................16
Certificate of Achievement, Labor Studies ..........18
Total Units = 40

Additional general education and graduation requirements for the associate degree are listed in the Academic Requirements section of the catalog. Students who plan to transfer to a four-year college or university should select the Business Studies San Diego State University Transfer option. The associate degree requires a minimum of 60 units.

Recommended electives: Labor Studies 270, Business 100.

Navy Acquisition Management Training Emphasis

<table>
<thead>
<tr>
<th>Navy Acquisition Management Requirements:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Core</td>
</tr>
<tr>
<td>Certificate of Achievement (Some classes may be required in more than one certificate or core)</td>
</tr>
<tr>
<td>Other Requirements</td>
</tr>
<tr>
<td>Business 150</td>
</tr>
<tr>
<td>Business 201</td>
</tr>
</tbody>
</table>

Many general education and district requirements are already included in the degree requirement. Additional requirements for an AS degree:

- Science
- Health Education
- American Institutions
- P. E.
- Multicultural
- Electives
Certificate of Achievement: Business Studies

Navy Acquisition Management Training

This program provides training for governmental and military contracting and procurement in a variety of settings. It includes state-of-the-art instruction as prescribed in certified Department of Defense Instructions.

Courses Required for the Major: Units
BUSE 160, Management of Acquisition Defense Contracts I ................................................... 3
BUSE 162, Management of Acquisition Defense Contracts II .................................................... 3
BUSE 164, Principles of Contract Pricing and Negotiations I ....................................................... 3
BUSE 166, Principle of Contract Pricing and Negotiations II ....................................................... 3
BUSE 168, Management of Acquisition Defense Contracts-Advanced ........................................ 3
BUSE 170, Advanced Contract Administration ................. 3
BUSE 172, Government Contract Law ......................... 3

Total Units = 21

Associate in Science Degree: Business Studies

Navy Acquisition Management Training Emphasis

Courses Required for the Major: Units
(note: some classes may be required in more than one certificate or core):
Business Studies Core Curriculum ........................................ 16
Certificate of Achievement, Navy Acquisition Management Training ........................................ 21

Business 150, 201 ................................................................. 6

Total Units = 43

Additional general education and graduation requirements for the associate degree are listed in the Academic Requirements section of the catalog. Students who plan to transfer to a four-year college or university should select the Business Studies San Diego State University Transfer option. The associate degree requires a minimum of 60 units.

Recommended electives: Business 100.

Real Estate Emphasis

Certificate of Completion: Real Estate Salesperson*

This certificate is designed for students interested in exploring a career in real estate sales. Real Estate 101 is a requirement for taking the Real Estate Salesperson's License Examination. Applicants must also, prior to or within 18 months after issuance of the salesperson's license, complete two additional courses.

Courses: Units
REAL 101, Real Estate Principles .................................. 3

Select six to seven units from the following:
Accounting 102 or 116A; Business 140;
Escrow 101 (Mesa), 111 (Mesa);
Real Estate 105, 110, 115, 120, 130 ....................... 6-7

Total Units = 9-10

*This is a department award in recognition of information on the transcript and does not imply that a graduation requirement has been met.
Certificate of Completion: Real Estate Appraisal*

This certificate is designed for students interested in careers in real estate appraisal. All of the courses in this Certificate of Completion have been approved by the Office of Real Estate Appraisers (OREA) as applying toward completion of acceptable education for the following appraisal licenses: Trainee License (completion of 90 hours of acceptable education related to real estate appraisal, which must include 15 hours of instruction on the Uniform Standards of Professional Appraisal Practice (USPAP); Residential License (completion of at least 90 hours of acceptable education relating to real estate appraisal, which must include 15 hours of instruction on USPSP); Certified Residential (completion of at least 120 hours of acceptable education relating to real estate appraisal, which must include 15 hours of instruction on USPSP); Certified General (completion of at least 180 hours of acceptable education relating to real estate appraisal, which must include 15 hours of USPAP). NOTE: OREA education requirements for various appraisal licenses are effective as of January 1, 1998. For questions about OREA’s licensure requirements, call the OREA office in Sacramento at (916) 322-2500.

Courses: Units
REAL 101, Real Estate Principles ..................... 3
REAL 110, Principles of Real Estate Appraisal I .... 3
REAL 111, Introduction to USPAP ..................... 1

Total Units = 7

*This is a department award in recognition of information on the transcript and does not imply that a graduation requirement has been met.

Computer Technology: Computer Repair Emphasis

This program is designed to prepare students for employment as computer assemblers in companies that assemble, sell, and service computer hardware and software. The focus is twofold: first to teach basic systems and software installation and secondly, to teach the soft skills necessary to become a successful employee. Emphasis is placed on learning techniques, written and oral communication, stress management, and conflict resolution. These certificates are also approved for retraining and for improving promotional opportunities. The program is divided into three certificates of completion, each focusing on a single element of the program.

<table>
<thead>
<tr>
<th>Computer Repair Requirements</th>
</tr>
</thead>
<tbody>
<tr>
<td>Core</td>
</tr>
<tr>
<td>Certificate of Completion</td>
</tr>
<tr>
<td>(Some classes may be</td>
</tr>
<tr>
<td>required in more than one</td>
</tr>
<tr>
<td>certificate or core)</td>
</tr>
<tr>
<td>Computer Assembly</td>
</tr>
<tr>
<td>Computer Repair</td>
</tr>
<tr>
<td>A+ Certification</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Other Requirements</th>
</tr>
</thead>
<tbody>
<tr>
<td>Business 101</td>
</tr>
<tr>
<td>Speech 180</td>
</tr>
</tbody>
</table>

Many general education and district requirements are already included in the degree requirement. Additional requirements for an AS degree:
- Science
- Health Education
- American Institutions
- P. E.
- Electives

Certificate of Completion: Computer Assembly*

Courses: Units
ELDT 100, Electronic Assembly and Certification .................................. 4

Total Units = 4

*This is a department award in recognition of information on the transcript and does not imply meeting a graduation requirement.
Certificate of Completion: Computer Repair*
This certificate is designed for the student who wishes employment as a computer repair technician with a company that assembles, sells, and services computer hardware and software.

Courses: Units
CISC 110, Microcomputer Applications OR
               CBTE 180, Microsoft Office ..................... 2-3
CISC 121, Introduction to Operating Systems ............. 1
CISC 122, Evaluation & Installation of
               Computer Hardware ..................................... 1
CISC 123, Evaluation & Installation of
               Computer Software ........................................ 1
CISC 125A, Inside the Computer Unit .................... 1.5
CISC 125B, Computer Hardware Lab .......................... 0.5
CISC 127, Computer Hardware Industry Training ........... 0.5
Total Units = 7.5-8.5

*This is a department award in recognition of information on the transcript and does not imply that a graduation requirement has been met.

Certificate of Completion: A+ Certification*
This certificate focuses on A+ Certification, an industry-wide standard in computer repair technology.

Courses: Units
ELDT 251, A+ Certification ................................... 3
ELDT 251L, A+ Certification Lab ............................. 1
Total Units = 4

*This is a department award in recognition of information on the transcript and does not imply meeting a graduation requirement.

Associate in Science Degree: Business Studies

Computer Technology: Computer Repair Emphasis

Courses Required for the Major Units
(note: some classes may be required in more than one certificate or core):
Business Studies Core Curriculum .............................16
Certificate of Completion, Computer Repair .... 7.5-8.5
Certificate of Completion, Computer Assembly .... 4
Certificate of Completion, A+ Certification ............. 4

Total (Some classes are required in more than one certificate) 37.5-38.5

Business 101, Speech 180 ..................................... 6
Total Units = 37.5-38.5

Additional general education and graduation requirements for the associate degree are listed in the Academic Requirements section of the catalog. Students who plan to transfer to a four-year college or university should select the Business Studies San Diego State University Transfer Option. The associate degree requires a minimum of 60 units.

Computer Technology: Software Applications Emphasis

This program is designed to provide exposure to the microcomputer software applications area. Successful completion of each certificate will provide preparation for the Microsoft Office User Specialist (MOUS) Certification tests in Word, Excel, Access, and PowerPoint at the Core and Expert levels. This program is divided into five certificates of completion, each focusing in a single element of the program.

<table>
<thead>
<tr>
<th>Software Applications Requirements</th>
</tr>
</thead>
<tbody>
<tr>
<td>Core</td>
</tr>
<tr>
<td>Certificate of Completion (Some classes may be required in more than one certificate or core)</td>
</tr>
<tr>
<td>Word</td>
</tr>
<tr>
<td>Power Point</td>
</tr>
<tr>
<td>Excel</td>
</tr>
<tr>
<td>Access</td>
</tr>
<tr>
<td>Office Professional</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Other Requirements</th>
</tr>
</thead>
<tbody>
<tr>
<td>Business 101</td>
</tr>
<tr>
<td>Speech 180</td>
</tr>
</tbody>
</table>

Many general education and district requirements are already included in the degree requirement. Additional requirements for an AS degree:

<table>
<thead>
<tr>
<th>Science</th>
</tr>
</thead>
<tbody>
<tr>
<td>Health Education</td>
</tr>
<tr>
<td>American Institutions</td>
</tr>
<tr>
<td>P. E.</td>
</tr>
<tr>
<td>Electives</td>
</tr>
</tbody>
</table>

Total (Some classes are required in more than one certificate)
Certificate of Completion: Word*

This certificate will provide preparation for the MOUS Certification tests in MS Word at the Core and Expert levels.

Courses: Units
CBTE 120, Beginning Microsoft Word ...................... 2
CBTE 121A, Microsoft Certification Lab-Word-Core .... 1
CBTE 121B, Microsoft Certification Lab-Word-Expert.. 1
CBTE 122, Intermediate Microsoft Word................... 3
Total Units = 7

*This is a department award in recognition of information on the transcript and does not imply meeting a graduation requirement.

Certificate of Completion: Powerpoint*

This certificate will provide preparation for the MOUS Certification tests in MS Powerpoint at the Core and Expert levels.

Courses: Units
CISC 128, Introduction to Computer Presentations.... 1
CBTE 171A, Microsoft Certification Lab-
Powerpoint-Core ........................................... 1
CBTE 171B, Microsoft Certification Lab-
Powerpoint-Expert......................................... 1
Total Units = 3

*This is a department award in recognition of information on the transcript and does not imply meeting a graduation requirement.

Certificate of Completion: Excel*

This certificate will provide preparation for the MOUS Certification tests in MS Excel at the Core and Expert levels.

Courses: Units
CBTE 140A, Introduction to Microsoft Excel ............. 1
CISC 126A, Intermediate Spreadsheet Development I........................................... 1
CBTE 141A, Microsoft Certification Lab-
Excel-Core.................................................... 1
CBTE 141B, Microsoft Certification Lab-
Excel-Expert............................................... 1
Total Units = 4

*This is a department award in recognition of information on the transcript and does not imply meeting a graduation requirement.

Certificate of Completion: Access*

This certificate will provide preparation for the MOUS Certification tests in MS Access at the Core and Expert levels.

Courses: Units
CBTE 151, Introduction to Microsoft Access OR
CISC 124A, Database Programming I ..................... 1
CISC 124B, Database Programming II ...................... 1
CBTE 151A, Microsoft Certification Lab-
Access-Core.................................................. 1
CBTE 151B, Microsoft Certification Lab-
Access-Expert............................................... 1
Total Units = 4

*This is a department award in recognition of information on the transcript and does not imply meeting a graduation requirement.

Certificate of Completion: Office Professional*

This certificate will provide preparation for the MOUS Certification tests in MS Office Professional at the Core and Expert levels.

Courses: Units
CBTE 198A, Project Lab I.................................. 0.5
CBTE 198B, Project Lab II .................................. 0.5
CBTE 170, Desktop Publishing ............................. 2
CBTE 161, Learning the Internet......................... 1
CBTE 162, Web Page Creation ............................ 2
Total Units = 6

*This is a department award in recognition of information on the transcript and does not imply meeting a graduation requirement.

Associate in Science Degree: Business Studies

Computer Technology: Software Applications Emphasis

Courses Required for the Major Units
(note: some classes may be required in more than one certificate or core):
Business Studies Core Curriculum........................ 16
Certificate of Completion, Word .......................... 7
Certificate of Completion, Powerpoint ................. 3
Certificate of Completion, Excel.......................... 4
Certificate of Completion, Access ....................... 4
Certificate of Completion, Office Professional ...... 6
Business 101, Speech 180 .................................. 6
Total Units = 46

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Additional general education and graduation requirements for the associate degree are listed in the Academic Requirements section of the catalog. Students who plan to transfer to a four-year college or university should select the Business Studies San Diego State University Transfer Option. The associate degree requires a minimum of 60 units.

### Courses

#### Accounting (ACCT)

**102 Basic Accounting**

3 hours, 3 units  
Grade Only  
*Advisory:* Mathematics 35 with a grade of “C” or better, or equivalent, or Assessment Skill Level M30; and English 43 or Business 92 and English 42, each with a grade of “C” or better or equivalent, or Assessment Skill Levels W4 and R4.  
*Limitation on Enrollment:* This course is not open to students with credit for more advanced Accounting courses.  
Theory and practice in the fundamentals of accounting transactions; business documents, journals and ledgers; opening, adjusting and closing entries; payroll. (FT) Associate Degree Credit.

**116A Principles of Accounting - Financial**

4 hours, 4 units  
Grade Only  
*Advisory:* Mathematics 35 with a grade of “C” or better, or equivalent, or Assessment Skill Level M30; and English 43 and English 42, each with a grade of “C” or better or equivalent, or Assessment Skill Levels W4 and R4.  
This introductory financial accounting course provides instruction in the theory and practice of accounting applicable to recording, summarizing, and reporting of business transactions for external reporting and other external uses. Subject matter includes coverage of asset valuation, revenue and expense recognition, and appropriate accounting for various asset, liability, and capital accounts. This course is required for business majors preparing for, and planning to transfer to, a four-year college or university. (FT) Transfer Credit: CSU and/or private coll/univ.; UC. (CAN BUS 4) (CAN BUS SEQ A = ACCT 116A+116B)

**116B Principles of Accounting - Managerial**

4 hours, 4 units  
Grade Only  
*Prerequisite:* Accounting 116A with a grade of “C” or better, or equivalent.  
This introductory managerial accounting course provides instruction in the selection and analysis of accounting information for internal use by managers. Emphasis is given to the use of information needed for managerial planning and control. This course is required for business majors preparing for, and planning to transfer to, a four-year college or university. (FT) Transfer Credit: CSU and/or private coll/univ.; UC. (CAN BUS 4) (CAN BUS SEQ A = ACCT 116A+116B)

**120 Federal Income Tax**

3 hours, 3 units  
Grade Only  
*Advisory:* Completion of or concurrent enrollment in Accounting 102 or 116A; and concurrent enrollment in Accounting 121. Structure of personal income taxation. Tax planning. Underlying social and economic issues. Emphasis on tax concepts rather than tax return preparation. (FT) Transfer Credit: CSU and/or private coll/univ.

**121 California Income Tax**

1 hour, 1 unit  
Grade Only  
*Advisory:* Concurrent enrollment in Accounting 120. This is a study of the structure of California personal income taxation, tax planning and underlying social economic issues. An emphasis will be placed on tax concepts rather than tax return preparation. The course contrasts and compares California requirements to Federal Income Tax. Transfer Credit: CSU and/or private coll/univ.

**128A Small Business Accounting - Recordkeeping**

1.5 hours, 1.5 units  
Grade Only  
*Advisory:* Concurrent enrollment in Accounting 128B.  
*Limitation on Enrollment:* This course is not open to students with credit for Accounting 128.  
In this course, students will learn the basic accounting skills necessary to run a small business. They will study the practical applications of recording, summarizing, and reporting business transactions for internal uses as well as for completing federal, state, and local reporting requirements. (FT) Associate Degree Credit.
128B Small Business Accounting - Payroll
1.5 hours, 1.5 units
Grade Only
Advisory: Concurrent enrollment in Accounting 128A.
Limitation on Enrollment: This course is not open to students with credit for Accounting 128.
In this course, students will learn the basic record keeping skills necessary to determine payroll for a small business. They will study the practical application of recording, summarizing, and reporting business transactions for internal uses as well as completing federal, state, and local reporting requirements. (FT) Associate Degree Credit.

150 Computer Accounting Applications
3 hours, 3 units
Grade Only
Advisory: Completion of or concurrent enrollment in Accounting 102 or 116A.
An introductory course of computerized accounting system functions utilizing integrated general ledger software package (such as DacEasy) and spreadsheet software (such as Lotus 1-2-3). (FT) Transfer Credit: CSU and/or private coll/univ.
This discipline may offer specialized instruction in one or more of the following areas: Supervised Tutoring (044), Special Topics (265), Independent Study (290), Individualized Instruction (296), Service Learning (277), Applied Applications and Software Skills (045L), or Work Experience (270). Detailed course descriptions are listed on page 94. Please refer to the class schedule and/or see the dean or department chair for availability.

90A Learning Skills
1.5 hours, 1.5 units
Grade Only
This is a course designed to teach the skills necessary to become a successful learner, both in college and in the years beyond college. Emphasis is placed on time management, organizational skills, and basic thinking, reading and writing techniques. Students will be able to successfully learn, retain and communicate information. This course is intended for the beginning or returning certificate student planning to major in vocational education. (FT) Associate Degree Credit

90B Work Success
1.5 hours, 1.5 units
Grade Only
This is a course designed to teach the skills necessary to become a successful employee. Emphasis is placed on understanding and developing the skills necessary to secure and keep a job. Students will be able to look for employment, prepare for an interview, and model the qualities of a successful employee. This course is intended for the beginning or returning student planning to seek gainful employment. (FT) Associate Degree Credit

90C Business Internship Seminars
1 hour, 1 unit
Grade Only
Advisory: English 51 and 56, each with a grade of “C” or better, or equivalent, or Assessment Skill Levels W5 and R5.
The purpose of this course is to introduce students to employment opportunities in the local job market. Each class includes five industry presentations that require students to research the particular business, write a practice resume for that business, and conduct a mock interview for that business. This course is intended for students majoring in the computer technology options of the Business Studies certificates of completion, certificates of achievement, and associate in science degrees. (FT) Associate Degree Credit

90D Workplace Competencies
1.5 hours, 1.5 units
Grade Only
This course teaches the necessary SCANS (Secretary’s Commission on Achieving Necessary Skills) skills for a student to become a successful participant in today’s workforce. Emphasis is on time management, organizational skills, and basic thinking, reading, and...
writing techniques. Students are able to successfully select, learn, retain, analyze, and communicate information. This course is intended for the beginning or returning certificate student planning to major in vocational education. (FT) Associate Degree Credit.

92 Introduction to Business Communications
3 hours, 3 units
Grade Only
Advisory: English 43 with a grade of “C” or better, or equivalent, or Assessment Skill Level W4.
Limitation on Enrollment: This course is not open to students with credit for Business 119 or Office Information Systems 115.
Review of principles and mechanics of English grammar as specifically applied to the field of business. Presents business vocabulary, dictionary usage, spelling, sentence structure, punctuation, and the principles and techniques of business writing. Practice in writing various types of business letters, resumes, memos, and informal business reports is emphasized. Three units of credit at this level may be applied to the associate degree.

95 Small Business Alphabetic Filing
0.75 hour lecture, 2.25 hours lab, 1.5 units
Grade Only
This course offers instruction in the association of Records Managers and Administrators (ARMA) alphabetic filing rules and techniques. These rules are widely used in business to create and maintain files. Instruction is activity oriented, including the use of a microcomputer software package to learn basic filing skills. (FT) Associate Degree Credit.

100 Introduction to Business
3 hours, 3 units
Grade Only
Advisory: English 43 and English 42, or Business 92, each with a grade of “C” or better, or equivalent, or Assessment Skill Levels W4 and R4.
An elementary course for both business and non-business majors. Provides a broad understanding of the business community, its functions, terminology, occupational choices in the various fields of business and the place of business in the American economy as a whole. (FT) Transfer Credit: CSU and/or private coll/univ.; UC.

101 Business Mathematics
3 hours lecture, 3 units
Grade Only
This course provides students with a comprehensive study of business mathematics and reviews basic mathematics such as decimals, fractions, and percentages. It also covers the topics of bank services, payroll, mathematics of buying and selling, interest and loans, taxes, insurance, depreciation, and other business computations. This course is intended for students interested in pursuing careers in business. Transfer Credit: CSU and/or private coll/univ.

113 International Finance
3 hours, 3 units
Grade Only
Advisory: Business 92 or English 51 and/or 56, each with a grade of “C” or better, or equivalent, or Assessment Skill Levels W5 and/or R5.
This course introduces students to the fundamentals of international finance. Emphasis is placed on an understanding of the international monetary system, balance of payments analysis, foreign exchange markets, global banking, international cash management and budgeting, and international investment management and evaluation. This course is intended for the student planning to prepare for entry-level employment in international banking, brokerage houses, or financial exchanges. (FT) Transfer Credit: CSU and/or private coll/univ.

119 Business Communications
3 hours, 3 units
Grade Only
Advisory: English 51 and 56, or Business 92, each with a grade of “C” or better, or equivalent, or Assessment Skill Levels W5 and R5.
Instruction in the principles of effective business communications. Development of the ability to analyze, organize and compose various types of written and oral business communications. Emphasis is on the writing of clear, concise, and persuasive letters, memos, and reports. Transfer Credit: CSU and/or private coll/univ.

140 Business Law and the Legal Environment
3 hours, 3 units
Grade Only
This course examines business legal systems, social and ethical influences, judicial and administrative systems, contracts, torts, bankruptcy, agency, business organizations, security regulations, regulation of property, and protection of intellectual property interests. (FT) Transfer Credit: CSU and/or private coll/univ. UC Transfer Credit: Business (BUSE) 140 and 141 combined: maximum credit: one course. (CAN BUS 8)
142 North American Free Trade Agreement (NAFTA) and the Legal Environment
3 hours, 3 units
Grade Only
Advisory: English 51 and 56, or Business 92, each with a grade of “C” or better, or equivalent, or Assessment Skill Levels W5 and R5.

This course gives an overview of the North American Free Trade Agreement (NAFTA) legal and economic issues with respect to doing business in Mexico. Emphasis is placed on factors such as labor-cost differentials, import-export considerations, maquiladoras, laws respecting the acquisition of real estate by U.S. nationals, business investment in Mexico and available forms of alternative dispute resolution (ADR) such as arbitration and mediation. An overview will also be given of the function of the Export-Import Bank of the U.S. and trade financing that has been available from the State of California to facilitate cross-border trade. The concepts of potential border-located free trade zones for information and communications services; the impact of Mexico’s changing political and currency situations are also reviewed. (FT) Transfer Credit: CSU and/or private coll/univ.

150 Human Relations in Business
3 hours, 3 units
Grade Only
Advisory: English 51 and 56, each with a grade of “C” or better, or Assessment Skill Levels W5 and R5.

Designed to assist employees and employers in understanding human behavior in social institutions, business and industry. Areas for discussion include: leadership, communication, status, decision-making, motivation, personnel problems. Case problem method of instruction used. (FT) Transfer Credit: CSU and/or private coll/univ.

155 Managing the Small Business
3 hours, 3 units
Grade Only
Advisory: English 43 with a grade of “C” or better, or equivalent, or Assessment Skill Level W4.

In this course students learn the elements of successfully operating a small business. Key issues include human resource management, marketing for small business, financial, and legal issues. This course is intended for the student who plans to major in the Small Business Management or Entrepreneurial and Community Service option at City College. At Mesa College, this course may be taken as an elective by Business Management students or by those who are pursuing or intend to pursue a small business career. This course is also intended for students from any discipline who are interested in owning or operating a small business. (FT) Transfer Credit: CSU and/or private coll/univ.

157 Starting a Small Business
3 hours, 3 units
Grade Only
Advisory: English 51 and 56, each with a grade of “C” or better, or equivalent, or Assessment Skill Levels W5 and R5.

In this course students will explore what is necessary to start a business. They will learn to create a business plan that identifies key decisions for the entrepreneur. (FT) Associate Degree Credit.

158A Students in Free Enterprise - High School Projects
9 hours lab, 3 units
Grade Only
Advisory: English 43 and English 42, each with a grade of “C” or better, or equivalent or Assessment Skill Levels W4 and R4.

In this course students develop and implement projects to help them learn and teach free enterprise to high school students. Projects can include collaboration with high school classes, free enterprise educational projects for high school students, mentoring, and shadowing. Students gain hands-on experience in project planning, development, implementation and evaluation. This course is intended for the student who plans to major in Entrepreneurial and Community Service. It is also recommended for students from any discipline who are interested in project development, the development of teaching skills, or the enhancement of communication and planning skills. Course segments may be taken in any order. (FT) Transfer Credit: CSU and/or private coll/univ.

158B Students in Free Enterprise - Elementary and Junior High Projects
9 hours lab, 3 units
Grade Only
Advisory: English 43 and English 42, each with a grade of “C” or better, or equivalent or Assessment Skill Levels W4 and R4.

In this course students develop and implement projects to help them learn and teach free enterprise to elementary and junior high school students. Projects can include interactive lessons in small business and the free enterprise system and creating curriculum materials to help young children learn about free enterprise. Students gain hands-on experience in project planning, development, implementation and
evaluation. This course is intended for the student who plans to major in Entrepreneurial and Community Service. It is also recommended for students from any discipline who are interested in project development, the development of teaching skills, or the enhancement of communication and planning skills. Course segments may be taken in any order. (FT) Transfer Credit: CSU and/or private coll/univ.

158C Students in Free Enterprise - Community Projects

9 hours lab, 3 units

Advisory: English 43 and English 42, each with a grade of “C” or better, or equivalent or Assessment Skill Levels W4 and R4.

In this course students develop and implement projects to help them learn and teach free enterprise in the community. Projects can include working with community organizations in projects such as trade shows, presentations, and entrepreneurial ventures designed to increase knowledge of free enterprise. Students gain hands-on experience in project planning, development, implementation and evaluation. This course is intended for the student who plans to major in Entrepreneurial and Community Service. It is also recommended for students from any discipline who are interested in project development, the development of teaching skills, or the enhancement of communication and planning skills. Course segments may be taken in any order. (FT) Transfer Credit: CSU and/or private coll/univ.

158D Students in Free Enterprise - On-Campus Educational Projects

9 hours lab, 3 units

Advisory: English 43 and English 42, each with a grade of “C” or better, or equivalent, or Assessment Skill Levels W4 and R4.

In this course students develop and implement projects to help them learn and teach free enterprise on the San Diego City College campus. Projects will include operating the Small Business Resource Center, planning small business workshops, and other projects designed to increase knowledge of free enterprise on campus. Students gain hands-on experience in project planning, development, implementation and evaluation. This course is intended for the student who plans to major in Entrepreneurial and Community Service. It is also recommended for students from any discipline who are interested in project development, the development of teaching skills, or the enhancement of communication and planning skills. Course segments may be taken in any order. (FT) Transfer Credit: CSU and/or private coll/univ.

160 Management of Acquisition Defense Contracts I

3 hours, 3 units

Advisory: English 43 and English 42, each with a grade of “C” or better, or equivalent, or Assessment Skill Levels W4 and R4.

This course provides the student with basic contract training/education in the fields of contract negotiating, contract preparation, procurement analysis, price analysis and contract administration within government. (FT) Transfer Credit: CSU and/or private coll/univ.

162 Management of Acquisition Defense Contracts II

3 hours, 3 units

Advisory: Business 160 with a grade of “C” or better, or equivalent.

This course provides the student with part of the basic contract training/education in the fields of contract negotiating, contract preparation, procurement analysis, price analysis and contract administration within government. (FT) Transfer Credit: CSU and/or private coll/univ.

164 Principles of Contract Pricing and Negotiations I

3 hours, 3 units

Advisory: Business 162 with a grade of “C” or better, or equivalent.

This course provides students with training/education with the foundation for the study and practice of cost and price analysis and the basics of negotiation theory and technique. (FT) Transfer Credit: CSU and/or private coll/univ.

166 Principles of Contract Pricing and Negotiations II

3 hours, 3 units

Advisory: Business 164 with a grade of “C” or better, or equivalent.

This course is a combination of training/education with the foundation for the study and practice of cost and price analysis and the basics of negotiation theory and technique. (FT) Transfer Credit: CSU and/or private coll/univ.
168 Management of Acquisition Defense Contracts - Advanced  
3 hours, 3 units  
Grade Only  
Advisory: Business 166 with a grade of “C” or better, or equivalent.  
This course provides students with experience in contracting, with instruction in the buying and contract administration functions, management functions, current contracting problems, in preparation for responsibility as contract negotiators, contract specialists and procurement analysts. (FT) Transfer Credit: CSU and/or private coll/univ.

170 Advanced Contract Administration  
3 hours, 3 units  
Grade Only  
Advisory: Business 166 with a grade of “C” or better, or equivalent.  
This course provides the student who has completed the basic contracting courses (MDAC BASIC PART I AND II and PRINCIPLES OF CONTRACT PRICING) and has some experience in the field of government contracting, with the opportunity for an intensive review of areas of importance in contract management. Additionally, through the use of classroom and student case problems, this course provides the environment for the students to improve their ability to identify and evaluate relevant facts and analyze alternative solutions. (FT) Transfer Credit: CSU and/or private coll/univ.

172 Government Contract Law  
3 hours, 3 units  
Grade Only  
Advisory: Business 166 with a grade of “C” or better, or equivalent.  
This course provides the student with an understanding of the impact of Government Contract Law on daily decision-making in government contract management. (FT) Transfer Credit: CSU and/or private coll/univ.

201 Business Organization and Management  
3 hours, 3 units  
Grade Only  
Advisory: English 51 and 56, or Business 92, each with a grade of “C” or better, or equivalent, or Assessment Skill Levels W5 and R5.  
Essentials of business organization and management; internal organization; operation; finance; marketing; and forms of ownership. Introduces students to techniques of decision-making with emphasis on recent advances in areas directly related to management. (FT) Transfer Credit: CSU and/or private coll/univ.

244 Automobile Promotion Internship  
9 hours lab, 3 units  
Grade Only  
Advisory: English 43 and English 42, each with a grade of “C” or better, or equivalent, or Assessment Skill Levels W4 and R4; and Mathematics 35 with a grade of “C” or better, or equivalent, or Assessment Skill Level M30.  
This course provides theory and hands-on experience in researching, developing, implementing, and evaluating a promotional campaign for a major automobile manufacturer within a specified budget. This course is intended for the student who plans to earn the Business Studies, Marketing, Mini Certificate or the Certificate of Achievement or Associate Degree in Business Studies, Entrepreneurial and Community Service. (FT) Transfer Credit: CSU and/or private coll/univ.

245A Small Business Internship - Marketing  
9 hours lab, 3 units  
Grade Only  
Advisory: English 43 and English 42, each with a grade of “C” or better, or equivalent or Assessment Skill Levels W4 and R4.  
Limitation on Enrollment: This course is not open to students with credit for Business 245 and/or 275. Business 245A,B,C, and D combined may be taken a total of four times.  
This course provides theory and practical experience in marketing a small business. Students are responsible for the marketing function for the Student Business on campus. Classroom time provides marketing theory and an opportunity to evaluate and enhance skills learned. Through these experiences, students will develop more professional marketing skills for use in operating a small business. In each segment of this course, students gain experience in a separate business function. “This course is intended for the student who plans to major in Small Business Management or Entrepreneurial and Community Service”. It is also intended for students from any discipline who are interested in learning the marketing function of small business. Course segments may be taken in any order. (FT) Transfer Credit: CSU and/or private coll/univ.

245B Small Business Internship - Operations  
9 hours lab, 3 units  
Grade Only  
Advisory: English 43 and English 42, each with a grade of “C” or better, or equivalent, or Assessment Skill Levels W4 and R4.  
Limitation on Enrollment: This course is not open to students with credit for Business 245 and/or 275.
Business 245A, B, C, and D combined may be taken a total of four times.

This course provides theory and practical experience in the operations and human resource functions of a small business. Students are responsible for operations and human resources of the Student Business on campus. Classroom time provides management theory and an opportunity to evaluate and enhance skills learned. Through these experiences, students will develop more professional management skills for use in operating a small business. In each segment of this course, students gain experience in a separate business function. “This course is intended for the student who plans to major in Small Business Management or Entrepreneurial and Community Service”. It is also intended for students from any discipline who are interested in learning the operations functions of small business. Course segments may be taken in any order. (FT) Transfer Credit: CSU and/or private coll/univ.

245C Small Business Internship - Accounting
9 hours lab, 3 units
Grade Only
Advisory: English 43 and English 42, each with a grade of “C” or better, or equivalent or Assessment Skill Levels W4 and R4.
Limitation on Enrollment: This course is not open to students with credit for Business 245 and/or 275. Business 245A, B, C, and D combined may be taken a total of four times.

This course provides theory and practical experience in accounting for a small business. Students are responsible for accounting for the Student Business on campus. Classroom time provides accounting theory and an opportunity to evaluate and enhance skills learned. Through these experiences, students will develop more professional accounting skills for use in operating a small business. In each segment of this course, students gain experience in a separate business function. “This course is intended for the student who plans to major in Small Business Management or Entrepreneurial and Community Service”. It is also intended for students from any discipline who are interested in learning the operations functions of small business. Course segments may be taken in any order. (FT) Transfer Credit: CSU and/or private coll/univ.

245D Small Business Internship - Buying and Inventory
9 hours lab, 3 units
Grade Only
Advisory: English 43 and English 42, each with a grade of “C” or better, or equivalent or Assessment Skill Levels W4 and R4.
Limitation on Enrollment: This course is not open to students with credit for Business 245 and/or 275. Business 245A, B, C, and D combined may be taken a total of four times.

This course provides theory and practical experience in purchasing and inventory control for a small business. Students are responsible for purchasing supplies and inventory for the Student Business on campus. Classroom time provides theory in purchasing and inventory control and an opportunity to evaluate and enhance skills learned. Through these experiences, students will develop more professional skills for use in purchasing for a small business. In each segment of this course, students gain experience in a separate business function. “This course is intended for the student who plans to major in Small Business Management or Entrepreneurial and Community Service”. It is also intended for students from any discipline who are interested in learning the buying and inventory functions of small business. Segments may be taken in any order. (FT) Transfer Credit: CSU and/or private coll/univ.

245E Small Business Internship - Marketing
3 hours lab, 1 unit
Grade Only
Advisory: English 43 and English 42, each with a grade of “C” or better, or equivalent, or Assessment Skill Levels W4 and R4.

This course provides theory and practical experience in marketing a small business. Students are responsible for the marketing function for a Student Business on campus. Classroom time provides marketing theory and an opportunity to evaluate and enhance skills learned. Through these experiences, students will develop more professional marketing skills for use in operating a small business. In each segment of this course, students gain experience in a separate business function. “This course is intended for the student who plans to major in Business Studies - Computer Technology option”. It is also intended for students from any discipline who are interested in learning the marketing function of a small business in the computer technology area. Course segments may be taken in any order. (FT) Transfer Credit: CSU and/or private coll/univ.
245F Small Business Internship - Operations  
3 hours lab, 1 unit  
Grade Only

Advisory: English 43 and English 42, each with a grade of “C” or better, or equivalent, or Assessment Skill Levels W4 and R4.

This course provides theory and practical experience in the operations and human resource functions of a small business. Students are responsible for operations and human resources of the Student Business on campus. Classroom time provides management theory and an opportunity to evaluate and enhance skills learned. Through these experiences, students will develop more professional management skills for use in operating a small business. In each segment of this course, students gain experience in a separate business function. “This course is intended for the student who plans to major in Business Studies - Computer Technology option”. It is also intended for students from any discipline who are interested in learning the operations function of a small business in the computer technology area. Course segments may be taken in any order. (FT) Transfer Credit: CSU and/or private coll/univ.

245G Small Business Internship - Accounting  
3 hours lab, 1 unit  
Grade Only

Advisory: English 43 and English 42, each with a grade of “C” or better, or equivalent, or Assessment Skill Levels W4 and R4.

This course provides theory and practical experience in accounting for a small business. Students are responsible for accounting for the Student Business on campus. Classroom time provides accounting theory and an opportunity to evaluate and enhance skills learned. Through these experiences, students will develop more professional accounting skills for use in operating a small business. In each segment of this course, students gain experience in a separate business function. This course is intended for the student who plans to major in Business Studies - Computer Technology option. It is also intended for students from any discipline who are interested in learning the purchasing function of a small business in the computer technology area. Course segments may be taken in any order. (FT) Transfer Credit: CSU and/or private coll/univ.

245H Small Business Internship - Buying and Inventory  
3 hours lab, 1 unit  
Grade Only

Advisory: English 43 and English 42, each with a grade of “C” or better, or equivalent, or Assessment Skill Levels W4 and R4.

This course provides theory and practical experience in purchasing and inventory control for a small business. Students are responsible for purchasing supplies and inventory for the Student Business on campus. Classroom time provides theory in purchasing and inventory control and an opportunity to evaluate and enhance skills learned. Through these experiences, students will develop more professional skills for use in purchasing for a small business. In each segment of this course, students gain experience in a separate business function. “This course is intended for the student who plans to major in Business Studies - Computer Technology option”. It is also intended for students from any discipline who are interested in learning the purchasing function of a small business in the computer technology area. Course segments may be taken in any order. (FT) Transfer Credit: CSU and/or private coll/univ.

290 Independent Study  
Hours by Arrangement; 1-4 units  
Grade Only

Limitation on Enrollment: Must obtain an Add Code from instructor for registration.

For advanced students in business who wish to pursue special problems and projects relating to their particular subject area. The student meets with the instructor at specific intervals and is expected to do primary research, analyze problems and submit reports. This course may be taken four times with different content for a maximum of six units. (FT) Transfer Credit: CSU and/or private coll/univ.

This discipline may offer specialized instruction in one or more of the following areas: Supervised Tutoring (044), Special Topics (265), Independent Study (290), Individualized Instruction (296), Service Learning (277), Applied Applications and Software Skills (045L), or Work Experience (270). Detailed course descriptions are listed on page 94. Please refer to the class schedule and/or see the dean or department chair for availability.
Consumer Studies (CONF)

110 Personal Financial Management

3 hours lecture, 3 units
Grade Only

Advisory: English 51 and 56 and Mathematics 32, each with a grade of "C" or better, or equivalent, or Assessment Skill Levels W5 and R5, and M20.

This course explores theories and techniques of managing personal income, with an emphasis on financial goal setting, culminating in the development of a personal financial plan. It includes practical methods of gaining maximum advantages from income through efficient spending, effective use of credit, savings, budgeting, insurance, and investment. Stock portfolios and retirement and estate planning are discussed. This is a required course for a Certificate of Completion in Skills for Success and Certificate of Achievement and/or Associate Degree in Consumer Resource Management. (FT) Transfer Elective Credit: CSU and/or private coll/univ.

Economics (ECON)

120 Principles of Economics I

3 hours, 3 units
Grade Only

Advisory: English 51 and 56 with a grade of "C" or better, or equivalent, or Assessment Skill Levels W5 and R5.

Introduction to basic economic principles and theory relating to problem analysis, structure of our institutions and the formation of public policies. Emphasis is placed on the broad overall performance (macro-analysis) of the economy with concentration in such areas as incomes, employment and output; economic stability and growth; fiscal and monetary policy. (FT) Transfer Credit: CSU and/or private coll/univ.; UC. (CAN ECON 2)

121 Principles of Economics II

3 hours, 3 units
Grade Only

Advisory: English 51 and 56 with a grade of "C" or better, or equivalent, or Assessment Skill Levels W5 and R5.

A continued study of principles and applications regarding specific economic sectors (micro analysis). Various competitive models in a market economy are studied in detail. Economics of labor unions, farming, international trade and finance provide a background for study and analysis of many current world and domestic problems. (FT) Transfer Credit: CSU and/or private coll/univ.; UC. (CAN ECON 4)

This discipline may offer specialized instruction in one or more of the following areas: Supervised Tutoring (044), Special Topics (265), Independent Study (290), Individualized Instruction (296), Service Learning (277), Applied Applications and Software Skills (045L), or Work Experience (270).

Detailed course descriptions are listed on page 94. Please refer to the class schedule and/or see the dean or department chair for availability.

Labor Studies (LABR)

100 American Labor Movement

3 hours, 3 units
Grade Only

Advisory: English 51 and 56 each with a grade of "C" or better, or equivalent or Assessment Skill Levels W5 and R5.

Limitation on Enrollment: This course is not open to students with credit for Labor Studies 101.

What it is, how it got that way, how it works. Historical look at the struggles and philosophy of American workers and their unions. Includes industrial conflicts, types of relationships, and the history and structure of unionism in the private and public sectors. (FT) Transfer Credit: CSU and/or private coll/univ.

102 Labor Law

3 hours, 3 units
Grade Only

Advisory: Labor Studies 100 with a grade of "C" or better, or equivalent.

Limitation on Enrollment: This course is not open to students with credit for Labor Studies 105.

An introduction to the legal framework of labor/management relations in the United States today. An overview of federal and state labor laws. Includes the labor injunction, the National Labor Relations Act, the Railway Labor Act, California labor laws, rights of union members and employment discrimination laws. (FT) Transfer Credit: CSU and/or private coll/univ.

104 Collective Bargaining

3 hours, 3 units
Grade Only

Advisory: Labor Studies 102 with a grade of "C" or better, or equivalent.

A study of major collective bargaining issues including: the right to organize; employer/employee rights and the Union; the structure of bargaining; negotiating written agreements; the process of bargaining methods,
106A Grievance Handling  
3 hours, 3 units  
Grade Only

**Advisory:** Labor Studies 104 with a grade of “C” or better, or equivalent.  
**Limitation on Enrollment:** This course is not open to students with credit for Labor Studies 106.  
A practical, problem-solving approach to grievance handling. Investigating, preparing and presenting cases using role-plays. Includes public and private sector procedures in handling grievances. (FT) Transfer Credit: CSU and/or private coll/univ.

106B Arbitration Procedure  
3 hours, 3 units  
Grade Only

**Advisory:** Labor Studies 106A with a grade of “C” or better, or equivalent.  
**Limitation on Enrollment:** This course is not open to students with credit for Labor Studies 106.  
A continuation of the grievance process with emphasis on the arbitration process. A practical, problem-solving approach in preparing and presenting cases. Includes mock arbitration and the preparing of pre and post briefs. (FT) Transfer Credit: CSU and/or private coll/univ.

108 Labor and Politics  
3 hours, 3 units  
Grade Only

**Advisory:** Labor Studies 106B with a grade of “C” or better, or equivalent.  
**Limitation on Enrollment:** This course is not open to students with credit for Labor Studies 106.  
A how-to course on labor’s involvement in political campaigns and elections including the requirements under PAC, the impact of U.S. Labor policies on foreign national employment and politics; the establishment of legislative priorities and the development of alternative strategies and/or non-strategies. (FT) Transfer Credit: CSU and/or private coll/univ.

110 Administrative Practices  
3 hours, 3 units  
Grade Only

**Advisory:** Labor Studies 108 with a grade of “C” or better, or equivalent. Designed to present the concepts of business organization and management for a labor organization including finance, operation, compliance with federal government requirements, (e.g., LM-2 and LM-3) internal organization and the personnel practices of the labor organization as an employer and its role with their unionized employees. (FT) Transfer Credit: CSU and/or private coll/univ.

112 California Workers Compensation  
3 hours, 3 units  
Grade Only

**Advisory:** Labor Studies 110 with a grade of “C” or better, or equivalent.  
An introduction to the basic California Workers' Compensation law: the rights of the employee, including the right to obtain medical treatment and be compensated for any disability as a result of the injury, and the role of an attorney in a Workers' Compensation case. (Does not include Longshoreman or Federal Workers Compensation Laws.) (FT) Transfer Credit: CSU and/or private coll/univ.

**Marketing (MARK)**

100 Principles of Marketing  
3 hours, 3 units  
Grade Only

Survey of the nature, scope, and significance of marketing. Study of channels of distribution, the consumer, marketing policies and practices, public and private regulations. (FT) Transfer Credit: CSU and/or private coll/univ.

**This discipline may offer specialized instruction in one or more of the following areas: Supervised Tutoring (044), Special Topics (265), Independent Study (290), Individualized Instruction (296), Service Learning (277), Applied Applications and Software Skills (045L), or Work Experience (270).** Detailed course descriptions are listed on page 94. Please refer to the class schedule and/or see the dean or department chair for availability.
**Real Estate (REAL)**

**101 Real Estate Principles**
3 hours, 3 units  
Grade Only  

This course covers the fundamentals of the economics of land ownership and use and the responsibility of broker, owner and purchaser; terminology and definitions and the varied vocational opportunities in the general field of real estate are also covered. Completion of this course is required prior to taking the exam for the California Real Estate Salesperson’s License. This course also applies as an elective toward the State’s educational requirements for the broker’s examination. (FT) Transfer Credit: CSU and/or private coll/univ.

**105 Legal Aspects of Real Estate I**
3 hours, 3 units  
Grade Only  

This course studies California Real Estate law with emphasis on its practical application to legal problems arising from real estate transactions, statutory enactments and case law, legal instruments, zoning ordinances, and city and county planning decisions. Attention is given to California real estate law. This course applies toward the State’s educational requirements for the broker’s examination and as an elective for the salesperson’s license. (FT) Transfer Credit: CSU and/or private coll/univ.

**110 Principles of Real Estate Appraisal I**
3 hours, 3 units  
Grade Only  

This course is an introductory course covering the purposes of appraisals, the appraisal process, and the different approaches, methods, and techniques used to determine the value of various types of property. Emphasis will be on residential and special purpose property. This course applies toward the State’s educational requirements for the broker’s examination and as an elective for the salesperson’s license. (FT) Transfer Credit: CSU and/or private coll/univ.

**115 Real Estate Finance I**
3 hours, 3 units  
Grade Only  

This course analyzes the financing of real estate. Topics will include types of financing sources; loans and loan processing; governmental loans, methods of financing residential properties; with an overview of financing business, income, commercial and industrial properties; and property appraisal and taxation. This course applies toward the State’s educational requirements for the broker’s examination and as an elective for the salesperson’s license. (FT) Transfer Credit: CSU and/or private coll/univ.

This discipline may offer specialized instruction in one or more of the following areas: Supervised Tutoring (044), Special Topics (265), Independent Study (290), Individualized Instruction (296), Service Learning (277), Applied Applications and Software Skills (045L), or Work Experience (270). Detailed course descriptions are listed on page 94. Please refer to the class schedule and/or see the dean or department chair for availability.

**Supervision (SUPR)**

**101 Introduction to Supervision**
3 hours, 3 units  
Grade Only  

Advisory: English 51 and/or 56 or Business 92, each with a grade of "C" or better, or equivalent, or Assessment Skill Level W5 and/or R5. This course introduces students to the fundamentals of management, the functions and concepts of supervision, and the role of the supervisor in the organization. (FT) Transfer Credit: CSU and/or private coll/univ.

**115 Management and Organization for Supervisors**
3 hours, 3 units  
Grade Only  

Advisory: English 51 and/or 56 or Business 92, each with a grade of "C" or better, or equivalent, or Assessment Skill Level W5 and/or R5. An analysis of the managerial functions of organizing, staffing, directing, planning, controlling, and the
principles pertaining to those functions (FT) Transfer Credit: CSU and/or private coll/univ.

170 Supervisor/Employee Communications
3 hours, 3 units
Grade Only
Advisory: English 51 and/or 56 or Business 92, each with a grade of "C" or better, or equivalent, or Assessment Skill Level W5 and/or R5.
This course is designed to develop communications skills for supervisors, consistent with good human relations principles. The emphasis will be on listening and speaking in a variety of on-the-job situations such as one-to one, small group, and large group communications. (FT) Transfer Credit: CSU and/or private coll/univ.

Chemistry
See “Physical and Earth Sciences” on page 289.

Chicano Studies

Description
The Chicano Studies program provides an interdisciplinary approach to the interaction of the Chicano with other cultures in a bilingual, multicultural setting. It helps to prepare students for transfer to a four-year university major in Mexican American, Ethnic or Intercultural Studies and for other professional fields including the social sciences, humanities, law, law enforcement, border and immigration occupations, international business, social work, public administration and teaching. Chicano Studies courses enhance understanding of one of the country's fastest growing population groups.

Program Emphasis
Chicano Studies courses are taught in English and the curriculum is designed to meet District and baccalaureate general education and multicultural course requirements. The program offers courses in anthropology, bilingual studies, Chicano culture, history of Mexico and the United States, language and literature, psychology and sociology from a Chicano perspective.

Faculty

<table>
<thead>
<tr>
<th>Faculty</th>
<th>Office</th>
<th>Telephone</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ternot MacRenato</td>
<td>A1-M</td>
<td>(619) 388-3634</td>
</tr>
<tr>
<td>Cruz Rangel</td>
<td>A1-C</td>
<td>(619) 388-3237</td>
</tr>
</tbody>
</table>

Career Options
Most careers related to Chicano or Mexican American Studies require education beyond the associate degree. A list of sample careers includes: anthropologist, immigration officer, peace officer, counselor, international business person, historian, health worker, social worker, translator, and travel and tourism advisor.

Academic Programs
The associate degree in Chicano Studies requires completion of the courses listed below. Additional general education and graduation requirements for the associate degree are listed in the catalog. The associate degree requires a minimum of 60 units.
## Associate in Arts Degree: Chicano Studies

### Courses Required for the Major: Chicano Studies

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHIC 110A &amp; 110B</td>
<td>Introduction to Chicano Studies</td>
<td>3,3</td>
</tr>
<tr>
<td>CHIC 130</td>
<td>Mexican Literature in Translation OR</td>
<td></td>
</tr>
<tr>
<td>CHIC 135</td>
<td>Chicano Literature OR</td>
<td></td>
</tr>
<tr>
<td>CHIC 138</td>
<td>Literature of La Raza in Latin America Translation</td>
<td>3</td>
</tr>
<tr>
<td>CHIC 141A, 141B</td>
<td>U.S. History from a Chicano Perspective</td>
<td>3,3</td>
</tr>
<tr>
<td>CHIC 210</td>
<td>Chicano Culture</td>
<td></td>
</tr>
</tbody>
</table>

Select one of the following courses:

- CHIC 203, Introductory Spanish for Spanish Speakers OR
- CHIC 204, Intermediate Spanish for Spanish Speakers OR
- SPAN 201, Third Course in Spanish OR
- SPAN 202, Fourth Course in Spanish

| Total Units = 23 |

### Recommended electives:
- Chicano Studies 150, 201, 290, 296.

### Transfer Information

Students planning to transfer to a four-year college or university should complete courses required for the university major and the general education pattern required by that transfer institution. See catalog TRANSFER INFORMATION section. Additional courses may be required to meet university lower-division requirements. Course requirements at the transfer institution are subject to change and may be verified by a counselor or by consulting the current university catalog. Many Baccalaureate in Arts degrees require third semester competency in a foreign language. Consult the current catalog of the transfer institution and consult with a counselor.

- **San Diego State University**

- **University of California, San Diego**
  - Consult a counselor for preparation for Third World Studies and other related majors.

### Courses

#### Chicano Studies (CHIC)

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>110A</td>
<td>Introduction to Chicano Studies</td>
<td>3 hours, 3 units</td>
</tr>
<tr>
<td>110B</td>
<td>Introduction to Chicano Studies</td>
<td>3 hours, 3 units</td>
</tr>
<tr>
<td>130</td>
<td>Mexican Literature in Translation</td>
<td>3 hours, 3 units</td>
</tr>
<tr>
<td>135</td>
<td>Chicano Literature</td>
<td>3 hours, 3 units</td>
</tr>
<tr>
<td>138</td>
<td>Literature of La Raza in Latin America in Translation</td>
<td>3 hours, 3 units</td>
</tr>
</tbody>
</table>
A survey of the novels, short stories, poetry and major Latin American writers, from the end of the Colonial Period to the present. Emphasis will be given to major contemporary authors reflecting the universality of Mestizo (Raza) masterpieces. (FT) Transfer Credit: CSU and/or private coll/univ.; UC.

141A United States History from a Chicano Perspective

3 hours, 3 units
Advisory: English 43 and English 42, each with a grade of “C” or better, or equivalent, or Assessment Skill Levels W4 and R4.
American civilization from the Mexican and Chicano perspective. Considers the period of discovery through the Mexican-American War, the Treaty of Guadalupe Hidalgo, and the Period of Reconstruction. NOTE: The complete one-year course, Chicano Studies 141A-B, satisfies the graduation requirements in American Institutions and California State Government. (FT) Transfer Credit: CSU and/or private coll/univ. UC Transfer Credit: Chicano Studies (CHIC) 141AB combined with Black Studies 140AB or History 109, 110, 150, 151: maximum credit, one series.

141B United States History from a Chicano Perspective

3 hours, 3 units
Advisory: English 43 and English 42, each with a grade of “C” or better, or equivalent, or Assessment Skill Levels W4 and R4.
Covers the period from 1877 to the present, including the history of Mexican immigration; farm labor and urban Chicano history; and contemporary movements. NOTE: The complete one-year course, Chicano Studies 141A-B, satisfies the graduation requirements in American Institutions and California State Government. (FT) Transfer Credit: CSU and/or private coll/univ. UC Transfer Credit: Chicano Studies (CHIC) 203, 204 combined with Spanish 201, 202: maximum credit, one series.

150 History of Mexico

3 hours, 3 units
Advisory: English 51 and 56, each with a grade of “C” or better, or equivalent, or Assessment Skill Levels W5 and R5.
This is a survey of Mexican history from the earliest pre-Columbian times to the present. Special emphasis is given to major historical developments from the time of the Spanish Conquest to the Revolution of 1910. In this course special consideration is given to the economic, political, social, and cultural factors which have shaped modern Mexico. This course prepares students for careers dealing with Mexico and/or Mexican culture. This course satisfies an elective requirement for the Associate Degree in Chicano Studies. (FT) Transfer Credit: CSU and/or private coll/univ.; UC.

201 Pre-Columbian Cultures of MesoAmerica

3 hours, 3 units
Advisory: English 51 and 56, each with a grade of “C” or better, or equivalent, or Assessment Skill Levels W5 and R5.
This course is an examination of the archaeological, economic, social, political, cultural, and religious systems of MesoAmerica. This course satisfies an elective requirement for the Associate Degree in Chicano Studies. (FT) Transfer Credit: CSU and/or private coll/univ.; UC.

203 Introductory Spanish for Spanish Speakers

5 hours lecture, 5 units
Advisory: English 43 and English 42, each with a grade of “C” or better, or equivalent, or Assessment Skill Levels W4 and R4.
A survey of Spanish grammar, understanding and speaking Spanish, with special emphasis on reading and writing Spanish. The Spanish of the Southwest will be studied as an effective and legitimate instrument of communication. Students will read community newspapers as well as Chicano and Mexican writers. (FT) Transfer Credit: CSU and/or private coll/univ. UC Transfer Credit: Chicano Studies (CHIC) 203, 204 combined with Spanish 201, 202: maximum credit, one series.

204 Intermediate Spanish for Spanish Speakers

5 hours lecture, 5 units
Advisory: English 43 and English 42, each with a grade of “C” or better, or equivalent, or Assessment Skill Levels W4 and R4.
An advanced review of grammar. Conversational and written Spanish emphasized. Spanish and Chicano literary works will be selected to acquaint the student with the historical background, literature, and culture of the Spanish-speaking people. (FT) Transfer Credit: CSU and/or private coll/univ. UC Transfer Credit: Chicano Studies (CHIC) 203, 204 combined with Spanish 201, 202: maximum credit, one series.

210 Chicano Culture

3 hours, 3 units
Advisory: English 43 and English 42, each with a grade of “C” or better, or equivalent, or Assessment Skill Levels W4 and R4.
An analysis of the Indo-Hispanic roots of Chicano culture and its contemporary evolution in America. Emphasis will be placed on urban and rural cultural expressions and their historical development. (FT) Transfer Credit: CSU and/or private coll/univ.; UC.

**290 Independent Study**

*Hours by Arrangement: 1-3 units*

*Limitation on Enrollment: Must obtain an Add Code from instructor for registration.*

For students with advanced background in Chicano Studies who wish to study special problems or work on specialized projects. This course may be taken four times with different content for a maximum of six units. (FT) Transfer Credit: CSU and/or private coll/univ.; UC transfer limitations. See a counselor.

This discipline may offer specialized instruction in one or more of the following areas: Supervised Tutoring (044), Special Topics (265), Independent Study (290), Individualized Instruction (296), Service Learning (277), Applied Applications and Software Skills (045L), or Work Experience (270). Detailed course descriptions are listed on page 94. Please refer to the class schedule and/or see the dean or department chair for availability.
Child Development

Description
Child Development offers programs for career and transfer students. Certificates of Completion, Certificates of Achievement and Associate Degree programs are available to students interested in a range of child development opportunities and in meeting the requirements for the State of California Child Development Permits and the California State Department of Social Services, Title 22, Community Care Licensing.

Program Emphasis
The Child Development program offers course work, training and supervised practicum experiences to meet state licensing requirements for working in centers, schools, child care homes and service related agencies. The skills and knowledge gained in beginning courses provide the framework and foundation for more specialized courses.

Faculty
Susan Fontana  Child Development Center F-Building (619) 388-3205
Berta Harris  A-1-D (619) 388-3877
Gloria Lyon  Child Development Center, F-Building (619) 388-3648
Sue Martin  Educational Cultural Complex Child Development Center, Rm 46 (619) 527-5229

Career Options
The San Diego Community College District offers certificates, degrees and transfer options in the field of Child Development/Early Childhood Education. The Family Child Care Certificate offered at City, Mesa, and Miramar and the Home Day Care Certificate offered at Mesa provides skills and knowledge for child care in family settings. The Infant/Toddler Care Certificate of Completion offers skills for working with children aged birth to three years. The School Age Child Care Certificate of Completion offered at City and Mesa provides training for working with school age children. The Assistant Teacher Certificate of Completion prepares an individual to work in public and private child care settings. The Certificate of Achievement options, Associate Teacher, Teacher, and Master Teacher, prepare individuals for higher level instructional positions. The Assistant Teacher, Associate Teacher, Teacher, and Master Teacher certificates meet the requirements for the State of California Child Development Permits. The Child Development Associate in Science Degrees prepare for teacher, master teacher, director, and site supervisory positions.

Academic Programs

*Certificates of Completion
*These are department awards in recognition of information on the transcript and does not imply that a graduation requirement has been met.

Certificate of Completion:
Assistant Teacher*
This certificate prepares students to assist in the instruction of children under the supervision of an Associate Teacher or higher. Child Development courses must be completed with a grade of "C" or better.

Courses:

<table>
<thead>
<tr>
<th>Courses</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHIL 101, Human Growth and Development</td>
<td>3</td>
</tr>
<tr>
<td>CHIL 180, Nutrition, Health &amp; Safety for Children</td>
<td>3</td>
</tr>
</tbody>
</table>

Select one course from:

| CHIL 111, Curriculum: Music/Motor Skills |
| CHIL 121, Curriculum: Art |
| CHIL 131, Curriculum: Language/Science |
| CHIL 141, Child, Family and Community |

Select one course from:

| CHIL 160, Observing and Understanding Children |
| CHIL 161, Observations and Issues in Child Development |
| CHIL 270, Work Experience |
| CHIL 291, or 291A, or 291B, or 291C, or 291D, Child Development Center Practicum |

Total Units = 10-13
Certificate of Completion:  
**Family Child Care***
This certificate prepares students with basic training to care for children in a licensed home/family settings. Child Development courses must be completed with a grade of "C" or better.

**Courses:**  
<table>
<thead>
<tr>
<th>Units</th>
</tr>
</thead>
</table>
| CHIL 100, Introduction to Child Development | 3  
| CHIL 101, Human Growth and Development | 3  
| CHIL 180, Nutrition, Health & Safety for Children | 3  

**Select one course from:**  
<table>
<thead>
<tr>
<th>Units</th>
</tr>
</thead>
</table>
| CHIL 111, Curriculum: Music/Motor Skills | 3  
| CHIL 121, Curriculum: Art |  
| CHIL 131, Curriculum: Language/Science |  
| CHIL 175, The Infant Toddler | 3  

**Total Units = 9**

Certificate of Completion:  
**Infant/Toddler Care***
This certificate prepares students with basic training to work with children aged birth to three years in licensed home/family care and center programs. Child Development courses must be completed with a grade of "C" or better.

**Courses:**  
<table>
<thead>
<tr>
<th>Units</th>
</tr>
</thead>
</table>
| CHIL 100, Introduction to Child Development (OR) | 3  
| CHIL 101, Human Growth and Development | 3  
| CHIL 175, The Infant/Toddler | 3  
| CHIL 176, Principles of Infant/Toddler Caregiving | 3  

**Total Units = 9**

Certificate of Completion:  
**Residential Care Workers***
This certificate is designed to meet the State requirements for positions in residential care programs.

**Courses**  
<table>
<thead>
<tr>
<th>Units</th>
</tr>
</thead>
</table>
| CHIL 101, Human Growth and Development | 3  
| CHIL 141, Child, Family and Community | 3  
| CHIL 175, The Infant Toddler | 3  
| CHIL 188, Child Abuse | 3  

**Total Units = 12**

Certificate of Completion:  
**School Age Child Care***
This certificate prepares students for entry level positions as before- and after-school care providers, recreation leaders, and camp counselors. Child Development courses must be completed with a grade of "C" or better.

**Courses:**  
<table>
<thead>
<tr>
<th>Units</th>
</tr>
</thead>
</table>
| CHIL 100, Intro to Child Development (OR) | 3  
| CHIL 101, Human Growth and Development | 3  
| CHIL 152, School Age Program Planning | 3  

**Select two courses from:**  
<table>
<thead>
<tr>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHIL 185, Computer Usage with Young Children</td>
</tr>
<tr>
<td>MATH 210A, Concepts of Elem School Mathematics</td>
</tr>
<tr>
<td>MUSI 110, Music for Elementary School Teachers</td>
</tr>
</tbody>
</table>
| PHYE 240, Physical Education in the Elementary Schools | 3,3  

**Total Units = 12**

For the Certificates of Completion listed above, one or more of the following courses is recommended to gain experience and credits required for higher level permits:

<table>
<thead>
<tr>
<th>Courses</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHIL 160, Observing and Understanding Children</td>
</tr>
<tr>
<td>CHIL 161, Observations and Issues in Child Development</td>
</tr>
<tr>
<td>CHIL 270, Work Experience</td>
</tr>
<tr>
<td>CHIL 291, or 291A, or 291B, or 291C, or 291D, Child Development Center Practicum</td>
</tr>
</tbody>
</table>

Certificate of Achievement:  
**Child Development Associate Teacher***
This certificate prepares students to provide instruction to children and supervise Assistant Teachers. Child Development courses must be completed with a grade of "C" or better.

**Courses Required for the Major:**  
<table>
<thead>
<tr>
<th>Units</th>
</tr>
</thead>
</table>
| CHIL 101, Human Growth and Development | 3  
| CHIL 141, Child, Family and Community | 3  
| CHIL 180, Nutrition, Health & Safety for Children | 3  

**Select two courses from:**  
<table>
<thead>
<tr>
<th>Units</th>
</tr>
</thead>
</table>
| CHIL 111, Curriculum: Music/Motor Skills | 3,3  
| CHIL 121, Curriculum: Art |  
| CHIL 131, Curriculum: Language/Science |  
| CHIL 160, Observing and Understanding Children |  
| CHIL 161, Observations and Issues in Child Development |  
| CHIL 270, Work Experience |  
| CHIL 291, or 291A, or 291B, or 291C, or 291D, Child Development Center Practicum | 3-4  

**Total Units = 18-19**
Certificate of Achievement:
Child Development
Teacher
This certificate prepares students to provide instruction to children and supervise Assistant and Associate Teachers. Child Development courses must be completed with a grade of "C" or better.

Courses Required for the Major: Units
CHIL 101, Human Growth and Development........ 3
CHIL 111, Curriculum: Music/Motor Skills........ 3
CHIL 121, Curriculum: Art .................................. 3
CHIL 131, Curriculum: Language/Science ........ 3
CHIL 141, Child, Family and Community............. 3
CHIL 180, Nutrition, Health & Safety for Children... 3
CHIL 151, Program Planning ................................ 3
and concurrent enrollment in:
CHIL 270, Work Experience, OR
CHIL 275, Supervised Field Study .................. 2-4
Select one of the following three options:
CHIL 160, Observing & Understanding Children AND
CHIL 161, Observation & Issues in Child Development
OR
CHIL 165, Children with Special Needs OR
CHIL 175, Infant/Toddler .................................. 3-4
Total Units = 26-29

Certificate of Achievement:
Child Development
Master Teacher
This certificate prepares students to provide instruction to children and supervised Assistant/Associate Teachers and Teachers. It further prepares the Master Teacher to coordinate curriculum and staff development. Child Development courses must be completed with a grade of "C" or better.

Courses Required for the Major: Units
CHIL 101, Human Growth and Development........ 3
CHIL 111, Curriculum: Music/Motor Skills........ 3
CHIL 121, Curriculum: Art .................................. 3
CHIL 131, Curriculum: Language/Science ........ 3
CHIL 141, Child, Family and Community............. 3
CHIL 151, Program Planning ................................ 3
CHIL 180, Nutrition, Health & Safety for Children... 3
AND
Select one of the following three options that is NOT part of your Specialization (see Specializations listed below) to complete the minimum 24 unit core requirement:

CHIL 160, Observing & Understanding Children and
CHIL 161, Observation & Issues in Child Development
CHIL 165, Children with Special Needs or
CHIL 175, Infant/Toddler .................................. 3-4
AND
CHIL 215, Adult Supervision & Mentoring in Early Childhood Settings................................. 3
AND
CHIL 270, Work Experience, or
CHIL 275, Supervised Field Study (with concurrent enrollment in CHIL 151, Program Planning) ........................................ 2-4
Select one of the following Specializations for a total of 6 - 7 units:
Guiding Young Children
CHIL 160, Observing & Understanding Children
CHIL 161, Observation & Issues in Child Development
CHIL 162, Observing and Guiding Child Behavior or
Family Life
CHIL 160, Observing & Understanding Children
CHIL 161, Observation & Issues in Child Development
CHIL 165, Children with Special Needs
CHIL 166, Special Needs Curriculum
CHIL 185, Infant/Toddler
CHIL 175, The Infant/Toddler
CHIL 176, Principles of Infant/Toddler Caregiving or
School Age
CHIL 152, School-Age Program Planning and
Select one course from:
CHIL 185, computer usage with young children or
MATH 210A, Concepts of Elementary School Mathematics or
MUSI 110, Music for the Elementary School Teachers or
PHYE 240, Physical Education in the Elementary Schools ........................................ 3
Total Units = 35-39

Associate in Science Degree:
Child Development
This degree prepares students to provide instruction to children and supervise Assistant and Associate Teachers. Child Development courses must be completed with a grade of "C" or better. Additional general education and graduation requirements are listed in the Academic Requirements section of this
catalog. The Associate Degree requires a minimum of 60 units.

**Courses Required for the Major**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHIL 101</td>
<td>Human Growth and Development</td>
<td>3</td>
</tr>
<tr>
<td>CHIL 111</td>
<td>Curriculum: Music/Motor Skills</td>
<td>3</td>
</tr>
<tr>
<td>CHIL 121</td>
<td>Curriculum: Art</td>
<td>3</td>
</tr>
<tr>
<td>CHIL 131</td>
<td>Curriculum: Language/Science</td>
<td>3</td>
</tr>
<tr>
<td>CHIL 141</td>
<td>Child, Family and Community</td>
<td>3</td>
</tr>
<tr>
<td>CHIL 180</td>
<td>Nutrition, Health &amp; Safety for Children</td>
<td>3</td>
</tr>
<tr>
<td>CHIL 151</td>
<td>Program Planning</td>
<td>3</td>
</tr>
</tbody>
</table>

and concurrent enrollment in:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHIL 270</td>
<td>Work Experience, OR</td>
<td>2-4</td>
</tr>
<tr>
<td>CHIL 275</td>
<td>Supervised Field Study</td>
<td>2-4</td>
</tr>
</tbody>
</table>

Select one of the following three options:

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<tr>
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<th>Course Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHIL 160</td>
<td>Observing &amp; Understanding Children AND</td>
<td></td>
</tr>
<tr>
<td>CHIL 161</td>
<td>Observation &amp; Issues in Child Development OR</td>
<td></td>
</tr>
<tr>
<td>CHIL 165</td>
<td>Children with Special Needs OR</td>
<td></td>
</tr>
<tr>
<td>CHIL 175</td>
<td>Infant/Toddler</td>
<td>3-4</td>
</tr>
</tbody>
</table>

Total Units = 26-29

**Associate in Science Degree:**

**Child Development**

**Site Supervisor**

This degree prepares students to supervise single site programs, provide instruction to children and coordinate curriculum and staff development. Child Development courses must be completed with a grade of "C" or better. Additional general education and graduation requirements are listed in the Academic Requirements section of this catalog. The Associate Degree requires a minimum of 60 units.

**Courses Required for the Major**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHIL 101</td>
<td>Human Growth and Development</td>
<td>3</td>
</tr>
<tr>
<td>CHIL 111</td>
<td>Curriculum: Music/Motor Skills</td>
<td>3</td>
</tr>
<tr>
<td>CHIL 121</td>
<td>Curriculum: Art</td>
<td>3</td>
</tr>
<tr>
<td>CHIL 131</td>
<td>Curriculum: Language/Science</td>
<td>3</td>
</tr>
<tr>
<td>CHIL 141</td>
<td>Child, Family and Community</td>
<td>3</td>
</tr>
<tr>
<td>CHIL 151</td>
<td>Program Planning</td>
<td>3</td>
</tr>
</tbody>
</table>

and concurrent enrollment in:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHIL 270</td>
<td>Work Experience, OR</td>
<td>2-4</td>
</tr>
<tr>
<td>CHIL 275</td>
<td>Supervised Field Study</td>
<td>2-4</td>
</tr>
</tbody>
</table>

Select one of the following three options:

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<th>Course Title</th>
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</thead>
<tbody>
<tr>
<td>CHIL 160</td>
<td>Observing &amp; Understanding Children AND</td>
<td></td>
</tr>
<tr>
<td>CHIL 161</td>
<td>Observation &amp; Issues in Child Development OR</td>
<td></td>
</tr>
<tr>
<td>CHIL 165</td>
<td>Children with Special Needs OR</td>
<td></td>
</tr>
<tr>
<td>CHIL 175</td>
<td>Infant/Toddler</td>
<td>3-4</td>
</tr>
</tbody>
</table>

Total Units = 35-38


**Courses offered by San Diego Community College District that meet experience requirements for Certificates and Degrees:**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHIL 160</td>
<td>Observing &amp; Understanding Children, 2 units</td>
<td>16 days</td>
</tr>
<tr>
<td>CHIL 161</td>
<td>Observation &amp; Issues in Child Development OR</td>
<td></td>
</tr>
<tr>
<td>CHIL 270</td>
<td>Work Experience, 1 unit</td>
<td>16 days</td>
</tr>
<tr>
<td>CHIL 270</td>
<td>Work Experience, 2 unit</td>
<td>32 days</td>
</tr>
<tr>
<td>CHIL 270</td>
<td>Work Experience, 3 unit</td>
<td>48 days</td>
</tr>
<tr>
<td>CHIL 270</td>
<td>Work Experience, 4 unit</td>
<td>64 days</td>
</tr>
<tr>
<td>CHIL 275</td>
<td>Supervised Field Study, 2 units</td>
<td>32 days</td>
</tr>
</tbody>
</table>

Transfer Information

Students planning to transfer to a four-year college or university should complete courses required for the university major and the general education pattern required by that transfer institution. See catalog TRANSFER INFORMATION section. Additional courses may be required to meet university lower-division requirements. Course requirements at the transfer institution are subject to change and may be verified by a counselor or by consulting the current university catalog. Many Baccalaureate in Arts degrees require third semester competency in a foreign language. Consult the current catalog of the transfer institution and consult with a counselor.
San Diego State University

Child and Family Development, B.S.: Biology 105 and 106 (Miramar) or 107 (City, Mesa); Child Development 101*, 141, 151, 160; Psychology 101, 135; Child Development 111, 121, 131 (any two); Mathematics 119 or Psychology 258; Psychology 101; Sociology 101.

*acceptable only if Psychology 101 or Sociology 101 taken prior to transfer.

Liberal Studies, Emphasis in Education, B.S.: Consult a counselor for specific course requirements.

University of California, San Diego

Human Development, B.A.: Anthropology 102, 103; Biology 210A, 210B; Computer and Information Science 192; Mathematics 119 or Psychology 258; Mathematics 121, 122 or 150, 151 and 252; Philosophy 101; Sociology 101.

Courses

Child Development (CHIL)

100 Introduction to Child Development

3 hours lecture, 3 units

Advisory: Completion of English 43 and English 42, each with a grade of "C" or better, or equivalent, or Assessment Skill Levels W4 and R4.

This course serves as an overview of the field of child development. Emphasis is placed on the analysis of historical and contemporary philosophies and models of early childhood education, exploration of the variety and scope of programs in the community, examination of career options and career preparation in the field of child development, and current issues and trends facing early childhood education. This course partially fulfills the certification requirements for child development Infant/Toddler program requirements. (FT) Associate Degree Credit.

101 Human Growth and Development

3 hours lecture, 3 units

Advisory: English 51 and English 56 with a grade of "C" or better, or equivalent, or Assessment Skill Levels W5 and R5.

This course is a study of the interrelationship between the physical, cognitive and psychosocial growth and development of the individual from conception through adolescence. Emphasis is placed on positive relationships with family members, peers and other significant individuals. Theories and philosophies of human development and cross-cultural patterns are explored. Observations of children and educational programs are required. This course is a core requirement for the State of California Child Development Permit and the State of California Community Care Licensing, Title XXII. (FT) Transfer Credit: CSU and/or private coll/univ.; UC. (CAN FCS 14)

111 Curriculum: Music/Motor Skills

3 hours lecture, 3 units

Advisory: English 43 and English 42, each with a grade of "C" or better, or equivalent, or Assessment Skill Levels W4 and R4.

This course is a study of the development and significance of music and perceptual motor activities in child development from infancy through kindergarten. Emphasis is placed on basic teaching techniques and selecting suitable materials and equipment for various age and maturity levels among preschool children. This course is designed for students who have an interest in working with children ages 0 - 5 in settings such as preschools, daycares etc. (FT) Transfer Credit: CSU and/or private coll/univ.; UC.

121 Curriculum: Art

3 hours lecture, 3 units

Advisory: English 51 and English 56 with a grade of "C" or better, or equivalent, or Assessment Skill Levels W5 and R5.

This course is an introductory study of the function of creativity and the affective domain in early childhood educational programs. Emphasis is placed on the development of art curriculum activities, basic teaching skills, guidance techniques, equipment and materials. Students select appropriate activities for a variety of age and maturity levels based on child development theories and concepts. (FT) Transfer Credit: CSU and/or private coll/univ.

131 Curriculum: Language/Science

3 hours lecture, 3 units

Advisory: English 43 and English 42 each with a grade of "C" or better, or equivalent, or Assessment Skill Levels W4 and R4.

This course is an introductory study of the function of language, math and science learning in early childhood educational programs. Emphasis is placed on the development of language and science curriculum activities, basic teaching skills, guidance techniques,
equipment and materials. Students select appropriate activities for a variety of age groups and maturity levels based on child development theories and concepts. This course may be used for licensing, child development permits, transfer and general interest for working with children. (FT) Transfer Credit: CSU and/or private coll/univ.

158 Child Development equipment and materials. Students select appropriate activities for a variety of age groups and maturity levels based on child development theories and concepts. This course may be used for licensing, child development permits, transfer and general interest for working with children. (FT) Transfer Credit: CSU and/or private coll/univ.

141 The Child, Family and Community
3 hours lecture, 3 units
Grade Only
Advisory: English 51 and English 56 with a grade of "C" or better, or equivalent, or Assessment Skill Levels W5 and R5.
This course is a study of the dynamics of human development and socialization in a culturally pluralistic society. Emphasis is placed on the influences of contemporary family living and cultural patterns on the child, school-family relationships, and community resources and services that support and strengthen families. This course is a core requirement for California Child Development teacher/director center permits as well as for the State of California Department of Community Care Title XXII licensing child care centers requirements. (FT) Transfer Credit: CSU and/or private coll/univ.

151 Program Planning
3 hours, 3 units
Grade Only
Prerequisite: Child Development 101 and either 111 or 121 or 131, each with a grade of “C” or better, or equivalent.
Corequisite: Child Development 270 or 275.
Planning the environment to promote optimal development with emphasis on curriculum planning, guidance, safety, record keeping, observation techniques, resource units, and the daily plan. (FT) Transfer Credit: CSU and/or private coll/univ.

152 School Age Program Planning
3 hours, 3 units
Grade Only
Advisory: English 43 and English 42, each with a grade of “C” or better, or equivalent.
Planning the environment to promote optimal development for the school-age child with emphasis on curriculum planning, guidance, health and safety, record keeping, observation techniques, resource units and the family plan. (FT) Transfer Credit: CSU and/or private coll/univ.

160 Observing and Understanding Children
1 hour lecture, 3 hours lab, 2 units
Grade Only
Advisory: English 43 and English 42, each with a grade of “C” or better, or equivalent, or Assessment Skill Levels W4 and R4.
Limitation on Enrollment: This course is not open to students with credit for Child Development 160A.
This course focuses on behavioral patterns and growth processes of young children through, observations and supervised participation in the campus Child Development Center. Emphasis is placed on the principles of observing, interpreting and guiding children’s behavior. The course includes the study of children’s developmental, safety and nutritional needs. The course fulfills the specialization requirements for the State of California Master Teacher Permit when taken with Child Development 161 and 162 or Child Development 161 and 188. (FT) Transfer Credit: CSU and/or private coll/univ.

161 Observations and Issues in Child Development
1 hour lecture, 3 hours lab, 2 units
Grade Only
Advisory: English 43 and English 42, each with a grade of “C” or better, or equivalent, or Assessment Skill Levels W4 and R4.
Limitation on Enrollment: This course is not open to students with credit for Child Development 160B.
This course explores current issues in child development and how these issues influence the child and the family. Emphasis is placed on effective communication skills, positive guidance techniques, kindergarten readiness skills and appropriate classroom activities. The course includes supervised participation in the campus Child Development Center. This course fulfills the specialization requirements for the State of California Master Teacher Permit when taken with Child Development 160 and 162 or Child Development 160 and 188. (FT) Transfer Credit: CSU and/or private coll/univ.

162 Observing and Guiding Child Behavior
3 hours lecture, 3 units
Grade Only
Advisory: Completion of English 43 and English 42, each with a grade of “C” or better, or equivalent, or Assessment Skill Levels W4 and R4.
This course explores various behavior management techniques, interpersonal communication, ideas and suggestions to assist caregivers in guiding children’s behavior. Application of developmental, cultural and communication principles in combination with...
observation of real situations is the mode of study of this course. The focus will be on children from birth through age 10. The course can be used to meet degree and certificate requirements for Child Development and the Master Teacher Permit requirement if taken with Child Development 160 and 161. (FT) Transfer Credit: CSU and/or private coll/univ.

165 Children with Special Needs
3 hours, 3 units
Grade Only
Advisory: English 43 and English 42, each with a grade of “C” or better, or equivalent, or Assessment Skill Levels W4 and R4.
An educational and parenting approach to working with children with exceptionalities. Methods of integrating the exceptional child into a mainstreamed educational program will be investigated. Differences and needs of each area of exceptionality will be investigated as well as the roles of different professionals in the educational process. The course is designed primarily for parents, teachers, nurses, social workers, and paraprofessionals employed in schools, day care centers, and child development programs. (FT) Transfer Credit: CSU and/or private coll/univ.

166 Special Needs Curriculum
3 hours lecture, 3 units
Grade Only
Advisory: Completion of English 43 and English 42, each with a grade of “C” or better, or equivalent or Assessment Skill Levels W4 and R4.
This course provides an in-depth look at curriculum for children with special needs. Full inclusion of children with special needs into school and community settings is explored. Application of specific strategies for integrating children into typical settings is addressed as well as use of adaptive equipment. This course is designed primarily for parents, teachers, nurses, social workers, and paraprofessionals employed in schools, day care centers, and child development programs. The course partially fulfills requirements for the Child Development Certificate and Degree programs and partially meets the specialization requirements for the Master Teacher Permit if taken with Child Development 165. (FT) Transfer Credit: CSU and/or private coll/univ.

175 The Infant-Toddler
3 hours, 3 units
Grade Only
Advisory: English 43 and English 42, each with a grade of “C” or better, or equivalent, or Assessment Skill Levels W4 and R4.
Examines the physical, social, emotional, and intellectual growth of the child, including the atypical infant. Discusses the selection and maintenance of toys and play equipment for indoor and outdoor environments. Appropriate observations and visitations to the community will be required. (FT) Transfer Credit: CSU and/or private coll/univ.

176 Principles of Infant/Toddler Caregiving
3 hours lecture, 3 units
Grade Only
Advisory: Completion of English 43 and English 42, each with a grade of “C” or better, or equivalent or Assessment Skill Levels W4 and R4.
This course explores principles and curriculum of an infant/toddler program that includes all aspects of infant and toddler development. Students will learn care strategies in a variety of caregiving situations. Content includes licensing and regulations, developmental needs, health, nutrition, and safety of the very young. The student learns to plan appropriate indoor and outdoor environments. Staff interaction, parent participation, and program development are included. This course fulfills major and master permit specializations when taken along with Child Development 160 and 161. (FT) Transfer Credit: CSU and/or private coll/univ.

180 Nutrition, Health and Safety for Children
3 hours, 3 units
Grade Only
Advisory: English 43 and English 42, each with a grade of “C” or better, or equivalent or Assessment Skill Levels W4 and R4.
This course surveys principles and application of nutrition, health and safety needs and practices for children of diverse backgrounds. It examines planning environments, programs and related activities. Completion of a First Aid and CPR class will be integrated into this course. (FT) Transfer Credit: CSU and/or private coll/univ.

185 Computer Usage with Young Children
3 hours, 3 units
Grade Only
Advisory: English 51 and English 56, each with a grade of “C” or better, or equivalent, or Assessment Skill Levels W5 and R5.
This course explores principles of computer application in the Child Development field. Emphasis will be on the use of computers as an educational tool. Through the in-depth exploration of computer software applications, students will learn the functions, integration, and
Child Development

188 Child Abuse

3 hours, 3 units
Grade Only

Advisory: English 51 and English 56, each with a grade of "C" or better, or equivalent, or Assessment Skill Levels W5 and R5.

This course examines the causes and effects of child abuse and neglect. It is designed primarily for parents, teachers, nurses, and other childcare professionals to learn strategies for understanding and responding to the various forms of stress and violence that affect many children today. This course emphasizes the skills needed for conflict resolution and explores the environmental set-up and curriculum that promotes peaceful, cooperative and nonviolent play and interactions. Information about the history, current legislation, reporting responsibilities, and identification of abuse is also given. (FT) Associate Degree Credit.

202 Administration of Early Childhood Programs

3 hours lecture, 3 units
Grade Only

Prerequisite: Child Development 101 and 141, each with a grade of "C" or better, or equivalent. 
Advisory: Child Development 111 and 121 or 131 and English 51 and 56, each with a grade of "C" or better, or equivalent, or Assessment Skill Levels W5 and R5.

This course provides an overview of program administration including theoretical perspectives on early childhood education, licensing regulations, funding sources, budgetary considerations, personnel management, curriculum development, and teacher selection. The course meets State of California Title 22 licensing regulations for site supervisors. It also partially fulfills State of California matrix requirements for Program Director and Site Supervisor Permits. (FT) Transfer Credit: CSU and/or private coll/univ.

210 Supervision of Early Childhood Programs

3 hours, 3 units
Grade Only

Prerequisite: Child Development 141 and 151, each with a grade of "C" or better, or equivalent.
Limitation on Enrollment: This course is not open to students with credit for Child Development 201 or 201B.

An examination of early childhood supervisory techniques with emphasis on educational philosophy, professional growth, in-service staff training, program and staff evaluation, models of parent education and involvement and supportive services. (FT) Transfer Credit: CSU and/or private coll/univ.

215 Adult Supervision and Mentoring in Early Childhood Settings

3 hours, 3 units
Grade Only

Prerequisite: Child Development 151 with a grade of "C" or better, or equivalent.

This course emphasizes the methods and principles of supervising adults in early childhood settings. Students study effective models for guidance and evaluation of adults, positive communication skills, and the role of the mentor in a teaching environment. It is designed for students who supervise other adults in the preschool classroom while simultaneously providing an appropriate setting for young children. This is a required course for the levels of Master Teacher, Site Supervisor and Program Director for the Child Development permit issued by the Commission on Teacher Credentialing. Associate Degree Credit.

270 Work Experience

Hours by Arrangement, 1-4 units
Grade Only

Limitation on Enrollment: To receive credit a student must complete a minimum of seven units during the semester, including work experience.

Program of on-the-job learning experiences for students employed in a job related to their major. The combined maximum credit for all work experience courses from all disciplines may not exceed 16 units. Transfer Credit: CSU and/or private coll/univ.

275 Supervised Field Study

3-9 hours lab, 1-3 units
Grade Only

Corequisite: Child Development 151.

A directed field of study designed to provide the student with an opportunity to apply classroom information in a practical setting with supervision from faculty as well as field-site supervisor. (FT) Transfer Credit: CSU and/or private coll/univ.

290 Independent Study

Hours by Arrangement; 1-3 units
Grade Only

Limitation on Enrollment: Must obtain an Add Code from instructor for registration.

Investigation of a special area in the field of Child Development. This course may be taken four times with
different content for a maximum of six units. (FT) Transfer Credit: CSU and/or private coll/univ.

291 Child Development Center Practicum
Hours by Arrangement, 3-12 hours lab, 1-4 units
Grade Only

Advisory: English 43 and English 42, each with a grade of "C" or better, or equivalent, or Assessment Skill Levels W4 and R4.

Directed field experience designed to provide practical experience to supplement child development courses and related curriculum. (FT) Transfer Credit: CSU and/or private coll/univ.

291A Child Development Center Practicum
3 hours lab, 1 unit
Grade Only

Advisory: English 43 and English 42, each with a grade of "C" or better, or equivalent, or Assessment Skill Levels W4 and R4.

This course provides directed laboratory experience in the campus Child Development Center. It is designed for students who plan careers in early childhood and family support programs and for parents who seek practical experience in guiding and teaching children. Students become familiar with the operating policies and procedures of a preschool program and observe and access the development of children. This course may be used toward the experience component for the State of California Child Development Permit. The combined maximum credit for Child Development 291, 291A, 291B, 291C, and 291D is four units. (FT) Transfer Credit: CSU and/or private coll/univ.

291B Child Development Center Practicum
3 hours lab, 1 unit
Grade Only

Advisory: English 43 and English 42, each with a grade of "C" or better, or equivalent, or Assessment Skill Levels W4 and R4.

This course provides directed laboratory experience in the campus Child Development Center. It is designed for students who plan careers in early childhood education and family support programs and for parents who seek practical experience in guiding and teaching children. Students examine appropriate safety, health and nutritional practices in a preschool setting with an emphasis on implementation with young children. This course may be used toward the experience component for the State of California Child Development Permit and toward the Health and Safety training requirements for Title 22. The combined maximum credit for Child Development 291, 291A, 291B, 291C, and 291D is four units. (FT) Transfer Credit: CSU and/or private coll/univ.

291C Child Development Center Practicum
3 hours lab, 1 unit
Grade Only

Advisory: English 43 and English 42, each with a grade of "C" or better, or equivalent, or Assessment Skill Levels W4 and R4.

This course provides directed laboratory experience in the campus Child Development Center. It is designed for students who plan careers in early childhood education and family support programs and for parents who seek practical experience in guiding and teaching children. Students examine the role of routines and transitional activities in the organization and structure of an early childhood development setting. The class emphasizes positive guidance and discipline for young children. This course may be used toward the field experience component for the State of California Child Development Permit. The combined maximum credit for Child Development 291, 291A, 291B, 291C, and 291D is four units. (FT) Transfer Credit: CSU and/or private coll/univ.

291D Child Development Center Practicum
3 hours lab, 1 unit
Grade Only

Advisory: English 43 and English 42, each with a grade of "C" or better, or equivalent, or Assessment Skill Levels W4 and R4.

This course provides directed laboratory experience in the campus Child Development Center. It is designed for students who plan careers in early childhood education and family support programs and for parents who seek practical experience in guiding and teaching children. Students examine the role of routines and transitional activities in the organization and structure of an early childhood development setting. The class emphasizes positive guidance and discipline for young children. This course may be used toward the field experience component for the State of California Child Development Permit. The combined maximum credit for Child Development 291, 291A, 291B, 291C, and 291D is four units. (FT) Transfer Credit: CSU and/or private coll/univ.
Communications: Radio and Television

Description
The Radio and Television program encompasses the fields of broadcasting and cablecasting news, radio, television, film, multimedia, and concert productions, along with the expanding area of industrial video applications. The field includes all aspects of creation and production both behind and in front of cameras and microphones on KSDS-FM and the television production facilities through theoretical and practical applications. The Radio and Television Department seeks to prepare the student for transfer to four-year institutions or employment in the field and facilitates training in television production and performance.

Program Emphasis
The Radio and Television program offers five areas of specialization: Radio; Radio and Television News; Video/Film; Management/Sales; and Multimedia. Certain core courses are central to each of these areas. Prospective students are advised that proficiency in English reading and writing skills is necessary for successful participation in the field. Students pursuing the Radio and Television News specialty should take additional courses in social sciences or political science. Students interested in the Management/Sales specialization are advised to take business courses as electives. The Radio and Television Department offers “hands-on” experience in all areas of the field. Through the use of the San Diego City College radio station, KSDS-FM, 88.3, and related facilities, students may focus on radio, news, management, sales performance and production. The adjacent television production studio provides state-of-the-art broadcast quality equipment and facilities for training in production and performance.

Certificate of Completion: Radio*

Courses: Units
RTVC 105, Media Performance .................................. 3
RTVC 130, Radio Programming.................................. 3
Select three units from:
RTVC 106, Acting for Radio/Voice-Over
RTVC 107, Broadcast Audio
RTVC 115, Radio & Television Management Principles
RTVC 140, Radio & Television News Writing
RTVC 132, Radio Remotes Special Events AND
RTVC 247A, B, C, OR D, Radio Broadcasting Practicum .................................. 3
Total Units = 9

Certificate of Completion: Video/Film*

Courses: Units
RTVC 124, Electronic Field Production ....................... 3
Select six units from:
RTVC 122, Television Production
RTVC 124, Electronic Field Production

Career Options
Examples of employment options available in entry level radio, television, and film production after successful completion of the associate degree program include: on-air-personality, radio news reporter, radio and television program writer/producer, television operations engineer, news photographer, audio engineer, director and videographer, and studio positions. Careers which require four-year degrees in radio and television include: motion picture writer/producer, radio and television salesperson, manager, news writer/reporter and news producer. Careers in multimedia and industrial/instructional video require an associate and often a four-year degree.

Academic Programs
The associate degrees in Radio and Television require completion of the courses listed below. Additional general education and graduation requirements for the associate degree are listed in the catalog. The associate degree requires a minimum of 60 units. STUDENTS MUST COMPLETE THE CORE AND ONE AREA OF SPECIALIZATION.

Certificate of Completion: Radio*

Courses: Units
RTVC 105, Media Performance .................................. 3
RTVC 130, Radio Programming.................................. 3
Select three units from:
RTVC 106, Acting for Radio/Voice-Over
RTVC 107, Broadcast Audio
RTVC 115, Radio & Television Management Principles
RTVC 140, Radio & Television News Writing
RTVC 132, Radio Remotes Special Events AND
RTVC 247A, B, C, OR D, Radio Broadcasting Practicum .................................. 3
Total Units = 9

Certificate of Completion: Video/Film*

Courses: Units
RTVC 124, Electronic Field Production ....................... 3
Select six units from:
RTVC 122, Television Production
RTVC 124, Electronic Field Production
RTVC 126, Staging Television & Film  
RTVC 128, Lighting For Television & Film  
RTVC 146, The TV News Field Report  
RTVC 167, Motion Picture Production……………… 6  
Total Units = 9

Certificate of Completion:  
Performance*

Courses: Units  
RTVC 105, Media Performance………………………… 3  
Select six units from:  
RTVC 106, Acting for Radio/Voice-Over  
RTVC 119, Acting for Film and Television  
RTVC 121, Performance for Television ………………… 6  
Total Units = 9

Certificate of Completion:  
News*

Courses: Units  
RTVC 140, Radio & Television News Writing …………. 3  
Select six units from:  
RTVC 145, Television News Production  
RTVC 146, The TV News Field Report  
RTVC 249A OR B OR C OR D Television News  
Workshop……………………………………………… 6  
Total Units = 9

Certificate of Completion:  
Multimedia*

Courses: Units  
RTVC 151, Introduction to Multimedia ………………… 3  
Select six units from:  
RTVC 152, Digital Audio Post Production  
RTVC 153, Nonlinear Editing  
RTVC 154, Interactive Game Design  
RTVC 157, Multimedia Production…………………….. 6  
Total Units = 9

*These are department awards in recognition of information on the transcript and does not imply that a graduation requirement has been met.

Associate in Science Degrees:  
Communications

Core Courses

Students must complete the Core and one area of specialization. Radio and Television Core Courses Required for the Associate Degree:

Courses Required for the Major: Units  
RTVC 100, Introduction to Radio & Television  
OR  
RTVC 200, Introduction to Mass Media………………… 3  
RTVC 107, Broadcast Audio…………………………… 3  
RTVC 110, Media Writing …………………………... 3  
RTVC 118, Television Studio Operations ………………. 3  
RTVC 160, Introduction to Cinematography …………... 3  
Total Units = 15

Recommended electives: Radio and Television 200, 245, 249A,B,C,D; CBTE 101 or equivalent or a typing certificate of 35 WPM.

Areas of Specialization

Radio

Courses Required for the Major: Units  
Core Courses …………………………………………… 15  
RTVC 105, Media Performance ………………………… 3  
RTVC 106, Acting for Radio/Voice-Over ………………… 3  
RTVC 115, Radio & Television Management  
Principles …………………………………………… 3  
RTVC 130, Radio Programming……………………… 3  
RTVC 131, Advanced Radio Performance …………... 1  
RTVC 132, Radio Remotes Special Events…………….. 2  
RTVC 140, Radio & Television News Writing …………. 3  
RTVC 175, Radio & Television Sales…………………… 3  
RTVC 247A,B,C, OR D, Radio Broadcasting  
Practicum ……………………………………………… 1  
Total Units = 37

Video/Film

Courses Required for the Major: Units  
Core Courses …………………………………………… 15  
RTVC 105, Media Performance ………………………… 3  
RTVC 115, Radio & Television Management  
Principles …………………………………………… 3  
RTVC 122, Television Production ……………………… 3  
RTVC 124, Electronic Field Production ………………… 3  
RTVC 126, Staging Television & Film OR  
RTVC 128, Lighting For Television & Film …………... 3  
RTVC 123, Advanced Television Production OR  
RTVC 146, The TV News Field Report  
OR  
RTVC 119, Acting for Film and Television …………... 3
Communications

RTVC 127, Basic Television Production Switcher Operations ........................................... 0.5
RTVC 167, Motion Picture Production ................................................................. 3
Total Units = 36.5

Recommended elective: Photography 105.

Broadcast News

Courses Required for the Major: Units
Core Courses ................................................................. 15
RTVC 105, Media Performance ................................................................. 3
RTVC 121, Performance for Television ......................................................... 3
RTVC 124, Electronic Field Production ......................................................... 3
RTVC 126, Staging Television & Film OR
tVC 128, Lighting for Television & Film ......................................................... 3
RTVC 140, Radio & Television News Writing ............................................ 3
RTVC 145, Television News Production ......................................................... 4
RTVC 146, Television News Field Report ....................................................... 3
Total Units = 37

Management

Courses Required for the Major: Units
Core Courses ................................................................. 15
RTVC 105, Media Performance ................................................................. 3
RTVC 115, Radio & Television Management Principles ..................................... 3
RTVC 122, Television Production ................................................................. 3
RTVC 130, Radio Programming ................................................................. 3
RTVC 132, Radio Remotes & Special Events .............................................. 2
RTVC 175, Radio & Television Sales ............................................................ 3
RTVC 176, Radio & Television Advertising Copy ......................................... 1
BUSE 201, Business Organization Management ........................................ 3
Total Units = 36

Multimedia

Courses Required for the Major: Units
Core Courses ................................................................. 15
RTVC 151, Introduction to Multimedia ........................................................... 3
Select twelve units from the following:
RTVC 124, Video Production
RTVC 152, Digital Audio Post Production
RTVC 153, Non-linear Editing
RTVC 154, Interactive Game Design
RTVC 157, Multimedia Production ................................................................. 12
Select six units from the following:
ARTG 125, Computer Illustration
PHOT 180, Digital Imaging
CISC 114, Introduction to Computer Graphics & Web Media ............................................. 6
Total Units = 36

Transfer Information

Students planning to transfer to a four-year college or university should complete courses required for the university major and the general education pattern required by that transfer institution. See catalog TRANSFER INFORMATION section. Additional courses may be required to meet university lower-division requirements. Course requirements at the transfer institution are subject to change and may be verified by a counselor or by consulting the current university catalog. Many Baccalaureate in Arts degrees require third semester competency in a foreign language. Consult the current catalog of the transfer institution and consult with a counselor.

Several California State University campuses offer four-year degrees in the major which San Diego City College identifies as Radio and Television. Comparable university departments may be titled “Communications,” “Media,” “Telecommunications,” and other related titles. Most Radio and Television courses will transfer as lower division courses at these institutions and by petitioning, some may be accepted in lieu of university courses. Radio and Television courses may also transfer directly or by petition to selected University of California campuses.

- San Diego State University

Communications, Communicative Disorders, B.A.: Psychology 101, 260; Mathematics 119 or Psychology 258.


Communications, Television, Film and New Media Production, B.A.: Radio and Television 200, 107, 110, 118, 122, 123, 160, 167 and Photography 105; Drama 120 (Miramar).

- University of California, San Diego

Courses

Radio and Television (RTVC)

100 Introduction to Radio and Television
3 hours, 3 units
Grade Only
Advisory: English 51 and 56, each with a grade of "C" or better, or equivalent, or Assessment Skill Levels W5 and R5.
Limitation on Enrollment: This course is not open to students with credit for Telecommunications 100.
This course is a historical survey of radio and television as sociological forces in everyday life; includes technological development, programming, ratings, economics, legal aspects and social control of broadcasting in America, the emergence of multimedia, and cross-cultural, international comparisons. It is advised that students take RTVC 100 prior to or in conjunction with the beginning core courses in the major. (FT) Transfer Credit: CSU and/or private coll/ univ.

105 Media Performance
2 hours lecture, 3 hours lab, 3 units
Grade Only
Advisory: English 51 and 56, each with a grade of "C" or better, or equivalent, or Assessment Skill Levels W5 and R5.
Limitation on Enrollment: This course is not open to students with credit for Telecommunications 105.
This introductory course provides instruction and practice in announcing, interpretation of copy, newscasting, music continuity, the operation of audio equipment, and interviewing. Students gain practice with commercial material and ad lib announcing. This course is part of the A5 degree and can be used for transfer or skills development/enhancement. (FT) Transfer Credit: CSU and/or private coll/univ.

106 Acting for Radio/Voice-Over
2 hours lecture, 3 hours lab, 3 units
Grade Only
Advisory: English 56 with a grade of "C" or better, or equivalent, or RTVC 105 with a grade of "C" or better, or equivalent.
Limitation on Enrollment: This course is not open to students with credit for DRAM 106, DRAM 265 or RTVC 265, Acting for Radio/Voice-Over.
This is an introductory course to train actors in the fundamentals of voice technique, dialects and voice-over. Emphasis in the voice-over component includes microphone technique, character voices and cartoon voices for commercial use, as well as cold reading audio-taped audition skills. Other components include cold reading techniques, fundamental acting techniques required for voice-over work, and the production of a voice-over demo tape. This course provides a comprehensive introduction to students intending to enter a career in dramatic arts and radio/television. (FT) Transfer Credit: CSU and/or private coll/ univ.

107 Broadcast Audio
2 hours lecture, 3 hours lab, 3 units
Grade Only
Advisory: English 51 and 56, each with a grade of "C" or better, or equivalent, or Assessment Skill Levels W5 and R5.
Limitation on Enrollment: This course is not open to students with credit for Telecommunications 107.
This course offers instruction in the theory and practice of audio techniques used in the audio field: radio, television, multimedia, and film, including acoustics, audio language and terms, use of microphones, use of mixing consoles and related production equipment. Students will apply the learned materials to actual audio production. This course is part of the A.S. degree core and can be used for transfer or skills development/enhancement. (FT) Transfer Credit: CSU and/or private coll/univ.

110 Media Writing
2 hours lecture, 3 hours lab, 3 units
Grade Only
Advisory: English 51 and 56, each with a grade of "C" or better, or equivalent, or Assessment Skill Levels W5 and R5.
Limitation on Enrollment: This course is not open to students with credit for Telecommunications 110.
This course is designed to cover the analysis and writing of radio, television, and film materials, including storytelling and screen writing; commercial copy; public service announcements; educational, instructional, and industrial program formats; and documentaries. This course is intended for the transfer student intending to major in Communications with emphasis in radio, television, film, or multimedia and to satisfy entry-level requirements for students obtaining employment in radio, television, industrial video, cinema, and multimedia. This course meets transfer requirements in the SDSU Communications Department. (FT) Transfer Credit: CSU and/or private coll/univ.
115 Radio and Television Management Principles
3 hours, 3 units
Grade Only
Advisory: English 51 and 56, each with a grade of "C" or better, or equivalent, or Assessment Skill Levels W5 and R5; and completion of or concurrent enrollment in Radio and Television 100 with a grade of "C" or better, or equivalent.
Limitation on Enrollment: This course is not open to students with credit for Telecommunications 115.
This course offers instruction in the business practices and interrelationships of stations, networks, and agencies. Covers the principles of radio, television, and cable advertising, merchandising, market research, audience measurement, and government regulation. This course is intended for transfer students and for those preparing for employment in the field of broadcast management in programming, promotions, sales, engineering and news departments. (FT) Transfer Credit: CSU and/or private coll/univ.

118 Television Studio Operations
2 hours lecture, 3 hours lab, 3 units
Grade Only
Advisory: English 51 and 56, each with a grade of "C" or better, or equivalent, or Assessment Skill Levels W5 and R5; and completion of or concurrent enrollment in Radio and Television 100 with a grade of "C" or better, or equivalent.
Limitation on Enrollment: This course is not open to students with credit for Telecommunications 115.
This course is an introduction to the theory, terminology, and operations within a television studio and control room. This introduction includes television directing, the operation of television audio equipment, TV cameras, and television switcher, fundamentals of TV lighting, graphics, video control, video tape recording and film for TV. (FT) Transfer Credit: CSU and/or private coll/univ.

119 Acting for Film and Television
2 hours lecture, 3 hours lab, 3 units
Grade Only
Advisory: English 56 with a grade of "C" or better, or equivalent, or Assessment Skill Level R5; and DRAM 132 with a grade of "C" or better, or equivalent.
Limitation on Enrollment: This course is not open to students with credit for DRAM 119 or DRAM 265 or RTVC 265, Acting for Film and Television.
This course introduces students to the skills required for on-camera performing techniques as used in the motion picture and television industry. Students participate in the selection, rehearsal, and on-camera performance of material from television and motion picture scripts including drama, sitcoms, soaps, and commercials. Emphasis is placed on cold-reading taped audition skills, improvisational and interview techniques, and the fundamental acting techniques required for camera, scene, and monologue studies. This course provides a comprehensive introduction to students intending to enter a career in the dramatic arts and radio/television. (FT) Transfer Credit: CSU and/or private coll/univ.

121 Performance for Television
2 hours lecture, 3 hours lab, 3 units
Grade Only
Advisory: English 51 and 56, each with a grade of "C" or better, or equivalent, or Assessment Skill Levels W5 and R5; and completion of or concurrent enrollment in Radio and Television 105 with a grade of “C” or better, or equivalent.
This course offers instruction and practice in all phases of television announcing: performance, news, commercials, public service announcements, interviews, and talk shows. Instruction and practice using a teleprompter, scripts, and cue cards. Students will be videotaped in the City College television studio. (FT) Transfer Credit: CSU and/or private coll/univ.

122 Television Production
2 hours lecture, 3 hours lab, 3 units
Grade Only
Advisory: Radio and Television 118 with a grade of "C" or better, or equivalent; and completion of or concurrent enrollment in Radio and Television 124 with a grade of "C” or better, or equivalent.
Limitation on Enrollment: This course is not open to students with credit for Telecommunications 122A.
This is an intermediate course in television production intended for the transfer student and the student seeking employment in the television, technical video, and multimedia industries. Emphasis is placed upon theory and practice in television production including planning, writing, producing, staging and directing interviews, commercials, public service announcements, dramatic pieces, multimedia and other program segments. (FT) Transfer Credit: CSU and/or private coll/univ.

123 Advanced Television Production
2 hours lecture, 3 hours lab, 3 units
Grade Only
Advisory: Radio and Television 122 with a grade of "C" or better, or equivalent.
Limitation on Enrollment: This course is not open to students with credit for Telecommunications 122B.
This course involves the development of advanced production techniques. Emphasis is placed on
individual projects in the producing and directing of television programs and segments, in conjunction with Radio and Television 122. This advanced production course is intended for transfer students and students seeking employment in the television, video production, and multimedia industries. (FT) Transfer Credit: CSU and/or private coll/univ.

124 Electronic Field Production
2 hours lecture, 3 hours lab, 3 units
Grade Only
Advisory: Radio and Television 118 with a grade of "C" or better, or equivalent.
Limitation on Enrollment: This course is not open to students with credit for Telecommunications 124.
This course is an introduction to the theory, terminology, and operation of remote electronic video production, including composition and in-camera editing techniques, camera operation, portable lighting, video recorder operation, audio control, and editing. This course includes the aesthetics and fundamentals of scripting, producing, and directing field location, multimedia, and multi-camera video production. This course is part of the A.S. degree program and can be used for transfer or skills development/enhancement. (FT) Transfer Credit: CSU and/or private coll/univ.; UC.

126 Staging for Television and Film
2 hours lecture, 3 hours lab, 3 units
Grade Only
Advisory: English 51 and 56, each with a grade of "C" or better, or equivalent, or Assessment Skill Levels W5 and R5; and completion of or concurrent enrollment in Radio and Television 100 with a grade of "C" or better, or equivalent.
Limitation on Enrollment: This course is not open to students with credit for Telecommunications 126.
This course involves theory and practice in the aesthetics and techniques of staging and design for television, multimedia, and film production. (FT) Transfer Credit: CSU and/or private coll/univ.

127 Basic TV Production Switcher Operation
1.5 hours lab, 0.5 unit
Grade Only
Advisory: Radio and Television 100 and 118, each with a grade of "C" or better, or equivalent.
This course offers instruction and practice in advanced operation of the Grass Valley 200 video production switcher for television. The course is intended for students who wish to major in Television and Film/Video in the Radio and Television program. (FT) Transfer Credit: CSU and/or private coll/univ.

128 Lighting for Television and Film
2 hours lecture, 3 hours lab, 3 units
Grade Only
Advisory: English 51 and 56, each with a grade of "C" or better, or equivalent, or Assessment Skill Levels W5 and R5; and completion of or concurrent enrollment in Radio and Television 100 with a grade of "C" or better, or equivalent.
Limitation on Enrollment: This course is not open to students with credit for Telecommunications 128.
This course involves theory and practice in the aesthetics and techniques of lighting for television, multimedia, and film with emphasis on the essence of light and how the viewer is influenced by different applied techniques. (FT) Transfer Credit: CSU and/or private coll/univ.

130 Radio Programming
2 hours lecture, 3 hours lab, 3 units
Grade Only
Advisory: Radio and Television 105 with a grade of "C" or better, or equivalent.
Limitation on Enrollment: This course is not open to students with credit for Telecommunications 130.
This course is an introductory study of radio programming including the programming formula, the "hot" clock, station image, marketing research, sales, the corporate ladder, identifying the format, radio format syndication, demographics, on-air personality, music scheduling and "day parting." The course is designed for students wishing to obtain an associate degree in Communications with an emphasis in Radio or Management and to transfer to a four-year institution or to further professional skills in radio. (FT) Transfer Credit: CSU and/or private coll/univ.

131 Advanced Radio Performance
3 hours lab by Arrangement, 1 unit
Grade Only
Advisory: Radio and Television 130 with a grade of "C" or better, or equivalent, or professional experience.
This course offers practice and critique within the "real radio" environment. The areas of emphasis include practical radio announcing experience on KSDF-FM, advanced radio production (analog and digital), copy writing for broadcast announcements, and assist in radio station promotions, music library maintenance and office administration. This course is intended for students wishing to major in Radio or to enhance their professional experience in radio broadcasting. (FT) Transfer Credit: CSU and/or private coll/univ.
132 Radio Remotes and Special Events
1 hour lecture, 3 hours lab, 2 units
Grade Only
Advisory: English 51 and 56, each with a grade of "C" or better, or equivalent, or Assessment Skill Levels W5 and R5.
This course offers instruction in the theory and practice of concert production, planning, and promotion. Students will handle all aspects of staging live music concerts and simultaneous radio broadcast. Students will write promotional materials and critique concert productions. This course is part of the A.S. degree program and can be used for transfer or skills development/enhancement. (FT) Transfer Credit: CSU and/or private coll/univ.

140 Radio and Television News Writing
3 hours, 3 units
Grade Only
Corequisite: Completion of or concurrent enrollment in Radio and Television 100 with a grade of "C" or better, or equivalent.
Advisory: English 51 and 56, each with a grade of "C" or better, or equivalent, or Assessment Skill Levels W5 and R5.
Limitation on Enrollment: This course is not open to students with credit for Telecommunications 140A.
This course offers instruction and practice in writing and editing news for radio and television, including rewriting from wire copy, newspapers, and documents. (FT) Transfer Credit: CSU and/or private coll/univ.

145 Television News Production
2 hours lecture, 6 hours lab, 4 units
Grade Only
Advisory: Radio and Television 118 and 140, each with a grade of "C" or better, or equivalent.
This intermediate course offers instruction and practice in television news production. Included in the course is practice in the areas of television news gathering, writing, field camera operation, and studio production. This course is designed for students who wish to major in news in the Radio/TV program. Weekly in-studio production for air on local cable channels includes practice in producing, directing, on-camera talent, staging, lighting, audio, studio camera, floor direction, video-switching and multimedia for television news. (FT) Transfer Credit: CSU and/or private coll/univ.

146 The TV News Field Report
2 hours lecture, 3 hours lab, 3 units
Grade Only
Advisory: Radio and Television 124 or 140 with a grade of "C" or better, or equivalent.
This course involves theory and practice in the planning, writing, and production of the television news field report and mini-documentary. The course is designed to give students the ability to produce a news field report as a collaborating member of a two-person team comprising the reporter and videographer. Included are research techniques and news sources, selection of subjects, making contacts, outlining, shooting and editing techniques, and writing and assembly of the field report or mini-doc. This course is designed for transfer, for students majoring in Communications with an emphasis in News, and for students seeking employment in the television news industry. (FT) Transfer Credit: CSU and/or private coll/univ.

151 Introduction to Multimedia
2 hours lecture, 3 hours lab, 3 units
Grade only
Advisory: Radio and Television 107 and 110 and 124, each with a grade of "C" or better, or equivalent; and a working knowledge of both PC and Macintosh operations.
This course introduces students to a conceptual foundation in new media technology. Students learn fundamental concepts including production, distribution, access and storage as well as the impact of technology on communication. Students examine, analyze and critique multimedia products and develop concepts for new media. Requires the use of computers. (FT) Transfer Credit: CSU and/or private coll/univ.

152 Digital Audio Post Production
2 hours lecture, 3 hours lab, 3 units
Grade only
Advisory: Radio and Television 107 with a grade of "C" or better, or equivalent.
This is an advanced audio course with emphasis on audio postproduction and synchronization with the visual image for radio, TV, video, multimedia and film using Digital Audio Workstations (DAWs). This course provides the benefit of specialized training to the more advanced production students. Students need computer skills at the level of operating both Mac OS and IBM-based Windows operating systems. This course is part of the A.S. degree program and can be used for transfer or skills development/enhancement for the more advanced multimedia production students. Transfer Credit: CSU and/or private coll/univ.
153 Nonlinear Editing  
2 hours lecture, 3 hours lab, 3 units  
Grade Only

Advisory: Radio and Television 124 and Computer and Information Sciences 121, each with a grade of "C" or better, or equivalent.

This is a digital video editing course to train students in post-production in video and film. Emphasis is placed on the aesthetic and technical principles in editing. This course utilizes computer-based nonlinear video post-production systems and focuses on broadcast, industrial, and multimedia applications. This course is designed for transfer, students majoring in Communications with an Emphasis in Video/Film or Multimedia, and for students wishing to enhance their employment opportunities in the broadcast, industrial, video, multimedia, and post-production areas. (FT) Transfer Credit: CSU and/or private coll/univ.

154 Interactive Game Design  
2 hours lecture, 3 hours lab, 3 units  
Grade Only

Advisory: Radio and Television 151 or 157 with a grade of "C" or better, or equivalent.

An introduction to interactive multimedia game development including game design, development, production and engineering. Emphasis is placed on the critical analysis of the conceptual and technical elements of game design. Students will formulate games by utilizing the process of brainstorming, designing, writing, flowcharting, documentation and assembling multimedia assets. Hands-on production of graphics, sound, animation, text, and possibly video (if students have completed a video production class) are necessary for the production of student game designs. The operation of the hardware, software, cameras and other equipment are necessary for the production of an interactive game. This course is intended for students who are planning to major in multimedia or students looking to enhance their job skills in the game industry. (FT) Transfer Credit: CSU and/or private coll/univ.

157 Multimedia Production  
2 hours lecture, 3 hours lab, 3 units  
Grade only

Advisory: Radio and Television 151 with a grade of "C" or better, or equivalent.

This course covers the design and production of new media technology. Students analyze the conceptual and technical elements involved in the production of a multimedia project. Students design, write, assemble, and produce multimedia projects for interactive audiences and develop the audio, video, computer graphics, animation, and text necessary for the creation of a multimedia product. The students utilize hardware, software, computers, cameras and other necessary equipment. This course is part of the A.S. degree program and can be used for transfer or skills development/enhancement for the more advanced multimedia students. (FT) Transfer Credit: CSU and/or private coll/univ.

160 Introduction to Cinematography  
3 hours, 3 units  
Grade Only

Advisory: English 51 and 56, each with a grade of "C" or better, or equivalent, or Assessment Skill Levels W5 and R5.

Limitation on Enrollment: This course is not open to students with credit for Telecommunications 160.

This course is an historical, aesthetic, and critical survey of cinema with emphasis on the evolution of techniques now used in the production of feature, documentary, educational television, and industrial film. This course meets California State University General Education Area C and San Diego Community College District Humanities requirements. This course is intended for students who wish to fulfill their humanities requirement for an AA or AS degree and/or plan to major in the film core program at City College or transfer to a four-year college or university. (FT) Transfer Credit: CSU and/or private coll/univ.

167 Motion Picture Production  
3 hours, 3 units  
Grade Only

Advisory: Radio and Television 110 and 160, each with a grade of "C" or better, or equivalent.

Limitation on Enrollment: This course is not open to students with credit for Telecommunications 167.

This course is an introduction to basic cinematography for motion pictures and television, including composition of shots, editing, sound recording and mixing, animation, special effects, and script writing. This course is part of the A.S. degree program and can be used for transfer or skills development/enhancement. (FT) Transfer Credit: CSU and/or private coll/univ.

175 Radio and Television Sales  
3 hours, 3 units  
Grade Only

Advisory: English 51 and 56, each with a grade of "C" or better, or equivalent, or Assessment Skill Levels W5 and R5; and completion of or concurrent enrollment in Radio and Television 100 with a grade of "C" or better, or equivalent.
Limitation on Enrollment: This course is not open to students with credit for Telecommunications 175. This course offers a detailed analysis of sales and sales management aspects of radio and television broadcasting and cablecasting, including office organization, research, promotion, traffic, operations, contact procedures, and sales and sales management functions. (FT) Transfer Credit: CSU and/or private coll/univ.

176 Radio and TV Advertising Copy

1 hour, 1 unit
Grade Only

Advisory: English 51 and 56, each with a grade of “C” or better, or equivalent, or Assessment Skill Levels W5 and R5; and completion of or concurrent enrollment in Radio and Television 100, with a grade of “C” or better, or equivalent.

This course involves the analysis and writing of radio and television commercial copy with practical experience in writing for KSDS and other radio, television, and cable companies. (FT) Transfer Credit: CSU and/or private coll/univ.

200 Introduction to Mass Communications

3 hours, 3 units
Grade only

Advisory: English 51 and 56 with a grade of “C” or better, or equivalent or Assessment Skill Levels W5 and R5.

This course is designed to provide students with a basic understanding of industries, technologies, issues, and historical foundations that make up mass communications in the United States. The course includes discussions about current practices, problems, issues and significant trends. The origin and current operations of each media industry are analyzed through the insights of scholars, creative talent, business, and government leaders. The economic, political, societal, and organizational aspects affecting new media are explored. This is a course for transfer students and those seeking employment in communications. Transfer Credit: CSU and/or private coll/univ. (CAN JOUR 4)

245 Television Workshop

3-9 hours lab by Arrangement, 1-3 units
Grade Only

Prerequisite: Radio and Television 122 with a grade of “C” or better, or equivalent.

Limitation on Enrollment: This course is not open to students with credit for Telecommunications 245.

This is a television production workshop designed to give students an opportunity to work on individual productions and specials to augment their course work in the department and to prepare them for professional employment in the field. (FT) Transfer Credit: CSU and/or private coll/univ.

247A Radio Broadcasting Practicum

3 hours lab, 1 unit
Grade Only

Advisory: Radio and Television 132 with a grade of "C" or better, or equivalent.

Limitation on Enrollment: This course is not open to students with credit for Telecommunications 247.

This is an advanced radio broadcasting course designed to provide students additional opportunity to apply previously studied theory to radio program production. The emphasis of this class is on the development and production of live music programming for KSDS-FM. This course is part of the A.S. degree program and can be used for transfer or skills development/enhancement. (FT) Transfer Credit: CSU and/or private coll/univ.

247B Radio Broadcasting Practicum

3 hours lab, 1 unit
Grade Only

Advisory: Radio and Television 105 and/or 140 with a grade of "C" or better, or equivalent.

Limitation on Enrollment: This course is not open to students with credit for Telecommunications 247.

This is an advanced radio broadcasting course designed to provide students additional opportunity to apply previously studied theory to radio program production. The emphasis of this class is on the development and production of radio news programming for KSDS-FM. This course is part of the A.S. degree program and can be used for transfer or skills development/enhancement. (FT) Transfer Credit: CSU and/or private coll/univ.

247C Radio Broadcasting Practicum

3 hours lab, 1 unit
Grade Only

Advisory: Radio and Television 105 and/or 140 with a grade of "C" or better, or equivalent.

Limitation on Enrollment: This course is not open to students with credit for Telecommunications 247.

This is an advanced radio broadcasting course designed to provide students additional opportunity to apply previously studied theory to radio program production. The emphasis of this class is on the development and production of radio sports programming for KSDS-FM. This course is part of the A.S. degree program and can be used for transfer or skills development/enhancement. (FT) Transfer Credit: CSU and/or private coll/univ.
247D Radio Broadcasting Practicum
3 hours lab, 1 unit
Grade Only
Advisory: Radio and Television 105 and/or 140 with a grade of "C" or better, or equivalent.
Limitation on Enrollment: This course is not open to students with credit for Telecommunications 247.
This is an advanced radio broadcasting course designed to provide students additional opportunity to apply previously studied theory to radio program production. The emphasis of this class is on the development and production of programming for KSDS-FM. This course is part of the A.S. degree program and can be used for transfer or skills development/enhancement. (FT) Transfer Credit: CSU and/or private coll/univ.

249A Television and News Workshop - Producing
2 hours lecture, 3 hours lab, 3 units
Grade Only
Advisory: Radio and Television 145 with a grade of "C" or better, or equivalent.
This advanced course includes instruction and practice in producing television news. Emphasis is placed on the role of the producer in the television news team. This course is designed for the student who wishes to gain additional proficiency in producing in the news major in the Radio/TV program. By its very nature, television news varies and the student has unique weekly news gathering experiences. Skills and proficiencies are enhanced by supervised repetition and practice within class periods. Learning objectives are obtained through active participatory experience in weekly group assignments. The student will work in subjects including news writing and editing, video tape editing and coordinating, assignment editing, CNN Newsource compiling, story selection, program timing, and hands-on studio production. (FT) Transfer Credit: CSU and/or private coll/univ.

249B Television News Workshop - Tape Coordinating
2 hours lecture, 3 hours lab, 3 units
Grade Only
Advisory: Radio and Television 145 with a grade of "C" or better, or equivalent.
This advanced course offers instruction and practice in tape coordinating for television news. Emphasis is placed on the role of the tape coordinator in the television news team. This course is designed for the student who wishes to gain additional proficiency in tape coordinating in the news major in the Radio/TV program. By its very nature, television news varies and the student will have unique weekly news gathering experiences. Skills and proficiencies are enhanced by supervised repetition and practice within class periods. Learning objectives are obtained through active participatory experience in weekly group assignments. The student works in subjects including news writing and editing, assignment editing, video tape editing, CNN Newsource compiling, story selection, program timing, studio production and program back timing and pacing. (FT) Transfer Credit: CSU and/or private coll/univ.

249C Television News Workshop - Assignment Editing
2 hours lecture, 3 hours lab, 3 units
Grade Only
Advisory: Radio and Television 145 with a grade of "C" or better, or equivalent.
This course offers instruction and practice in assignment editing for television news. Emphasis is placed on the role of the assignment editor in the television news team. This course is designed for the student who wishes to gain additional proficiency in assignment editing in the news major in the Radio/TV program. By its very nature, television news varies and the student unique weekly news gathering experiences. Skills and proficiencies are enhanced by supervised repetition and practice within class periods. Learning objectives are obtained through active participatory experience in weekly group assignments. The student will work in subjects including assignment editing, news writing and editing, video tape editing, CNN Newsource compiling, story selection, program timing, studio production and program back timing and pacing. Transfer Credit: CSU and/or private coll/univ.

249D Television News Workshop - Reporting
2 hours lecture, 3 hours lab, 3 units
Grade Only
Advisory: Radio and Television 145 with a grade of "C" or better, or equivalent.
This advanced course offers instruction and practice in reporting for television news. Emphasis is placed on the role of the reporter in the television news team. This course is designed for the student who wishes to gain additional proficiency in assignment reporting in the news major in the Radio/TV program. By its very nature, television news varies and the student has unique weekly news gathering experiences. Skills and proficiencies are enhanced by supervised repetition and practice within class periods. Learning objectives are obtained through active participatory experience in weekly group assignments. The student works in subjects including reporting in studio, field reporting, news writing and editing, assignment editing, CNN
Communications

Newsource compiling, story selection and timing and studio production. Transfer Credit: CSU and/or private coll/univ.

290 Independent Study

*Hours by Arrangement; 1-3 units
Grade Only

Limitation on Enrollment: Must obtain an Add Code from instructor for registration.

Theoretical and practical study of a special area in the field of radio and television. This course may be taken four times with different content for a maximum of six units. (FT) Transfer Credit: CSU and/or private coll/univ.

This discipline may offer specialized instruction in one or more of the following areas: Supervised Tutoring (044), Special Topics (265), Independent Study (290), Individualized Instruction (296), Service Learning (277), Applied Applications and Software Skills (045L), or Work Experience (270). Detailed course descriptions are listed on page 94. Please refer to the class schedule and/or see the dean or department chair for availability.

Communications: Speech

Description
The Speech Communication program is designed to offer an Associate in Arts Degree or Certificate of Proficiency, as well as communication classes that provide training for occupations in which public presentation and verbal skills are important. It can also serve as a core for the Selected Studies degree, or assist non-native speakers improve speaking skills. Most of the courses also meet transfer requirements to four-year institutions.

Program Emphasis
The Speech Communications department offers a two-year Associate in Arts degree. Students may also select courses leading to the Certificate of Completion in Speech Communication. The courses in this program will increase speaking proficiency in English for successful participation in many other careers. The Speech Communications department offers courses in presentation skills using multi-media.

Faculty

<table>
<thead>
<tr>
<th>Office</th>
<th>Telephone</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tanya Medina</td>
<td>C-225G  (619) 388-3598</td>
</tr>
<tr>
<td>Pamela Perkins</td>
<td>C-225A  (619) 388-3596</td>
</tr>
<tr>
<td>Molly Velazquez</td>
<td>C-215  (619) 388-3555</td>
</tr>
</tbody>
</table>

Career Options
Speech Communication skills are necessary for most public communications and management jobs. Speaking and presentations skills are required in vocations that require contact with the public.

Academic Programs
The Speech Communication Certificate of Proficiency and the associate degree in Speech Communication require completion of courses listed below.

Certificate of Completion:

Speech*

<table>
<thead>
<tr>
<th>Courses</th>
<th>Units</th>
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<tbody>
<tr>
<td>SPEE 103, Oral Communication</td>
<td>3</td>
</tr>
<tr>
<td>Select 6 units from:</td>
<td></td>
</tr>
<tr>
<td>SPEE 101, 104, 111, 135, 160, 170, 180</td>
<td>6</td>
</tr>
</tbody>
</table>

Total Units = 9

*This is a department award in recognition of information on the transcript and does not imply meeting a graduation requirement.
Associate in Arts Degree: Communications

Speech

Additional general education and graduation requirements for the associate degree are listed in the catalog. The associate degree requires a minimum of 60 units.

Courses Required for the Major: Units
SPEE 101, Voice and Articulation .................................. 3
SPEE 103, Oral Communication ..................................... 3
SPEE 135, Interpersonal Communication ....................... 3
SPEE 160, Argumentation ........................................... 3
SPEE 170, Small Group Communication or
SPEE 104, Advanced Public Communication ................. 3
SPEE 180, Intercultural Communication ....................... 3
Total Units = 18

Recommended electives: Anthropology 103; Speech Communications 99, 111, 290; and courses in Dramatic Arts, Journalism, Psychology, Radio & Television and Sociology.

Transfer Information

Students planning to transfer to a four-year college or university should complete courses required for the university major and the general education pattern required by that transfer institution. See catalog TRANSFER INFORMATION section. Additional courses may be required to meet university lower-division requirements. Course requirements at the transfer institution are subject to change and may be verified by a counselor or by consulting the current university catalog. Many Baccalaureate in Arts degrees require third semester competency in a foreign language. Consult the current catalog of the transfer institution and consult with a counselor.

Courses

Speech Communications (SPEE)

99 Voice and Diction for Non-Native Speakers of English 3 hours, 3 units

This course emphasizes American English standards of pronunciation, listening comprehension, ear-training techniques, effective use of the vocal variables of the voice-rate, pitch force and quality, vocabulary building, conversation with emphasis on correct use of grammar, sentence structures, common American idioms, pronunciation and reading. (FT) Associate Degree Credit.

101 Voice and Articulation 3 hours lecture, 3 units

Advisory: English 51 and 56 with a grade of “C” or better, or equivalent, or Assessment Skill Levels W5 and R5.

This is an introduction to basic techniques of clear articulation to develop effective voice usage in standard American English. The emphasis in this course is on effective sound production and vocal quality. It is recommended for people who deal with the public such as selling and providing public services. (FT) Transfer Credit: CSU and/or private coll/univ.; UC.

103 Oral Communication 3 hours, 3 units

Advisory: English 51 and 56, each with a grade of “C” or better, or equivalent, or Assessment Skill Levels W5 and R5.

Limitation on Enrollment: This course is not open to students with credit for Chicano Studies 103, Black Studies 152, or Bilingual Studies 103.

This course offers a wide variety of reading, application and speaking assignments designed to expose students to all the major skills of speechmaking. Students focus on the following basic elements: ethics; analyzing the audience; visual aids; choosing a topic and specific purpose; outlining, listening, organizing a speech; delivery; small group communication; informative and persuasive speaking; speaker credibility; effective use of language; library research; and communication and/or speeches to entertain. All students give several speeches both with and without visual aids. This course is designed to prepare students for majors in Communications as well as for the general population.

San Diego State University

Communications, B.A.; See a counselor.
Communications, Communicative Disorders, B.A.: Psychology 101, 260; Mathematics 119 or Psychology 258.
Designated sections of this course are taught from a specific cultural perspective and are cross-listed under Bilingual Studies, Black Studies, and Chicano Studies in the catalog and class schedule. Transfer Credit: CSU and/or private coll/univ.; UC. (CAN SPCH 4)

104 Advanced Public Communication
3 hours, 3 units

Prerequisite: Speech 103 with a grade of "C" or better, or equivalent.
This course covers theory, practice and critical analysis of public communication, including speeches on subjects of current interest both local and global. It includes an introduction to the relationship between rhetorical theory and criticism and rhetorical practice in public communication (FT) Transfer Credit: CSU and/or private coll/univ.; UC.

111 Oral Interpretation
3 hours, 3 units

Grade Only
Advisory: English 51 and 56, each with a grade of "C" or better, or equivalent, or Assessment Skill Levels W5 and R5; and Speech 103 with a grade of "C" or better, or equivalent.
This course involves theory and practice in the interpretational performance of literature. The course concentrates on the development of analytical skills and emphasizes the use of verbal and nonverbal communication in the interpretation of various literary genres including prose, poetry and drama. Literature is selected from a wide variety of world cultures and is taught from a multicultural perspective. The course is designed for the transfer student intending to major in Speech Communications. Transfer Credit: CSU and/or private coll/univ.

135 Interpersonal Communication
3 hours lecture, 3 units

Advisory: English 51 and English 56 with a grade of "C" or better, or equivalent, or Assessment Skill Levels W5 and R5. This course is designed to offer students an opportunity to investigate those areas of speech communication that are oriented toward interpersonal contexts. The course emphasizes understanding the idea of "self-concept" as well as understanding others. The class addresses the skills and strategies needed to communicate effectively both verbally and nonverbally. The class also addresses interpersonal issues such as relational development and maintenance principles, effective listening behavior, reducing defensiveness, and conflict resolution. The course is intended for students interested in studying interpersonal communication, particularly majors in communication, fashion, allied health and business. This course is also intended for all students who are interested in further development of effective interpersonal skills in the work, volunteer and personal environments. (FT) Transfer Credit: CSU and/or private coll/univ. (CAN SPCH 8)

160 Argumentation
3 hours, 3 units

Prerequisite: Speech 103 with a grade of "C" or better, or equivalent.
This is a course in the construction and analysis of argument. The course emphasizes the essentials of argumentation: theory, research, and analyses of propositions, tests of evidence, construction and application of arguments to everyday life and public policy. (FT) Transfer Credit: CSU and/or private coll/univ.; UC. (CAN SPCH 6)

170 Small Group Communication
3 hours, 3 units

Advisory: English 51 and 56, each with a grade of "C" or better, or equivalent, or Assessment Skill Levels W5 and R5; and Speech 103 with a grade of "C" or better, or equivalent.
This course offers practical experience in the techniques of leading and participating in small group discussions. Small group techniques such as panels, symposiums, problem solving, conflict resolution, leadership skills and parliamentary procedures are covered. Community building through service learning is presented as a tool to creating collective consciousness and an altruistic philosophy. This course is designed for students intending to major in speech communications, business, international business, education, and all fields of study and certifications that require group and team building skills. (FT) Transfer Credit: CSU and/or private coll/univ. (CAN SPCH 10)

180 Intercultural Communication
3 hours, 3 units

Advisory: English 51 and 56, each with a grade of "C" or better, or equivalent, or Assessment Skill Levels W5 and R5; and Speech 103 with a grade of "C" or better, or equivalent.
Intercultural communication is the study of communication between members of differing cultures. The discipline focuses on the relationship between culture and communication emphasizing social psychological variables, verbal and nonverbal language systems, cross-cultural communication breakdowns and conflict resolution. Practical application of intercultural
communication principles to contemporary problems of cross-cultural and international communication will be stressed. This course is designed for students intending to major in speech communications, international business, business education, social sciences, nursing, mass communications, and all fields of study and certifications that require cross-cultural contact and/or awareness of cultural distinctions. (FT) Transfer Credit: CSU and/or private coll/univ.; UC.

290 Independent Study

Hours by Arrangement, 1-3 units

Limitation on Enrollment: Must obtain an Add Code from instructor for registration.

Advanced special work in debate, radio interpretation, public address. This course may be taken four times with different content for a maximum of six units.

Transfer Credit: CSU and/or private coll/univ.; UC transfer limitations. See a counselor.

This discipline may offer specialized instruction in one or more of the following areas: Supervised Tutoring (044), Special Topics (265), Independent Study (290), Individualized Instruction (296), Service Learning (277), Applied Applications and Software Skills (045L), or Work Experience (270).

Detailed course descriptions are listed on page 94. Please refer to the class schedule and/or see the dean or department chair for availability.

210A Journalism Workshop I

Hours by Arrangement; 6-9 hours lab, 2-3 units

Advisory: English 51 and English 56, each with a grade of "C" or better, or equivalent, or Assessment Skill Levels W5 and R5.

This course is designed to provide experience in the production and publication of a student newspaper. Emphasis is placed on helping beginning students gain experience in the gathering and writing of news and features. Students at this level learn the basic principles of reporting, news writing, copy editing, photography, and newspaper design and layout. Assignments focus on routine stories, and may include editorials or features such as profiles. Copy editing is limited to reading for technical errors. This class is designed for students with an interest in print media and provides instruction in the journalistic process on an entry level. Skills developed in this course include research techniques and the evaluation and analysis of information. Students are guided by ongoing advice, criticism, and evaluation from a faculty adviser. Students enrolled in the course for 2 units are expected to participate in the production of the student newspaper for at least 6 hours per week, while students enrolled for 3 units are expected to participate at least 9 hours per week and contribute more extensively to the layout and/or production of the paper. (FT) Transfer Credit: CSU and/or private coll/univ.

210B Journalism Workshop

Hours by Arrangement; 6-9 hours lab, 2-3 units

Prerequisite: Journalism 210A with a grade of "C" or better, or equivalent.

Experience in production and publication of a student newspaper accompanied by ongoing advice, criticism and evaluation from the faculty advisor. Emphasis is on planning, laying out, editing, pasting up and proofreading, but with continued experience in gathering and writing news, editorials, and in-depth stories. (FT) Transfer Credit: CSU and/or private coll/univ.

210C Journalism Workshop

Hours by Arrangement; 6-9 hours lab, 2-3 units

Prerequisite: Journalism 210B with a grade of "C" or better, or equivalent.

Experience in production and publication of a student newspaper accompanied by ongoing advice, criticism and evaluation from a faculty advisor. Emphasis is on editorial aspects of newspaper production. (FT) Transfer Credit: CSU and/or private coll/univ.

210D Journalism Workshop

Hours by Arrangement; 6-9 hours lab, 2-3 units

Prerequisite: Journalism 210C with a grade of "C" or better, or equivalent.

Experience in production and publication of student newspaper accompanied by ongoing advice, criticism, and evaluation from faculty advisor. This is an elective course that does not count toward the A.A. Degree. It is designed for those students who want to use workshop situations in which to sharpen their skills and to develop skills other than those learned in Journalism 210A, 210B, 210C. (FT) Transfer Credit: CSU and/or private coll/univ.
Description
Programs are offered for both transfer and career-oriented students. Employment certificates of completion, certificates of achievement and associate degree programs are available to students interested in entry-level employment or in upgrading business, computer applications, or legal assistant skills.

Program Emphasis
The Computer Business Technology department offers the following program options: certificates of completion in Computer Software Applications, E-Commerce, Office Communications, and Word Processing; certificates of achievement and associate of science degrees in Administrative Assistant, Legal Administrative Assistant.

Faculty
Theresa Savarese A1-H (619) 388-3367
Barbara Riva A16-E (619) 388-3110
Jane Scott A16-F (619) 388-3664
Madeline McDowell A16-D (619) 388-3661
Pauline Rossmaessler A16-F (619) 388-3662

Career Options:
Career/job opportunities available upon successful completion of each of the Computer Business Technology options are described in each curriculum section. Some career options may require education beyond the associate degree or certificate.

Certificate of Completion:
Business Presentations*
The Certificate of Completion in Business Presentations is designed to provide students with business communications skills necessary in the modern office. Instruction will be offered in the production of business letters and graphic presentation of an analytical business report using a computer presentation software package; in the production of a slide computer presentation; and in the utilization of current office telecommunications equipment. Preparation for beginning employment is also offered in information processing and communication in clerical or administrative areas.

Courses
BUSE 119, Business Communications .................. 3
CBTE 95, 101, 102, OR 103, Keyboarding** .............. 1-3
CBTE 120, Beginning Microsoft Word OR
CBTE 120A&B Intro to Word I & II OR
CBTE 130A&B Intro to Corel WordPerfect I & II .......... 2
CBTE 200, Office Telecommunications ...................... 1
CISC 128, Introduction to Computer Presentations .......... 1
Total Units = 9-11

Certificate of Completion:
Computer Software Applications*
The Certificate of Completion in Computer Software Applications is designed to provide exposure to the microcomputer software applications area. Successful completion of this certificate provides preparation in computer skills needed by the transfer student or for entry-level clerical support positions. This certificate is also appropriate for retraining and for improving promotional opportunities.

Courses
CBTE 95, 101, 102, OR 103, Keyboarding** .............. 1-3
CBTE 110A, Introduction to Disk Operating Systems .......... 1
CBTE 120, Beginning Microsoft Word OR
CBTE 120A&B Intro to Word I & II OR
CBTE 130A&B Intro to Corel WordPerfect I & II .......... 2
CBTE 122, Intermediate Microsoft Word OR
CBTE 132, Intermediate Corel WordPerfect ................. 3
CBTE 140A, Introduction to Microsoft Excel ............... 1
CBTE 151, Introduction to Microsoft Access .......... 1
Total Units = 9-11

*This is a department award in recognition of information on the transcript and does not imply meeting a graduation requirement.

Certificate of Completion:
E-Commerce*
This certificate prepares students for employment in a variety of Web Based Occupations that utilize the leading edge technologies of E-Commerce.

Courses
CBTE 173, Introduction to E-Commerce ................. 3
CBTE 151, Introduction to Microsoft Access ............. 1
CBTE 161, Learning the Internet ......................... 1
CBTE 162, Web Page Creation ......................... 2
CBTE 200, Office Telecommunications .................. 2
Certificate of Completion:
Office Communications*
Successful completion of the Certificate of Completion in Office Communications offers preparation for beginning positions as a clerk, receptionist or word processor. Instruction is also provided in basic office skills including ability to use telecommunications equipment required for entry-level employment in a business, professional, educational, or industrial office.

Courses:

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>CBTE 95, 101, 102, OR 103, Keyboarding**</td>
<td>1-3</td>
</tr>
<tr>
<td>CBTE 120, Beginning Microsoft Word OR</td>
<td></td>
</tr>
<tr>
<td>CBTE 120A&amp;B Intro to Word I &amp; II OR</td>
<td></td>
</tr>
<tr>
<td>CBTE 130A&amp;B Intro to Corel WordPerfect I &amp; II</td>
<td>2</td>
</tr>
<tr>
<td>CBTE 211, Automated Office Procedures</td>
<td>3</td>
</tr>
<tr>
<td>CBTE 200, Office Telecommunications</td>
<td>2</td>
</tr>
<tr>
<td>CBTE 205, Records Management</td>
<td>3</td>
</tr>
</tbody>
</table>

Total Units = 11-13

Certificate of Completion:
Word Processing*
The Word Processing Certificate of Completion is designed to provide broad exposure to word processing for students interested in desktop publishing. Successful completion of this certificate also provides preparation in basic office skills for entry-level positions in business, professional, educational or industrial settings.

Courses:

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>BUSE 119, Business Communications</td>
<td></td>
</tr>
<tr>
<td>CBTE 95, 101, 102, OR 103, Keyboarding**</td>
<td>1-3</td>
</tr>
<tr>
<td>CBTE 120, Beginning Microsoft Word OR</td>
<td></td>
</tr>
<tr>
<td>CBTE 120A&amp;B Intro to Word I &amp; II OR</td>
<td></td>
</tr>
<tr>
<td>CBTE 130A&amp;B Intro to Corel WordPerfect I &amp; II</td>
<td>2</td>
</tr>
<tr>
<td>CBTE 132, Intermediate Microsoft Word OR</td>
<td></td>
</tr>
<tr>
<td>CBTE 132, Introduction to Corel WordPerfect II</td>
<td>3</td>
</tr>
<tr>
<td>CBTE 170, Introduction to Desktop Publishing</td>
<td>2</td>
</tr>
</tbody>
</table>

Total Units = 11-13

**Note: Students may take a departmental keyboarding test to waive keyboarding course requirement.
Electives as needed to meet minimum of 60 units required for the degree:

**Recommended Electives:** CISC 130; CBTE 126, 161, 270; BUSE 150.

## Legal Administrative Assistant

Provides training for specialized secretarial work in law offices, in legal departments of banks, insurance companies, real estate firms, or other business organizations, or civil service.

### Certificate of Achievement: Computer Business Technology

**Legal Administrative Assistant**

<table>
<thead>
<tr>
<th>Courses Required for the Major</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>CBTE 101, OR 102, OR 103, Keyboarding</td>
<td>1-3</td>
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<tr>
<td>CBTE 111, Windows 95 OR CBTE 112, Windows 98</td>
<td>1</td>
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<tr>
<td>CBTE 120 OR 120A/B, Microsoft Word OR</td>
<td></td>
</tr>
<tr>
<td>CBTE 130 OR 130A/B Corel WordPerfect</td>
<td>2</td>
</tr>
<tr>
<td>CBTE 122, Microsoft Word OR</td>
<td></td>
</tr>
<tr>
<td>CBTE 132 Corel WordPerfect</td>
<td>3</td>
</tr>
<tr>
<td>CBTE 140A, Intro to Microsoft Excel</td>
<td>1</td>
</tr>
<tr>
<td>CBTE 164, Intro to Microsoft Outlook</td>
<td>1</td>
</tr>
<tr>
<td>CBTE 205, Records Management</td>
<td>3</td>
</tr>
<tr>
<td>CBTE 221, Legal Office Procedures I</td>
<td>3</td>
</tr>
<tr>
<td>CBTE 222, Legal Office Procedures II</td>
<td>3</td>
</tr>
<tr>
<td>BUSE 119, Business Communications</td>
<td></td>
</tr>
<tr>
<td>LEGL 100 (City, Miramar) Legal Procedures</td>
<td>3</td>
</tr>
<tr>
<td>LEGL 110, (City, Miramar) Legal Communications</td>
<td>3</td>
</tr>
</tbody>
</table>

**Total Units = 27-29**

## Associate in Science Degree: Computer Business Technology

**Legal Administrative Assistant**

<table>
<thead>
<tr>
<th>Courses Required for the Major</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>CBTE 101, OR 102, OR 103, Keyboarding</td>
<td>1-3</td>
</tr>
<tr>
<td>CBTE 111, Windows 95 OR CBTE 112, Windows 98</td>
<td>1</td>
</tr>
<tr>
<td>CBTE 120 OR 120A/B, Microsoft Word OR</td>
<td></td>
</tr>
<tr>
<td>CBTE 130 OR 130A/B Corel WordPerfect</td>
<td>2</td>
</tr>
<tr>
<td>CBTE 122, Microsoft Word OR</td>
<td></td>
</tr>
<tr>
<td>CBTE 132 Corel WordPerfect</td>
<td>3</td>
</tr>
<tr>
<td>CBTE 126, Document Processing</td>
<td>3</td>
</tr>
<tr>
<td>CBTE 140A, Intro to Microsoft Excel</td>
<td>1</td>
</tr>
<tr>
<td>CBTE 151, Intro to Microsoft Access</td>
<td>1</td>
</tr>
<tr>
<td>CBTE 161, Learning the Internet</td>
<td>1</td>
</tr>
<tr>
<td>CBTE 163, Intro to Microsoft FrontPage</td>
<td>2</td>
</tr>
<tr>
<td>CBTE 164, Intro to Microsoft Outlook</td>
<td>1</td>
</tr>
<tr>
<td>CBTE 170, Desktop Publishing</td>
<td>2</td>
</tr>
<tr>
<td>CBTE 200, Office Telecommunications</td>
<td>2</td>
</tr>
<tr>
<td>BUSE 119, Business Communications</td>
<td>3</td>
</tr>
<tr>
<td>CISC 130, Intro to Local Area Networks</td>
<td>1</td>
</tr>
</tbody>
</table>

**Total Units = 24-26**

For graduation requirements see **Requirements for the Associate Degree** on page 62.

Electives as needed to meet minimum of 60 units required for the degree: Recommended Electives: BUSE 140, 150; CBTE 126, 161, 170, 198A or 198B, 210, 270.

## Microcomputer Applications

Provides training in major office systems and Technology used to enhance productivity and communications.

### Certificate of Achievement: Computer Business Technology

**Microcomputer Applications**

<table>
<thead>
<tr>
<th>Courses Required for the Major</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>CBTE 101, OR 102, OR 103, Keyboarding</td>
<td>1-3</td>
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<tr>
<td>CBTE 111, Windows 95 OR CBTE 112, Windows 98</td>
<td>1</td>
</tr>
<tr>
<td>CBTE 120 OR 120A/B, Microsoft Word OR</td>
<td></td>
</tr>
<tr>
<td>CBTE 130 OR 130A/B Corel WordPerfect</td>
<td>2</td>
</tr>
<tr>
<td>CBTE 122, Microsoft Word OR</td>
<td></td>
</tr>
<tr>
<td>CBTE 132 Corel WordPerfect</td>
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<tr>
<td>CBTE 126, Document Processing</td>
<td>3</td>
</tr>
<tr>
<td>CBTE 140A, Intro to Microsoft Excel</td>
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</tr>
<tr>
<td>CBTE 151, Intro to Microsoft Access</td>
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</tr>
<tr>
<td>CBTE 161, Learning the Internet</td>
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<td>CBTE 163, Intro to Microsoft FrontPage</td>
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<tr>
<td>CBTE 164, Intro to Microsoft Outlook</td>
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<td>CBTE 170, Desktop Publishing</td>
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<td>CBTE 200, Office Telecommunications</td>
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<tr>
<td>CISC 130, Intro to Local Area Networks</td>
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**Total Units = 29-31**
<table>
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<tr>
<th>Course Code</th>
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<tbody>
<tr>
<td>CBTE 164</td>
<td>Intro to Microsoft Outlook</td>
<td>1</td>
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<tr>
<td>CBTE 170</td>
<td>Desktop Publishing</td>
<td>2</td>
</tr>
<tr>
<td>CBTE 198A OR CBTE 198B, Project Lab</td>
<td>0.5</td>
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</tr>
<tr>
<td>CBTE 200</td>
<td>Office Telecommunications</td>
<td>2</td>
</tr>
<tr>
<td>CBTE 205</td>
<td>Records Management</td>
<td>3</td>
</tr>
<tr>
<td>CBTE 210</td>
<td>Computers in Business OR</td>
<td></td>
</tr>
<tr>
<td>CBTE 211</td>
<td>Automated Office Procedures</td>
<td></td>
</tr>
<tr>
<td>BUSE 101</td>
<td>Business Mathematics</td>
<td>3</td>
</tr>
<tr>
<td>BUSE 119</td>
<td>Business Communications</td>
<td>3</td>
</tr>
<tr>
<td>CISC 130</td>
<td>Intro to Local Area Networks</td>
<td>1</td>
</tr>
</tbody>
</table>

**Total Units = 33.5-35.5**

For graduation requirements see Requirements for the Associate Degree on page 62.

Electives as needed to meet minimum of 60 units required for the degree: Recommended Electives: BUSE 150; CBTE 113, 126, 161, 162, 270; CISC 130, 150.

## Courses

### COMPUTER BUSINESS TECHNOLOGY (CBTE)

**Formerly Office Information Systems (OFCE)**

Note: CBTE course numbers differ from the OFCE course numbers. For an accurate cross reference, contact the School of Business and Information Technology at 230-2488.

#### 051 Basic Computer and Software Skills

- **0.50 hours lecture, 0.50 units**
- **Credit/No Credit Only**

This course is designed to assist students in learning basic computer skills through computer hands on practice. Students learn and apply the basics of the Windows operating systems environment, data organization and management, and word processing software. This course emphasizes how to read a computer-training book and familiarizes the student with computer terminology. Credit for this course may be applied to the associate degree. (FT) Associate Degree Credit.

#### 95 Keyboarding /Typing Speed Development

- **3 hours lab, 1 unit**
- **Credit/No Credit Only**

**Advisory:** Ability to type/keyboard by touch. Development of speed and accuracy. Short intensified drills, timed writings, and remedial work. This course combined with CBTE 95 may be repeated for a maximum of four units. (FT) Associate Degree Credit.

#### 101 Keyboarding for Computers

- **.75 hour lecture, .75 hour lab, 1 unit**
- **Advisory:** English 51 and 56, each with a grade of "C" or better, or equivalent, or Assessment Skill Levels W5 and R5.

**Limitation on Enrollment:** This course is not open to students with credit for OFCE 101, 102, or 164. This course is designed for all individuals needing basic keyboarding skills. Keyboarding for Computers teaches students to type by touch using a computer and word processing software. No previous computer or typing experience is required. This course, or sections of this course, may be offered through distance education. (FT) Transfer Credit: CSU and/or private coll/univ.

#### 102 Keyboarding

- **1.5 hours lecture, 1.5 hours lab, 2 units**
- **Grade Only**

**Advisory:** English 51 and 56, each with a grade of "C" or better, or equivalent, or Assessment Skill Levels W5 and R5.

**Limitation on Enrollment:** This course is not open to students with credit for OFCE 101, 102, or 164 or CBTE 101 or 103. This course teaches touch control of the keyboard and proper typing techniques. Students build speed and accuracy through specialized drills and practice on straight copy and numbers. Students apply keyboarding skills to the formatting of letters, reports, tables, and memos using word processing software. This course, or sections of this course, may be offered through distance education. (FT) Transfer Credit: CSU and/or private coll/univ.

#### 103 Beginning Computer Keyboarding

- **2 hours lecture, 3 hours lab, 3 units**
- **Grade Only**

**Advisory:** English 51 and 56, each with a grade of "C" or better, or equivalent, or Assessment Skill Levels W5 and R5.

**Limitation on Enrollment:** This course is not open to students with credit for OFCE 100 or 265 (Beginning Computer Keyboarding - WordPerfect) or CBTE 101 or 102. This course is designed for all students whose keyboarding skill is for vocational and/or personal use. Beginning Computer Keyboarding teaches basic keyboarding skills by touch using a computer and word processing software. Students receive basic formatting instructions for letters, tables, and reports. This course, or sections of this course, may be offered through distance education. (FT) Transfer Credit: CSU and/or private coll/univ.
110 Disk Operating Systems
1.5 hours lecture, 1.5 hours lab, 2 units
Grade Only
Advisory: English 51 and 56, each with a grade of "C" or better, or equivalent, or Assessment Skill Levels W5 and R5.
Limitation on Enrollment: This course is not open to students with credit for OFCE 151 or 151A or CBTE 110A.
This course is an introduction to PC operating systems, covering the DOS command structure and terminology. In this hands-on course, students use operating commands to perform routine computer work functions. The course also introduces the major features of Windows 3.1, Windows 95, Windows 98, and Windows NT. This course, or sections of this course, may be offered through distance education. (FT) Transfer Credit: CSU and/or private coll/univ.

110A Introduction to Disk Operating Systems
.75 hour lecture, .75 hour lab, 1 unit
Grade Only
Advisory: English 51 and 56, each with a grade of "C" or better, or equivalent, or Assessment Skill Levels W5 and R5.
Limitation on Enrollment: This course is not open to students with credit for OFCE 151,151A, or CBTE 110. This course covers the DOS command structure and terminology and introduces the major features of Windows 3.1, Windows 95, Windows 98, and Windows NT. This course, or sections of this course, may be offered through distance education. (FT) Transfer Credit: CSU and/or private coll/univ.

111 Introduction to Windows 95
.75 hours lecture, .75 hours lab, 1 unit
Grade Only
Advisory: English 51 and 56, each with a grade of "C" or better, or equivalent, or Assessment Skill Levels W5 and R5; and CBTE 103 with a grade of "C" or better, or equivalent.
Limitation on Enrollment: This course is designed for students who plan to work in a computer-related field. This course presents the basic features of Microsoft Windows NT Workstation, including navigation and file management skills. No previous experience with Windows NT Workstation is required. This course, or sections of this course, may be offered through distance education. (FT) Transfer Credit: CSU and/or private coll/univ.

112 Introduction to Windows 98
.75 hours lecture, .75 lab hours, 1 unit
Grade Only
Advisory: English 51 and 56, each with a grade of "C" or better, or equivalent, or Assessment Skill Levels W5 and R5; and CBTE 103 with a grade of "C" or better, or equivalent.
This basic course presents an overview of the features of the Microsoft Windows 98 operating system and the components of the Windows 98 active desktop. In this hands-on course students learn to use the Start menu; create shortcuts; work with Windows 98 accessory programs; open data files; manage disks, folders, and files; and customize the desktop. This course, or sections of this course, may be offered through distance education. (FT) Transfer Credit: CSU and/or private coll/univ.

113 Introduction to Windows NT
.75 hours lecture, .75 lab hours, 1 unit
Grade Only
Advisory: English 51 and 56, each with a grade of "C" or better, or equivalent, or Assessment Skill Levels W5 and R5; and CBTE 103 with a grade of "C" or better, or equivalent.
This course is designed for students who plan to work in a computer-related field. This course presents the basic features of Microsoft Windows NT Workstation, including navigation and file management skills. No previous experience with Windows NT Workstation is required. This course, or sections of this course, may be offered through distance education. (FT) Transfer Credit: CSU and/or private coll/univ.

114 Introduction to Microsoft Windows
.75 hours lecture, .75 hours lab, 1 units
Grade Only
Advisory: English 51 and 56, each with a grade of "C" or better, or equivalent, or Assessment Skill Levels W5 and R5; and Computer Business Technology 103 with a grade of "C" or better, or equivalent.
This basic course presents an overview of the features of the Microsoft Windows operating system and the components of managing files and folders in the Windows environment. In this hands-on course, students learn to use and customize the start menu; work with Windows accessory programs; open data files; manage disks, folders and files; create shortcuts; and customize the desktop. This course is designed for those students planning to major in this field and may also be useful to students who wish to upgrade their computing skills. (FT)
120 Beginning Microsoft Word
1.5 hours lecture, 1.5 hours lab, 2 units
Grade Only
Advisory: English 51 and 56, each with a grade of "C" or better, or equivalent, or Assessment Skill Levels W5 and R5; and CBTE 103 with a grade of "C" or better, or equivalent.
Limitation on Enrollment: This course is not open to students with credit for CBTE 120A or 120B. This course is an introduction to text editing features in Microsoft Word including insert, delete, find and replace, move and copy, headers and footers, pagination, character and document formatting, spell check, tables, and mail merge basics. This course, or sections of this course, may be offered through distance education. (FT) Transfer Credit: CSU and/or private coll/univ.

120A Introduction I to Microsoft Word
.75 hour lecture, .75 hours lab, 1 unit
Grade Only
Advisory: English 51 and 56, each with a grade of "C" or better, or equivalent, or Assessment Skill Levels W5 and R5; and CBTE 103 with a grade of "C" or better, or equivalent.
Limitation on Enrollment: This course is not open to students with credit for CBTE 120. This course is an introduction to text editing features in Microsoft Word including insert, delete, find and replace, move and copy, character formatting, and spell check. This course, or sections of this course, may be offered through distance education. (FT) Transfer Credit: CSU and/or private coll/univ.

120B Introduction II to Microsoft Word
.75 hour lecture, .75 hours lab, 1 unit
Grade Only
Advisory: English 51 and 56, each with a grade of "C" or better, or equivalent, or Assessment Skill Levels W5 and R5; and CBTE 103 and 120A, each with a grade of "C" or better, or equivalent.
Limitation on Enrollment: This course is not open to students with credit for CBTE 120. This course is a continuation of CBTE 120A. Students continue using Microsoft Word text editing features including paragraph and document formatting, creating tables, and basic mail merges. This course, or sections of this course, may be offered through distance education. (FT) Transfer Credit: CSU and/or private coll/univ.

121A Microsoft Certification Lab - Word - Core
.75 hours lecture, .75 hours lab, 1 unit
Advisory: CBTE 122 with a grade of "C" or better, or equivalent, or demonstrated competence in Microsoft Word 2000. This class provides students with a hands-on review of Word 2000 for Microsoft Office User Specialist: Microsoft Word 2000. As a proficient user at the core level, the student creates single and multiple page letters and memos, faxes, envelopes or mailing labels, basic reports, resumes, time sheets and Word documents for the Intranet/Internet. (FT) Transfer Credit: CSU and/or private coll/univ.

121B Microsoft Certification Lab - Word - Expert
.75 hours lecture, .75 hours lab, 1 unit
Advisory: CBTE 121A with a grade of "C" or better, or equivalent, or demonstrated competence in Microsoft Word 2000. This class provides students with a hands-on review of Word 2000 for Microsoft Office User Specialist: Microsoft Word 2000 Expert. As an expert user, the student also creates personalized form letters, formal reports, technical reports, proposals, studies, newsletters, brochures, manuals, and forms. (FT) Transfer Credit: CSU and/or private coll/univ.

122 Intermediate Microsoft Word
2 hours lecture, 3 hours lab, 3 units
Grade Only
Advisory: English 51 and 56, each with a grade of "C" or better, or equivalent, or Assessment Skill Levels W5 and R5; and CBTE 103 and 120, each with a grade of "C" or better, or equivalent. This course is a continued application of Microsoft Word text editing features including creation of envelopes and labels, mail merge, sorting, styles, templates, wizards, macros, document notations, tables of contents and indexes, online forms, columns, drawing tools, and introduction to creating Web pages. This course, or sections of this course, may be offered through distance education. (FT) Transfer Credit: CSU and/or private coll/univ.

126 Document Processing
2 hours lecture, 3 hours lab, 3 units
Grade Only
Advisory: English 51 and 56, each with a grade of "C" or better, or equivalent, or Assessment Skill Levels W5 and
R5; and CBTE 103 with a grade of "C" or better, or equivalent.

This course is designed to give students hands-on experience creating a variety of computer-based documents. This course covers the use of computer software to create business, technical, medical and/or legal documents and to create forms, presentation documents, and documents for electronic publishing. It may include independent projects. This course, or sections of this course, may be offered through distance education. (FT) Transfer Credit: CSU and/or private coll/univ.

130 Beginning Corel WordPerfect
1.5 hours lecture, 1.5 hours lab, 2 units

Advisory: English 51 and 56, each with a grade of "C" or better, or equivalent, or Assessment Skill Levels W5 and R5; and CBTE 103 with a grade of "C" or better, or equivalent.

Limitation on Enrollment: This course is not open to students with credit for CBTE 130A or 130B.

This course is an introduction to text editing features in Corel WordPerfect including insert, delete, search and replace, move and copy, headers and footers, pagination, character and document formatting, spell check, and the writing tools. This course, or sections of this course, may be offered through distance education. (FT) Transfer Credit: CSU and/or private coll/univ.

130A Introduction to Corel WordPerfect I
.75 hours lecture, .75 hours lab, 1 unit

Advisory: English 51 and 56, each with a grade of "C" or better, or equivalent, or Assessment Skill Levels W5 and R5; and CBTE 103 and 130A, each with a grade of "C" or better, or equivalent.

Limitation on Enrollment: This course is not open to students with credit for CBTE 130.

This course is a continuation of CBTE 130A. Students continue using text editing features of Corel WordPerfect including tab set, pagination, document formatting, headers and footers, search and replace, move and copy, and the writing tools. This course, or sections of this course, may be offered through distance education. (FT) Transfer Credit: CSU and/or private coll/univ.

132 Intermediate Corel WordPerfect
2 hours lecture, 3 hours lab, 3 units

Advisory: English 51 and 56, each with a grade of "C" or better, or equivalent, or Assessment Skill Levels W5 and R5; and CBTE 103 and 130, each with a grade of "C" or better, or equivalent.

This course is a continued application of WordPerfect text editing features including line and page formatting, graphics, outlines, footnotes, endnotes, table of contents, columns, tables, styles, macros, merges, sorting, and creating Web pages. This course, or sections of this course, may be offered through distance education. (FT) Transfer Credit: CSU and/or private coll/univ.

140 Microsoft Excel
1.5 hours lecture, 1.5 hours lab, 2 units

Advisory: English 51 and 56, each with a grade of "C" or better, or equivalent, or Assessment Skill Levels W5 and R5; and CBTE 103 and 111, each with a grade of "C" or better, or equivalent.

This course teaches the fundamentals of Microsoft Excel. Students create and format worksheets and charts and use Excel's wizards and productivity features to enter functions and analyze data. This course, or sections of this course, may be offered through distance education. (FT) Transfer Credit: CSU and/or private coll/univ.

140A Introduction to Microsoft Excel
.75 hour lecture, .75 hour lab, 1 unit

Advisory: English 51 and 56, each with a grade of "C" or better, or equivalent, or Assessment Skill Levels W5 and R5; and CBTE 103 and 111, each with a grade of "C" or better, or equivalent.

Limitation on Enrollment: This course is not open to students with credit for CBTE 140.

This course is designed for students interested in learning basic Excel skills. Students receive hands-on practice in how to plan, define, create, and modify
worksheets. This course, or sections of this course, may be offered through distance education. (FT) Transfer Credit: CSU and/or private coll/univ.

141A Microsoft Certification Lab - Excel - Core
.75 hours lecture, .75 hours lab, 1 unit
*Advisory:* CISC 126A with a grade of "C" or better, or equivalent, or demonstrated competence in Microsoft Excel 2000.
This class provides students with a hands-on review of Excel 2000 for Microsoft Office User Specialist: Microsoft Excel 2000. As a proficient user at the core level, the student creates budgets, marketing and sales reports, expense reports, invoice ad purchase orders, basic financial statements, and spreadsheet information for use on the Intranet/Internet. (FT) Transfer Credit: CSU and/or private coll/univ.

141B Microsoft Certification Lab - Excel- Expert
.75 hours lecture, .75 hours lab, 1 unit
*Advisory:* CBTE 141A with a grade of "C" or better, or equivalent, or demonstrated competence in Microsoft Excel 2000.
This class provides students with a hands-on review of Excel 2000 for Microsoft Office User Specialist: Microsoft Excel 2000 Expert. As an expert user the student creates databases for individual or small workgroup uses. (FT) Transfer Credit: CSU and/or private coll/univ.

151A Microsoft Certification Lab - Access- Core
.75 hours lecture, .75 hours lab, 1 unit
*Advisory:* CBTE 151 with a grade of "C" or better, or equivalent, or demonstrated competence in Microsoft Access 2000.
This class provides students with a hands-on review of Access 2000 for Microsoft Office User Specialist: Microsoft Access 2000 Core User. As a Core user the student creates databases for individual or small workgroup uses. (FT) Transfer Credit: CSU and/or private coll/univ.

151B Microsoft Certification Lab - Access- Expert
.75 hours lecture, .75 hours lab, 1 unit
*Advisory:* CBTE 151A with a grade of "C" or better, or equivalent, or demonstrated competence in Microsoft Access 2000.
This class provides students with a hands-on review of Access 2000 for Microsoft Office User Specialist: Microsoft Access 2000 Expert. As an expert user the student creates databases for individual or small workgroup uses. (FT) Transfer Credit: CSU and/or private coll/univ.

160A Introduction to Online Learning
.5 hour, .5 unit
*Grade Only*
*Advisory:* English 51 and 56, each with a grade of "C" or better, or equivalent, or Assessment Skill Levels W5 and R5; and CBTE 112 and 101, each with a grade of "C" or better, or equivalent.
This course is an introduction to developing the skills necessary to succeed in an online or web-based course. Students will learn and apply the basics of the Windows environment, data organization and management, the Internet, the World Wide Web, e-mail, and word processing software. This course or sections of this course may be offered through distance education. (FT) Transfer Credit: CSU and/or private coll/univ.

161 Learning The Internet
.75 hour lecture, .75 hours lab, 1 unit
*Grade Only*
*Advisory:* English 51 and 56, each with a grade of "C" or better, or equivalent, or Assessment Skill Levels W5 and R5; and CBTE 103 and 111, each with a grade of "C" or better, or equivalent.
This course is designed for students who are interested in an introduction to the Internet. Students receive hands-on practice using Netscape to navigate the World Wide Web and link to Internet resources. Topics include creating and sending: e-mail, FTP, and file downloading, locating newsgroups and other discussion
tools, conducting business on the Internet, and creating Web pages using HTML. This course, or sections of this course, may be offered through distance education. (FT) Transfer Credit: CSU and/or private coll/univ.

**162 Web Page Creation**

1.5 lecture hours, 1.5 lab hours, 2 units

**Advisory:** English 51 and 56, each with a grade of "C" or better, or equivalent, or Assessment Skill Levels W5 and R5; and CBTE 111 and 161, each with a grade of "C" or better, or equivalent.

This course provides a hands-on approach to planning, designing, and creating Web pages for an intranet or World Wide Web site. Students learn to use HTML, wizards and templates to create Web pages with hypertext links and video, graphics, and audio enhancements. This course, or sections of this course, may be offered through distance education. (FT) Transfer Credit: CSU and/or private coll/univ.

**163 Introduction to Microsoft FrontPage**

1.5 hours lecture, 1.5 hours lab, 2 units

**Advisory:** English 51 and 56, each with a grade of "C" or better, or equivalent, or Assessment Skill Levels W5 and R5; and CBTE 112 and 101, each with a grade of "C" or better, or equivalent.

This is an introduction to creating a web page using Microsoft FrontPage. Students will learn to design, create, manage, and publish web sites on the Internet for personal or business use. This course or sections of this course may be offered through distance education. (FT) Transfer Credit: CSU and/or private coll/univ.

**164 Introduction to Microsoft Outlook**

.75 hour lecture, .75 hour lab

**Advisory:** English 51 and 56, each with a grade of "C" or better, or equivalent, or Assessment Skill Levels W5 and R5; and CBTE 103 and 111, each with a grade of "C" or better, or equivalent.

This course is designed for office support staff, administrative assistants, small business owners, and others who require a basic knowledge of desktop publishing. Students in this hands-on course learn the features of desktop publishing software by designing and creating professional quality publications for business and home. This course, or sections of this course, may be offered through distance education. (FT) Transfer Credit: CSU and/or private coll/univ.

**164A Microsoft Certification Lab-Outlook-Core**

.75 hour lecture, .75 hour lab, 1 unit

**Advisory:** Completion of or concurrent enrollment in Computer Business Technology 164.

This course provides students with a hands-on review of the latest version of Outlook for Microsoft Office User Specialist: Microsoft Outlook. As a proficient user at the core level, the student develops the skills to send/retrieve messages, schedule appointments, schedule tasks, create and edit contacts, use the contact list to send e-mail messages, use journal entries, and post notes. Emphasis is placed on in-class practice tests to prepare for the MOUS exam. (FT) Transfer Credit: CSU and/or private coll/univ.

**170 Desktop Publishing**

1.5 hours lecture, 1.5 hours lab, 2 units

**Advisory:** English 51 and 56, each with a grade of "C" or better, or equivalent, or Assessment Skill Levels W5 and R5; and CBTE 103 and 111, each with a grade of "C" or better, or equivalent.

This course is designed for office support staff, administrative assistants, small business owners, and others who require a basic knowledge of desktop publishing. Students in this hands-on course learn the features of desktop publishing software by designing and creating professional quality publications for business and home. This course, or sections of this course, may be offered through distance education. (FT) Transfer Credit: CSU and/or private coll/univ.

**171A Microsoft Certification Lab - Power Point-Core**

.75 hours lecture, .75 hours lab, 1 unit

**Advisory:** CISC 128 with a grade of "C" or better, or equivalent, or demonstrated competence in Microsoft PowerPoint 2000.

This class provides students with a hands-on review of PowerPoint 2000 for Microsoft Office User Specialist: Microsoft Power Point 2000 Core. As a Core user the student creates presentations that will be delivered over a variety of media. (FT) Transfer Credit: CSU and/or private coll/univ.

**171B Microsoft Certification Lab - Power Point-Expert**

.75 hours lecture, .75 hours lab, 1 unit

**Advisory:** CBTE 171A with a grade of "C" or better, or equivalent, or demonstrated competence in Microsoft Power Point 2000.
This class provides students with a hands-on review of Power Point 2000 for Microsoft Office User Specialist: Microsoft Power Point 2000 Expert. As an Expert user the student is not only proficient in skills required at the core level, but also masters more advanced presentation skills. (FT) Transfer Credit: CSU and/or private coll/univ.

183 Introduction to E-Commerce
3 hours lecture, 3 units
Grade Only
Advisory: English 51 and 56, each with a grade of "C" or better, or equivalent, or Assessment Skill Levels W5 and R5; and CBTE 101 or 102, and 112 and 162, each with a grade of "C" or better, or equivalent.
This is an introduction to current and emerging e-commerce technologies. Topics include Internet technology for business advantage; managing e-commerce funds transfer; reinventing the future of business through e-commerce; business opportunities in e-commerce; e-commerce web site design; social, political, and ethical issues associated with e-commerce; and business plans for technology ventures. Students are involved in creating an e-commerce marketing plan as well as a web site based on that plan. This course is intended for students seeking knowledge and experience in the realities of and potential for e-commerce. This course may be offered via distance education. (FT) Transfer Credit: CSU and/or private coll/univ.

180 Microsoft Office
2 hours lecture, 3 hours lab, 3 units
Grade Only
Advisory: English 51 and English 56, each with a grade of "C" or better, or equivalent, or Assessment Skill Levels W5 and R5; and Computer Business Technology 103, 112 & 161, each with a grade of "C" or better, or equivalent.
This course is designed for students interested in learning a business software suite. This course covers the Microsoft Office Professional suite, which is an integrated collection of software applications (word processing, spreadsheet, database, and presentations) that share data and work in a similar and consistent manner. This course will also provide instruction on how to seamlessly integrate data within and between the programs in an efficient manner. (FT) Transfer Credit: CSU and/or private coll/univ.

190 Introduction To Quicken
1.5 hours lecture, 1.5 hours lab, 2 units
Grade Only
Advisory: English 51 and 56, each with a grade of "C" or better, or equivalent, or Assessment Skill Levels W5 and R5; and CBTE 103 with a grade of "C" or better, or equivalent.
Limitation on Enrollment: This course is not open to students with credit for OFCE 153A.
This course is designed to prepare students for employment in a home-based office or small business office. This course provides hands-on practice with Quicken, a program for organizing and managing financial information and performing on-line banking and bill payments in small businesses and home-based offices. This course or sections of this course may be offered through distance education. (FT) Transfer Credit: CSU and/or private coll/univ.

198A Project Lab I
1.5 hours lab, 0.5 unit
Credit/No Credit Only
Advisory: English 51 and 56, each with a grade of "C" or better, or equivalent, or Assessment Skill Levels W5 and R5.
Students in this course design and complete hands-on individualized projects applicable to CBTE courses to upgrade their software skills. (FT) Transfer Credit: CSU and/or private coll/univ.

198B Project Lab II
1.5 hours lab, 0.5 unit
Credit/No Credit Only
Advisory: English 51 and 56, each with a grade of "C" or better, or equivalent, or Assessment Skill Levels W5 and R5.
This course is an optional continuation of CBTE 198A. Students in this course design and complete hands-on individualized projects applicable to CBTE courses to upgrade their software skills. (FT) Transfer Credit: CSU and/or private coll/univ.

200 Office Telecommunications
1.5 hours lecture, 1.5 hours lab, 2 units
Grade Only
Advisory: English 51 and 56, each with a grade of "C" or better, or equivalent, or Assessment Skill Levels W5 and R5.
Limitation on Enrollment: This course is not open to students with credit for OFCE 142.
This course is designed to provide students with a fundamental working knowledge of voice, data, and video telecommunications that can be applied in their business and personal lives. The course introduces
telecommunications networks, transmitting, receiving, and satellite technologies. Topics covered in this course include basic communication theory, fundamentals of telephone systems, components of data communications systems, and basic Web page development using and HTML editor. This course or sections of this course may be offered through distance education. (FT) Transfer Credit: CSU and/or private coll/univ.

205 Records Management 3 hours, 3 units  Grade Only

Advisory: English 51 and 56, each with a grade of "C" or better, or equivalent, or Assessment Skill Levels W5 and R5; and CBTE 103 and 111, each with a grade of "C" or better, or equivalent.

Limitation on Enrollment: This course is not open to students with credit for OFCE 157.
This course is designed to prepare students for employment in the field of Information Management Technology. The course covers the fundamentals of Records Management including the principles of indexing and filing; the major filing systems—alphabetical, numerical, subject, and geographic; the role of the records management and the records manager in the information industry; selection of systems, equipment, and supplies; design, control, and maintenance of a records center; and provides experience in using the computer to manage records. This course or sections of this course may be offered through distance education. (FT) Transfer Credit: CSU and/or private coll/univ.

211 Automated Office Procedures 2 hours lecture, 3 hours lab, 3 units  Grade Only

Limitation on Enrollment: Not opened to students with credit for OFCE 169.
Practical application of current automated office procedures, duties, and human relations. Specific topics include telephone and reception, machine transcription, mail procedures, data entry (10-key by touch), reference resources, job seeking, human relations, ethical behavior, office etiquette and dress, time management, communication systems, oral and computer presentations and more complex document processing. This is recommended as a capstone course for the CBTE major, to be taken at the end of his/her coursework (FT) Transfer Credit: CSU and/or private coll/univ.

221 Legal Office Procedures I 3 hours, 3 units  Grade Only

Advisory: English 51 and 56, each with a grade of "C" or better, or equivalent, or Assessment Skill Levels W5 and R5; and CBTE 103 with a grade of "C" or better, or equivalent.

Limitation on Enrollment: This course is not open to students with credit for OFCE 171.
This course is an introduction and orientation to the law office and procedures according to federal and state legal systems and is designed to prepare students for a position in a law office or law related field. The course includes structure of the courts, practices and procedures of the law, legal terminology, vocabulary building, preparation of court documents, an introduction to legal research, legal calendaring and client contact. This course or sections of this course may be offered through distance education. (FT) Transfer Credit: CSU and/or private coll/univ.

222 Legal Office Procedures II 3 hours, 3 units  Grade Only

Advisory: English 51 and 56, each with a grade of "C" or better, or equivalent, or Assessment Skill Levels W5 and R5; and CBTE 221 with a grade of "C" or better, or equivalent.

Limitation on Enrollment: This course is not open to students with credit for OFCE 172.
This course is a continuation of CBTE 221 with emphasis on techniques of completing and handling court documents and legal forms relating to civil procedures in various areas of California law. This course or sections of this course may be offered through distance education. (FT) Transfer Credit: CSU and/or private coll/univ.

270 Work Experience Hours by Arrangement, 1-4 units  Grade Only

Limitation on Enrollment: To receive credit a student must complete a minimum of seven units during the semester, including work experience.
Program of on-the-job learning experiences for students employed in a job related to their major. The combined maximum credit for all work experience courses from all disciplines may not exceed 16 units. Transfer Credit: CSU and/or private coll/univ.

This discipline may offer specialized instruction in one or more of the following areas: Supervised Tutoring (044), Special Topics (265), Independent Study (290), Individualized Instruction (296),
Service Learning (277), Applied Applications and Software Skills (045L), or Work Experience (270). Detailed course descriptions are listed on page 94. Please refer to the class schedule and/or see the dean or department chair for availability.

Description
A computer information system consists of computers, procedures, software, data, and people to provide the information needed to operate a business or other organization. The roles of the various computer information system professionals are to design, implement, operate, and maintain a computer information system. This system can be based on a large central mainframe computer serving hundreds of users or a small personal microcomputer on a desk.

Program Emphasis
The Computer Information Technology department offers a Certificate of Completion, a Certificate of Achievement and an Associate Degree in Computer Information Systems and an Associate Degree with a Microcomputer Professional emphasis for preparation for transfer.

Faculty
Larry Forman A17-F (619) 388-3666
John Hammond A17-H (619) 388-3114
Patrick Mahoney A17-E (619) 388-3112
Richard Pelletier A17-G (619) 388-3113

Career Options
Some careers in the Microcomputer Professional field require education beyond the associate degree in either Business, Computer Information Systems, Electronics, or Computer & Information Sciences. Careers in the Microcomputer Professional field include: computer consultant, help desk technician, instructional lab technician, sales specialist in microcomputer hardware and software, support technician, systems assembler of microcomputer systems.

Most careers in the field of Information Decision Systems require education beyond the associate degree. Careers include: applications programmer, computer operator, database administrator, maintenance programmer, programmer/analyst, systems analyst.

Academic Programs
The four programs that follow, Certificate of Completion, Certificate of Achievement and Associate
Degree with a Microcomputer Professional Emphasis and the Associate Degree with an Microcomputer Professional Emphasis for preparation for transfer, require completion of the courses listed below.

Certificate of Completion
Computer Programming*

This certificate of completion in computer programming requires completion of the courses listed below and is meant to prepare students who are planning on preparing for entry-level positions in computer programming and/or information technology. The certificate of completion also offers students the opportunity to learn or enhance computer programming skills.

Courses:

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>CISC 186, Visual Basic Programming</td>
<td>4</td>
</tr>
<tr>
<td>CISC 190, Java Programming</td>
<td>4</td>
</tr>
<tr>
<td>CISC 192, C/C++ Programming</td>
<td>4</td>
</tr>
<tr>
<td>CISC 210, System Analysis and Design</td>
<td>3</td>
</tr>
</tbody>
</table>

Total Units = 15

*This is a departmental award in recognition of information on the transcript and does not imply that a graduation requirement has been met.

Certificate of Completion
Internet Fluency*

This Certificate of Completion in Computer Information Systems requires completion of the courses listed below. The certificate is meant to prepare students who are planning for entry-level positions in the field of information technology, as well as for those students who wish to take courses or work in e-commerce.

Courses:

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>CBTE 161, Learning the Internet</td>
<td>1</td>
</tr>
<tr>
<td>CBTE 162, Web Page Creation</td>
<td>2</td>
</tr>
<tr>
<td>CISC 114, Introduction to Computer Graphics &amp; Web Media</td>
<td>2</td>
</tr>
</tbody>
</table>

Total Units = 5

*This is a departmental award in recognition of information on the transcript and does not imply that a graduation requirement has been met.

Certificate of Completion:
Microsoft Certified System Engineer*

Upon successful completion of this certificate, students will be prepared to take Microsoft Certification exams and for becoming successful Microsoft Certified System Engineers.

Courses:

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>MSFT 051, Installing, Configuring, and Administering Windows 2000 Professional</td>
<td>2.5</td>
</tr>
<tr>
<td>MSFT 052, Installing, Configuring, and Administering Microsoft Windows 2000 Server</td>
<td>2.5</td>
</tr>
<tr>
<td>MSFT 053, Implementing and Administering a Microsoft Windows 2000 Network Infrastructure</td>
<td>2.5</td>
</tr>
<tr>
<td>MSFT 054, Implementing and Administering a Microsoft Windows 2000 Directory Infrastructure</td>
<td>2.5</td>
</tr>
<tr>
<td>MSFT 055, Designing a Microsoft Windows 2000 Directory Services Infrastructure</td>
<td>2.5</td>
</tr>
<tr>
<td>MSFT 056, Designing a Microsoft Windows 2000 Network Infrastructure</td>
<td>2</td>
</tr>
<tr>
<td>MSFT 057, Designing Security for a Microsoft Windows 2000 Network</td>
<td>2.5</td>
</tr>
</tbody>
</table>

Total Units = 17

*This is a department award in recognition of information on the transcript and does not imply that a graduation requirement has been met.

Certificate of Achievement:
Computer Information Systems

Courses Required for the Major:

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACCT 116A, Principles of Accounting-Financial</td>
<td>4</td>
</tr>
<tr>
<td>ACCT 116B, Principles of Accounting-Managerial</td>
<td>4</td>
</tr>
<tr>
<td>BUSE 119, Business Communications</td>
<td>3</td>
</tr>
<tr>
<td>BUSE 140, Business Law &amp; the Legal Environment</td>
<td>3</td>
</tr>
<tr>
<td>CISC 181, Principles of Information Systems</td>
<td>4</td>
</tr>
<tr>
<td>CISC 186, Visual Basic Programming</td>
<td>4</td>
</tr>
<tr>
<td>ECON 120, Principles of Economics I</td>
<td>3</td>
</tr>
<tr>
<td>MATH 119, Elementary Statistics</td>
<td>3</td>
</tr>
<tr>
<td>CISC Elective(s)*</td>
<td>3</td>
</tr>
</tbody>
</table>

Total Units = 31

*Choose a minimum of 3 units in CISC. Students should consult with their counselor prior to choosing electives to ensure electives meet program and/or transfer goals.

Certificate of Achievement:
Microcomputer Professional Emphasis

Microcomputer Professional Certificate of Achievement includes courses on IBM and Macintosh microcomputers in operating systems, hardware, software, networks, word processing, spreadsheets, databases, graphics, desktop publishing, and data communications. Most of
the courses in this program are offered in nine-week (half semester) sessions.

Courses Required for the Major: Units
CISC 110, Microcomputer Applications ............... 2
CISC 114, Introduction to Computer Graphics & Web Media .................................................. 2
CISC 121, Introduction to Operating Systems .......... 1
CISC 122, Evaluation & Installation of Computer Hardware ........................................ 1
CISC 123, Evaluation & Installation of Computer Software ............................................. 1
CISC 126A, Intermediate Spreadsheet Development .. 1
CISC 128, Introduction to Computer Presentations... 1
CISC 130, Introduction to Local Area Networks ...... 1
CISC 132, Intermediate Local Area Networking...... 1
CBTE 110A, Introduction to Disk Operating Systems. 1
CBTE 140A, Introduction to Microsoft Excel ............ 1
CBTE 151, Introduction to Microsoft Access ........... 1
CBTE 170, Introduction to Desktop Publishing ...... 2
CBTE 200, Office Telecommunications .................. 2

Total Units = 18

Associate in Science Degree:
Computer Information Systems,
Microcomputer Professional Emphasis

The Microcomputer Professional Associate Degree requires completion of the Certificate of Achievement in Microcomputer Professional and Computer and Information Sciences 240. Additional general education and graduation requirements for the associate degree are listed in the catalog. The associate degree requires a minimum of 60 units.

Courses Required for the Major: Units
Microcomputer Professional Certificate of Achievement ........................................ 18
CISC 240, Practicum in Computer Applications ....... 2

Total Units = 20

Recommended electives: Computer and Information Sciences 124A-B, 181, 190, 192, 270.

Associate in Science Degree:
Computer Information Systems

Courses Required for the Major: Units
ACCT 116A, Principles of Accounting-Financial ....... 4
ACCT 116B, Principles of Accounting-Managerial..... 4
BUSE 119, Business Communications .................. 3
BUSE 140, Business Law & the Legal Environment .. 3
CISC 181, Principles of Information Systems .......... 4
CISC 186, Visual Basic Programming ................... 4
ECON 120, Principles of Economics I .................. 3
MATH 119, Elementary Statistics ....................... 3
CISC Elective(s)* ........................................ 3

Total Units = 31

*Choose a minimum of 3 units in CISC. Students should consult with their counselor prior to choosing electives to ensure electives meet program and/or transfer goals.

Note: Only one Computer and Information Sciences (CISC) course from the above list may be used to satisfy SDCCD general education requirements.

Transfer Information

Students planning to transfer to a four-year college or university should complete courses required for the university major and the degree general education pattern required by that transfer institution. See catalog TRANSFER INFORMATION section. Course requirements are subject to change at the transfer institution and may be verified by a counselor or by consulting the current university catalog. Many Baccalaureate in Arts degrees require third semester competency in a foreign language. Consult the current catalog of the transfer institution and consult with a counselor.

CSU, San Marcos

Computer Science, B.S.: Computer and Information Sciences 185, 185L or Mathematics 107 and 107L; Computer and Information Sciences 202, 202L, 230, 230L (Mesa) or 235, 235L or Mathematics 108, 108L; Mathematics 150, 151, 254; Physics 195A, 195B.

San Diego State University

Computer Science, B.S.: Mathematics 107, 107L, 108, 108L, 237, 237L, 150, 151, 245, 254; Mathematics 119 or Biology 200 or Psychology 258; and select one of three options: Biology 210A, 210B (or 215 and 250); or Chemistry 200 and 200L, 201 and 201L; or Physics 195A, 195B, 196A, 196B.

University of California, San Diego


CSE, Computer Science, B.S.: Biology 210A or Chemistry 200; Computer and Information Sciences 190; Mathematics 150, 151, 237, 237L, 245, 252, 254, and 255; Physics 195A, 195B, 196A, 196B.

Applied Mathematics, Scientific Programming, BA.: Mathematics 150, 151, 245, 252, 254, 255; Computer and Information Sciences 190 or 192 or Engineering 115 (Mesa); Physics 195A,B,C or Physics 120A, 121A, 120B, 121B.


Courses

Computer and Information Sciences (CISC)

110 Microcomputer Applications
1.5 hours lecture, 1.5 hours lab, 2 units
Grade Only

This course is a broad-based study of microcomputer applications. Emphasis is placed on providing students with hands-on experience using and integrating current word processing, spreadsheet, database and presentation software applications. In addition, this course provides an introduction to electronic mail and web and desktop publication programs. (FT) Transfer Credit: CSU and/or private coll/ univ.

114 Introduction to Computer Graphics and Web Media
1 hours lecture, 1 hours lab, 2 units
Grade Only

This course offers a hands-on introduction to the fundamental concepts, current applications and state-of-the art hardware and software in computer graphics and computer visualization technology. Students use professional authoring software to design, develop, debug and document computer presentations for use in business and the world wide web. Hands-on introduction to computer graphics. (FT) Transfer Credit: CSU and/or private coll/ univ.

115 Adapted Microcomputer Applications for the Disabled
1.5 hours lecture, 1.5 hours lab, 2 units
Grade Only

This course is a broad-based study of microcomputer applications specifically designed for students with disabilities. Emphasis is placed on providing students with disabilities hands-on experience using and integrating current word processing, spreadsheet, database and presentation software applications using adaptive technology. In addition, this course provides an introduction to electronic mail and web and desktop publication programs. (FT) Transfer Credit: CSU and/or private coll/ univ.

121 Introduction to Operating Systems
0.75 hour lecture, 0.75 hour lab, 1 unit
Grade Only

This course is an introductory hands-on study of computer operating systems for general users. Emphasis is placed on the commands and utilities necessary for effective use of computer systems. This course may be offered for Disk Operating System (DOS), Macintosh, Microsoft Windows, OS/2, and Unix. (FT) Transfer Credit: CSU and/or private coll/univ.

122 Evaluation & Installation of Computer Hardware
0.75 hour lecture, 0.75 hour lab, 1 unit
Grade Only

This is an introduction to the evaluation and installation of microcomputer hardware for various microcomputer platforms. This course will show how to select and install microcomputer adapters, peripherals, power supplies, disk drives, and memory chips. (FT) Transfer Credit: CSU and/or private coll/ univ.

123 Evaluation & Installation of Computer Software
0.75 hour lecture, 0.75 hour lab, 1 unit
Grade Only

This is an introduction to the evaluation and installation of software for microcomputers. This course will cover how to: 1) rate and select software based on needs and features; 2) install software for various hardware and software configurations; and 3) organize soft-ware and other files using operating system file handling routines. (FT) Transfer Credit: CSU and/or private coll/univ.

124A Data Base Programming I
0.75 hour lecture, 0.75 hour lab, 1 unit
Grade Only

Limitation on Enrollment: This course is not open to students with credit for Computer and Information Sciences 124.

This course includes basic theories in the development of a data base system using a selected data base application. Emphasis will be placed on the actual development and programming. The application to be
used will be announced in the college class schedule. (FT) Transfer Credit: CSU and/or private coll/univ.

124B Data Base Programming II  
0.75 hour lecture, 0.75 hour lab, 1 unit  
Grade Only

Limitation on Enrollment: This course is not open to students with credit for Computer and Information Sciences 124.

This course includes advanced theories in the development of a data base system using a selected data base application. Emphasis will be placed on the actual development and programming. The application to be used will be announced in the college class schedule. (FT) Transfer Credit: CSU and/or private coll/univ.

125A Inside the Computer Unit  
1.5 hours lecture, 1.5 units  
Grade Only

Advisory: CISC 122 with a grade of "C" or better, or equivalent; and Concurrent enrollment in CISC 125B.

In this course a student learns to assess, diagnose, and select the appropriate hardware for IBM compatible microcomputers. Emphasis is placed on upgrading a microcomputer system and identifying and solving software and hardware problems. This course is part of the Computer Repair Certificate of Completion and is intended for the student who wants to work as a computer repair technician. Concurrent enrollment in Computer and Information Sciences 125A is recommended. (FT) Transfer Credit: CSU and/or private coll/univ.

125B Computer Hardware Lab  
1.5 hours lab, 0.5 unit  
Grade Only

Advisory: Concurrent enrollment in CISC 125A.

This is the hands-on portion in CISC 125A. This is the practical application of CISC 125A/B. In this course the student gets hands-on experience in installing, troubleshooting, and maintaining microcomputer hardware. Concurrent enrollment in Computer and Information Sciences 125A is recommended. (FT) Transfer Credit: CSU and/or private coll/univ.

126A Intermediate Spreadsheet Development I  
0.75 hour lecture, 0.75 hour lab, 1 unit  
Grade Only

Limitation on Enrollment: This course is not open to students with credit for Computer and Information Sciences 126.

This course presents a selected spreadsheet package for use in a business environment at the intermediate level. Emphasis is placed on combining business development theory and techniques with spreadsheet applications. Course content includes the formulae and functions, text processing and formatting, importing and exporting data, linking of multiple spreadsheets, advanced data management facilities, and graphic features. (FT) Transfer Credit: CSU and/or private coll/univ.

127 Computer Hardware Industry Training  
1.5 hours lab, 0.5 unit  
Grade Only

Advisory: CISC 125A/B, each with a grade of "C" or better, or equivalent.

This is the practical application of CISC 125A/B. In this course the student gets hands-on experience not only in installing, troubleshooting, and maintaining microcomputer hardware, but also in customer service and customer communications that are necessary to succeed in a business environment. (FT) Transfer Credit: CSU and/or private coll/univ.

128 Introduction to Computer Presentations  
0.75 hour lecture, 0.75 hour lab, 1 unit  
Grade Only

This course is an introductory hands-on study of current applications, hardware and software used to prepare effective presentations on desktop computers. Emphasis is placed on planning, designing, developing, presenting, and evaluating slide, overhead, and computer projection presentations using a combination of text and graphics. (FT) Transfer Credit: CSU and/or private coll/univ.

130 Introduction to Local Area Networks  
0.75 hour lecture, 0.75 hour lab, 1 unit  
Grade Only

This is an introductory study of microcomputer local area and wide area network development, use and administration. Emphasis is placed on presenting students with a breadth of knowledge from wiring to applications and including hardware, software, transmission media, packets, frames, network topology, routing, protocols and layering. (FT) Transfer Credit: CSU and/or private coll/univ.

132 Intermediate Local Area Networking  
0.75 hour lecture, 0.75 hour lab, 1 unit  
Grade Only

This course is an introductory study of Internetworking and network applications. Emphasis is placed on
presenting students with a breadth of knowledge from wiring to applications and including Internet architecture, protocols, datagrams, routing, the client server model, electronic mail, web document technologies, network management and security. (FT) Transfer Credit: CSU and/or private coll/univ.

150 Introduction to Computer and Information Sciences
3 hours, 3 units
Grade Only
A Level I course. A survey of computer systems and techniques; history of computer and information sciences; computer equipment and programming systems; flowcharting, systems study, design, development and implementation. The use of computers in the solution of typical business management problems and tasks is emphasized. (FT) Transfer Credit: CSU and/or private coll/univ.

181 Principles of Information Systems
3 hours lecture, 3 hours lab, 4 units
Grade Only
Advisory: Completion of English 51 and 56, each with a grade of “C” or better, or equivalent, or Assessment Skill Levels W5 and R5. This course is an introduction to basic principles and theory relating to problem solving and analysis in business organizations using computers and software packages. Emphasis is placed on computer organization, data processing systems, decision support systems, and systems analysis. Business software is reviewed with an emphasis on spreadsheet systems including hands-on spreadsheet applications. This course is intended for the transfer student planning to major in business, economics, or social science. (FT) Transfer Credit: CSU and/or private coll/univ.; UC. (CAN CSCI 2).

186 Visual Basic Programming
3 hours lecture, 3 hours lab, 4 units
Grade Only
Advisory: English 51 with a grade of “C” or better, or equivalent, or Assessment Skill Level W5. This course is an introduction to programming using Visual Basic. The course covers the fundamentals of event oriented programming in a Windows environment. Students learn to use and program a mouse, windows, forms, menus, dialog boxes, icons, buttons, text fields, files, graphics, and other components of a Windows environment in Visual Basic. (FT) Transfer Credit: CSU and/or private coll/univ. (CAN CSCI 12)

190 Java Programming
3 hours lecture, 3 hours lab, 4 units
Grade Only
Advisory: English 51 with a grade of "C" or better, or equivalent, or Assessment Skill Level W5. This course is an introduction to programming using Java. The course covers the fundamentals of object oriented programming utilizing the Java programming language for general purpose business programs and interactive World Wide Web based Internet programs. (FT) Transfer Credit: CSU and/or private coll/univ.; UC.

192 C/C++ Programming
3 hours lecture, 3 hours lab, 4 units
Grade Only
Advisory: English 51 with a grade of “C” or better, or equivalent, or Assessment Skill Level W5; and CISC 186 with a grade of "C" or better, or equivalent. This course presents basic programming concepts using the C++ programming language. The organization of standard I/O classes is emphasized. Structured and object oriented programming techniques are presented and used to design and implement a variety of programming problems. (FT) Transfer Credit: CSU and/or private coll/univ.; UC. (CAN CSCI 16)

205 Object Oriented Programming Using C++
3 hours lecture, 3 hours lab, 4 units
Grade Only
This course introduces students to object oriented programming (OOP) using the C++ programming language and includes the essential concepts related to OOP including use of classes and objects, inheritance, templates, polymorphism, pointers and references and I/O streams. (FT) Transfer Credit: CSU and/or private coll/univ.

210 Systems Analysis and Design
3 hours, 3 units
Grade Only
Advisory: English 101 with a grade of "C" or better, or equivalent, or Assessment Skill Levels W6 and R6. This course is an introductory, experiential study of the phases of the object-oriented software development life cycle (OOSDLC) including stakeholder and requirements analysis, use cases development, software architecture; project management, user interface considerations, iterative and prototyping methodology, component construction, quality assurance, and configuration management. This course is intended for students seeking advanced knowledge and applications in Computer and Information Sciences. (FT) Transfer Credit: CSU and/or private coll/univ.
240 Practicum in Computer Applications
1.5 hours lecture, 1.5 hours lab, 2 units
Grade Only

Limitation on Enrollment: This course is not open to students with credit for Computer and Information Sciences 140. This is the capstone course for the Microcomputer Professional curriculum, and includes directed study, and student development and implementation of a microcomputer system in appropriate environments. Considerations of hardware, software, applications, and JCL to develop an integrated, automated environment will be covered. (FT) Associate Degree Credit.

290 Independent Study
Hours by Arrangement: 1-3 units
Grade Only

Limitation on Enrollment: Must obtain an Add Code from instructor for registration. Typically for advanced students in Computer and Information Sciences who wish to pursue special problems and projects related to the area. The student will meet with the instructor at specific intervals and will be expected to accomplish primary research, problem analysis and report preparation relating to an approved project or course of study. This course may be taken four times with different content for a maximum of six units. Transfer Credit: CSU and/or private coll/univ.; UC transfer limitations. See a counselor.

This discipline may offer specialized instruction in one or more of the following areas: Supervised Tutoring (044), Special Topics (265), Independent Study (290), Individualized Instruction (296), Service Learning (277), Applied Applications and Software Skills (045L), or Work Experience (270). Detailed course descriptions are listed on page 94. Please refer to the class schedule and/or see the dean or department chair for availability.

Information, Network, and Web Technology (INWT)

081 Microsoft Office: Troubleshooting and Problem Solving
6 hours lab, 2 units
Grade Only

Advisory: Computer Business Technology 180 with a grade of "C" or better, or equivalent. This course is designed to cover the major components of the Microsoft Office software and includes coverage of the newly bundled applications such as FrontPage, Publisher, and PhotoDraw. Emphasis is placed on a more detailed understanding of Microsoft Office with its new functions for total Internet integration and collaboration. Content includes problem solving, troubleshooting and advanced solutions to client issues with the software components. (FT) Associate Degree Credit.

090A Convergent Network Technology: Basic Data Communications
2 hours lecture, 2 units
Credit/No Credit Only

Corequisite: Information, Network, and Web Technologies 90B, 90C, 90D, 90E, and 90F.

Limitation on Enrollment: This course is not open to students with previous credit for CISC 265C, Convergent Network Technology Basic Data Communications. This course provides students with basic data communications knowledge and skills. The student is introduced to the technology of networking architecture, packet - switching, fiber optics, data modalities for blended solutions. This course follows Computer-Prep Curriculum and is intended to prepare students to take the Computer-Prep Certified in Convergent Network Technologies (CCNT) Basic Data Communications exam. (FT) Associate Degree Credit.

090B Convergent Network Technology: Basic Telecommunications
1.5 hours lecture, 1.5 units
Credit/No Credit Only

Corequisite: Information, Network, and Web Technologies 90A, 90C, 90D, 90E, and 90F.

Limitation on Enrollment: This course is not open to students with previous credit for CISC 265D, Convergent Network Technology Basic Telecommunications. This course provides students with basic telecommunications knowledge and skills. The student is introduced to the technology of networks, business communications systems, signaling, Internet telephony
and switching. This course follows Computer-Prep Official Curriculum and is intended to prepare students to take the Computer-Prep Certified in Convergent Network Technologies (CCNT) Basic Telecommunications exam. (FT) Associate Degree Credit.

**090C Convergent Network Technology: Broadband Technologies**

2 hours lecture, 2 units  
Credit/No Credit Only

**Corequisite:** Information, Network, and Web Technologies 90A, 90B, 90D, 90E, and 90F.  
**Limitation on Enrollment:** This course is not open to students with previous credit for CISC 265E, Convergent Network Technology: Broadband Technologies. This course provides students with basic broadband technologies knowledge and skills. The student develops an understanding for Convergent Technologies and the need for transmitting more than one type of signal simultaneously by way of divided channel. Emphasis is placed on the exploration of the technology of voice and data integration, frame relay, Synchronous Optical Network (SONET), Asynchronous Transfer Mode (ATM)/cell relay, Switched Multi-megabit Digital Service (SMDS), Broadband Integrated Services Digital Network (BISDN), Digital Subscriber Line (DSL), and Virtual Private Network (VPN). This course follows Computer-Prep Official Curriculum and is intended to prepare students to take the Computer-Prep Certified in Convergent Network Technologies (CCNT) Broadband Technologies exam. (FT) Associate Degree Credit.

**090E Convergent Network Technology: Local Area Networks (LANs)**

2 hours lecture, 2 units  
Credit/No Credit Only

**Corequisite:** Information, Network, and Web Technologies 90A, 90B, 90C, 90D, and 90F.  
**Limitation on Enrollment:** This course is not open to students with previous credit for CISC 265H, Convergent Network Technology: Local Area Networks (LANs). This course provides students with basic training in local area networks (LANs). The student develops a critical understanding of the concepts and technology of LAN topologies, information transfer, transmission techniques, media standards, and network management. This course follows Computer-Prep Official Curriculum and is intended to prepare students to take Computer-Prep Certified in Convergent Network Technologies (CCNT) Local Area Networks (LANs) exam. (FT) Associate Degree Credit.

**090F Convergent Network Technology: Voice Over IP (VoIP) Essentials**

1 hours lecture, 1 units  
Credit/No Credit Only

**Corequisite:** Information, Network, and Web Technologies 90A, 90B, 90C, 90D, and 90E.  
**Limitation on Enrollment:** This course is not open to students with previous credit for CISC 265G, Convergent Network Technology: Voice Over IP (VoIP) Essentials. This course is designed to assist students in learning Voice Over IP. This course builds knowledge of Convergent Technologies and focuses on understanding the principles of transmitting voice calls and fax over the Internet. Students analyze VoIP networks, bandwidth compression, the Gateway, packet prioritization, Resource Reservation Protocol (RSVP), H.320 and H.323, and Wide Area Network (WAN) engineering issues. This course follows Computer-Prep Official Curriculum and is intended to prepare students to take the Computer-Prep Certified in Convergent Network Technologies (CCNT) Voice Over IP (VoIP) Essentials exam. (FT) Associate Degree Credit.
050 Microsoft Networking Essentials
   .50 hours lecture, 1.5 hours lab, 1 units
   Grade Only
This course introduces students to networking terms, concepts, and standards based on Microsoft Official Curriculum (MOC). Topics include administrative planning, security, and disaster recovery. This course follows Microsoft Official Curriculum and is intended to prepare students to start the Microsoft Certified Systems Engineer (MCSE) or the Microsoft Certified Systems Administrator (MCSA) certification tracks. (FT) Associate Degree Credit.

051 Installing, Configuring, and Administering Windows 2000 Professional
   1.5 hours lecture, 3 hours lab, 2.5 units
   Grade Only
Advisory: Computer Business Technology 113 with a grade of "C" or better, or equivalent.
This course provides students with the knowledge and skills necessary to implement, administer, and troubleshoot Windows 2000 Professional as a desktop operating system in any network environment. This course follows Microsoft Official Curriculum and is intended to prepare students to take Microsoft MCSE Certification Exam 70-210. (FT) Associate Degree Credit.

052 Installing, Configuring, and Administering Microsoft Windows 2000 Server
   1.5 hours lecture, 3 hours lab, 2.5 units
   Grade Only
Prerequisite: Microsoft 051 with a grade of "C" or better, or equivalent.
This course offers students the opportunity to gain the knowledge and skills necessary to implement, administer, and troubleshoot Microsoft Windows 2000 Server as a member server of a domain in an active directory environment. This course follows Microsoft Official Curriculum and is intended to prepare students to take Microsoft MCSE Exam 70-215. (FT) Associate Degree Credit.

053 Implementing and Administering a Microsoft Windows 2000 Network Infrastructure
   1.5 hours lecture, 3 hours lab, 2.5 units
   Grade Only
Prerequisite: Microsoft 052 with a grade of "C" or better, or equivalent.
This course provides students with the knowledge and skills necessary to install, manage, monitor, configure, and troubleshoot DNS, DHCP, Remote Access, Network Protocols, IP Routing, and WINS in a Windows 2000 network infrastructure. This course follows the Official Microsoft Curriculum and is intended to prepare students to take Microsoft MCSE certification exam 70-216. (FT) Associate Degree Credit.

054 Implementing and Administering a MSFT Windows 2000 Directory Infrastructure
   1.5 hours lecture, 3 hours lab, 2.5 units
   Grade Only
Prerequisite: Microsoft 052 with a grade of "C" or better, or equivalent.
This course is intended to provide support professionals with the knowledge and skills necessary to install, configure, and troubleshoot the Windows 2000 active directory security solutions. This course follows the Official Microsoft Curriculum and is intended to prepare students to take Microsoft MCSE certification exam 70-217. (FT) Associate Degree Credit.

055 Designing a Microsoft Windows 2000 Directory Services Infrastructure
   1.5 hours lecture, 3 hours lab, 2.5 units
   Grade Only
Prerequisite: Microsoft 052 with a grade of "C" or better, or equivalent.
This course offers students the opportunity to gain the knowledge and skills necessary to analyze business requirements and design directory service architecture and design solutions for desktop management. This course follows the Official Microsoft Curriculum and is intended to prepare students to take Microsoft MCSE certification exam 70-219. (FT) Associate Degree Credit.

056 Designing a Microsoft Windows 2000 Network Infrastructure
   1 hour lecture, 3 hours lab, 2 units
   Grade Only
Prerequisite: Microsoft 055 with a grade of "C" or better, or equivalent.
This course offers students the opportunity to gain the knowledge and skills necessary to analyze business requirements for a network infrastructure and design a network infrastructure that meets business requirements. This course follows the Official Microsoft Curriculum and is intended to prepare students to take Microsoft MCSE certification exam 70-221. (FT) Associate Degree Credit.
057 Designing Security for a Microsoft Windows 2000 Network
1.5 hours lecture, 3 hours lab, 2.5 units
Grade Only

Prerequisite: Microsoft 056 with a grade of "C" or better, or equivalent.
This course presents an overview of the knowledge and skills necessary to analyze business requirements for security and to design a security solution that meets business requirements. This course follows the Official Microsoft Curriculum and is intended to prepare students to take Microsoft MCSE certification exam 70-220. (FT) Associate Degree Credit.

058 Managing a Microsoft Network Environment
4.5 hours lab, 1.5 units
Grade Only

This course provides students with the knowledge and skills necessary to install, manage, monitor, configure, and troubleshoot Dynamic Host Configuration (DHCP), Remote Access, and Network Protocols in a Windows network environment. This course follows Microsoft Official Curriculum (MOC) and is intended to prepare students to take Microsoft Certified Systems Engineer (MCSE) Certification Exam 70-218 (or current test). This course may be taken three times with new technologies. (FT) Associate Degree Credit.

070 Microsoft Sequel Server Database Design and Implementation
4.5 hours lab, 1.5 units
Grade Only

This course provides students with the knowledge and skills to program a Microsoft Sequel Server (SQL) database. Emphasis is placed on creating and managing databases, data types, tables, and indexes, and implementing stored procedures, user-defined functions, and triggers. Course content also includes programming across multiple servers, optimizing query performance, analyzing queries and managing transactions and locks. This course follows Microsoft Official Curriculum (MOC) and helps students prepare for the Microsoft Certification exam 70-229 (or current test). This course may be taken three times with new technologies. (FT) Associate Degree Credit.

071 Microsoft SQL Server System Administration
6 hours lab, 2 units
Grade Only

Advisory: Microsoft 052 with a grade of "C" or better, or equivalent.
This course is required for the Microsoft Certified Systems Engineer (MCSE) program. Students gain an understanding of the product's architecture and perform the procedures to install, configure, and administer the program using the current version of Microsoft SQL Server System. This course follows Microsoft Official Curriculum (MOC) and helps the student prepare for the Microsoft Certification Exam 70-228 (or current test). This course may be taken three times with new technology. (FT) Associate Degree Credit.

080 Microsoft Exchange Server Administration
4.5 hours lab, 1.5 units
Grade Only

Advisory: Microsoft 052 with a grade of "C" or better, or equivalent.
This course provides students with the knowledge and skills necessary to install, configure and administer a Microsoft Exchange Server. Emphasis is placed on practical hands-on learning through projects in each chapter. This course follows Microsoft Official Curriculum (MOC) and provides the student with the skills required to pass Microsoft Certification 70-224 (or current test). This course may be taken three times with new technology. (FT) Associate Degree Credit.

This discipline may offer specialized instruction in one or more of the following areas: Supervised Tutoring (044), Special Topics (265), Independent Study (290), Individualized Instruction (296), Service Learning (277), Applied Applications and Software Skills (045L), or Work Experience (270). Detailed course descriptions are listed on page 94. Please refer to the class schedule and/or see the dean or department chair for availability.
Computer Technical Illustration

Description
Provides an opportunity to develop the theory and techniques necessary for employment as a technical illustrator in the fields of engineering, manufacturing, publishing and scientific industries. Students will plan and produce drawings from specific data, blueprints and prototypes. Production methods, visual skills, technical documentation procedures and developments, as they apply to the technical illustration industry, will be studied.

Faculty Office Telephone
Farnaz Khoromi A107B (619) 388-3527

Career Options
Technical Illustrator, graphic specialist, technical publications specialist, manager technical publications, CAD drafter, CAD illustrator, CAD designer, engineering technician, computer graphics specialist.

Academic Programs
Additional general education and graduation requirements for the associate degree are listed in the catalog. The associate degree requires a minimum of 60 units.

Certificate of Completion:
Computer Technical Illustration*
Prepares students with drafting and Computer Aided Design (CAD) experience to obtain entry-level Technical Illustration positions.

Courses:

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>TECI 101, Basic Technical Illustration</td>
<td>3</td>
</tr>
<tr>
<td>TECI 102, Advanced Technical Illustration</td>
<td>3</td>
</tr>
</tbody>
</table>

Total Units = 6

*This is a department award in recognition of information on the transcript and does not imply that a graduation requirement has been met.

Certificate of Achievement:
Computer Technical Illustration
Prepares students for entry-level positions in Technical Publications with emphasis on graphic design.

Courses Required for the Major:

<table>
<thead>
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</tr>
</thead>
<tbody>
<tr>
<td>TECI 101, Basic Technical Illustration</td>
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<tr>
<td>TECI 102, Advanced Technical Illustration</td>
<td>3</td>
</tr>
<tr>
<td>CISC 110, Microcomputer Application</td>
<td>2</td>
</tr>
<tr>
<td>ARTG 124, Intermediate Graphic Design I (Page Layout)</td>
<td>3</td>
</tr>
<tr>
<td>ENGL 101, Reading and Composition</td>
<td>3</td>
</tr>
<tr>
<td>ENGE 111, Introduction to Computer-Aided Design</td>
<td>3</td>
</tr>
<tr>
<td>MAFG 102, Print Reading and Symbology</td>
<td>3</td>
</tr>
<tr>
<td>MATH 96, Intermediate Algebra and Geometry</td>
<td>3</td>
</tr>
</tbody>
</table>

Total Units = 25

Associate in Science Degree:
Computer Technical Illustration
Prepares students for entry level positions in Technical Illustration, Technical Publications with emphasis in technical illustrating, technical writing and graphic design.

Courses Required for the Major:

<table>
<thead>
<tr>
<th>Course</th>
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</thead>
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<tr>
<td>TECI 101, Basic Technical Illustration</td>
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<tr>
<td>TECI 102, Advanced Technical Illustration</td>
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<tr>
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<td>2</td>
</tr>
<tr>
<td>ARTG 124, Intermediate Graphic Design I (Page Layout)</td>
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<td>ARTG 125, Computer Illustration</td>
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<td>ENGL 101, Reading and Composition</td>
<td>3</td>
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<tr>
<td>ENGE 111, Introduction to Computer-Aided Design</td>
<td>3</td>
</tr>
<tr>
<td>MAFG 102, Print Reading and Symbology</td>
<td>3</td>
</tr>
<tr>
<td>MATH 96, Intermediate Algebra and Geometry</td>
<td>5</td>
</tr>
<tr>
<td>RTVC 151, Introduction to Multimedia</td>
<td>3</td>
</tr>
</tbody>
</table>

Total Units = 25

Associate in Science Degree:
Computer Technical Illustration, Engineering Emphasis
Prepares students for entry level positions in Technical Illustration with emphasis in engineering, graphics, engineering design including CAD.

Courses Required for the Major:

<table>
<thead>
<tr>
<th>Course</th>
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</tr>
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<tbody>
<tr>
<td>TECI 101, Basic Technical Illustration</td>
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<tr>
<td>TECI 102, Advanced Technical Illustration</td>
<td>3</td>
</tr>
<tr>
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<td>2</td>
</tr>
<tr>
<td>ARTG 124, Intermediate Graphic Design I (Page Layout)</td>
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</tr>
<tr>
<td>ARTG 125, Computer Illustration</td>
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</tr>
<tr>
<td>ENGL 101, Reading and Composition</td>
<td>3</td>
</tr>
</tbody>
</table>

San Diego City College • 2003-2004
ENGE 111, Introduction to Computer-Aided Design ... 3
ENGE 151, Engineering Drawing.............................. 2
ENGE 152, Engineering Design................................. 3
ENGE 198, Computer Applications in Engineering ....... 3
MAFG 102, Print Reading and Symbology ............... 3
MATH 96, Intermediate Algebra and Geometry ......... 5

Total Units = 36

Recommended electives: Mathematics 104, 116.

**Courses**

**Technical Illustration (TECI)**

**50 Bridging to Technical Illustration**

1 hour, 1 unit  
Grade Only

This course is designed to assist students in exploring the possibility of pursuing a career in the field of technical illustration. This introductory course, outlines career options within the field, places of employment, overview of the current technology, areas of specialization, testing requirements and professional organizations. (FT) Associate Degree Credit.

**101 Basic Technical Illustration**

1.5 hours lecture, 4.5 hours lab, 3 units  
Grade Only

This course covers the basics of technical illustration as it applies to the technical publications industry.

Emphasis is placed on visualization skills, technical document analysis, and illustration development. Projects progress from technical illustration of mechanical details on CAD to pictorial procedures as required by industry. (FT) Transfer Credit: CSU and/or private coll/univ.

**102 Advanced Technical Illustration**

1.5 hours lecture, 4.5 hours lab, 3 units  
Grade Only

Prerequisite: Technical Illustration 101 with a grade of “C” or better, or equivalent.

This course is a continuation of Basic Technical Illustration 101. This course is designed to emphasize advanced pictorial problems of complex mechanical assemblies as they apply to current technical illustration industrial standards. Projects will progress from CAD generated technical illustrations of exploded views in isometric, wireframe, and solids modes to exploring current procedures of pictorial development as required by industry. (FT) Transfer Credit: CSU and/or private coll/univ.

*This discipline may offer specialized instruction in one or more of the following areas: Supervised Tutoring (044), Special Topics (265), Independent Study (290), Individualized Instruction (296), Service Learning (277), Applied Applications and Software Skills (045L), or Work Experience (270). Detailed course descriptions are listed on page 94. Please refer to the class schedule and/or see the dean or department chair for availability.*
## Construction Trades

### Description
This program is designed for the student who is interested in a construction-related career. The specialized trade options of Electrical, Plumbing, and Sheet Metal are offered parallel to the apprenticeship related instructional programs. Each option provides in-depth information and a working knowledge of tools, materials and techniques used in the industry. These courses are not designed for the handyman, but for the individual pursuing a career in a related field. Program planning should occur with the assistance of a department member. All courses have been designed to be taken sequentially.

### Certificate of Achievement: Construction Trades
#### Electrical Trade Option (Non-apprentice)

<table>
<thead>
<tr>
<th>Courses Required for the Major:</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>ELEC 60A, Introduction to Electrical Construction I</td>
<td>3</td>
</tr>
<tr>
<td>ELEC 60B, Introduction to Electrical Construction II</td>
<td>3</td>
</tr>
<tr>
<td>ELEC 65A, Intermediate Electrical Construction I</td>
<td>3</td>
</tr>
<tr>
<td>ELEC 65B, Intermediate Electrical Construction II</td>
<td>3</td>
</tr>
<tr>
<td>ELEC 70A, Advanced Electrical Construction I</td>
<td>3</td>
</tr>
<tr>
<td>ELEC 70B, Advanced Electrical Construction II</td>
<td>3</td>
</tr>
<tr>
<td>ELEC 75A, Electrical Construction Specialties I</td>
<td>3</td>
</tr>
<tr>
<td>ELEC 75B, Electrical Construction Specialties II</td>
<td>3</td>
</tr>
<tr>
<td>ELEC 270, Work Experience</td>
<td>16</td>
</tr>
<tr>
<td><strong>Total Units = 40</strong></td>
<td></td>
</tr>
</tbody>
</table>

### Certificate of Achievement: Construction Trades
#### Plumbing Trade Option (Non-apprentice)

<table>
<thead>
<tr>
<th>Courses Required for the Major:</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>PLBG 60A, Introduction to Plumbing I</td>
<td>3</td>
</tr>
<tr>
<td>PLBG 60B, Introduction to Plumbing II</td>
<td>3</td>
</tr>
<tr>
<td>PLBG 65A, Intermediate Plumbing I</td>
<td>3</td>
</tr>
<tr>
<td>PLBG 65B, Intermediate Plumbing II</td>
<td>3</td>
</tr>
<tr>
<td>PLBG 70A, Advanced Plumbing I</td>
<td>3</td>
</tr>
<tr>
<td>PLBG 70B, Advanced Plumbing II</td>
<td>3</td>
</tr>
<tr>
<td>PLBG 75A, Plumbing Construction Specialties</td>
<td>3</td>
</tr>
<tr>
<td>PLBG 270, Work Experience</td>
<td>16</td>
</tr>
<tr>
<td><strong>Total Units = 37</strong></td>
<td></td>
</tr>
</tbody>
</table>

### Certificate of Achievement: Construction Trades
#### Sheet Metal Trade Option (Non-apprentice)

<table>
<thead>
<tr>
<th>Courses Required for the Major:</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>SHEE 60A, Level I Sheet Metal</td>
<td>3</td>
</tr>
<tr>
<td>SHEE 60B, Level I Sheet Metal</td>
<td>3</td>
</tr>
<tr>
<td>SHEE 65A, Level II Sheet Metal</td>
<td>3</td>
</tr>
<tr>
<td>SHEE 65B, Level II Sheet Metal</td>
<td>3</td>
</tr>
<tr>
<td>SHEE 70A, Level III Sheet Metal</td>
<td>3</td>
</tr>
<tr>
<td>SHEE 70B, Level III Sheet Metal</td>
<td>3</td>
</tr>
<tr>
<td>SHEE 75A, Level IV Sheet Metal</td>
<td>3</td>
</tr>
<tr>
<td><strong>Total Units = 21</strong></td>
<td></td>
</tr>
</tbody>
</table>

### Associate in Science Degree: Construction Trades
#### Electrical Trade Option (Non-apprentice)

<table>
<thead>
<tr>
<th>Courses Required for the Major:</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>ELEC 60A, Introduction to Electrical Construction I</td>
<td>3</td>
</tr>
<tr>
<td>ELEC 60B, Introduction to Electrical Construction II</td>
<td>3</td>
</tr>
<tr>
<td>ELEC 65A, Intermediate Electrical Construction I</td>
<td>3</td>
</tr>
<tr>
<td>ELEC 65B, Intermediate Electrical Construction II</td>
<td>3</td>
</tr>
<tr>
<td>ELEC 70A, Advanced Electrical Construction I</td>
<td>3</td>
</tr>
<tr>
<td>ELEC 70B, Advanced Electrical Construction II</td>
<td>3</td>
</tr>
<tr>
<td>ELEC 75A, Electrical Construction Specialties I</td>
<td>3</td>
</tr>
<tr>
<td>ELEC 75B, Electrical Construction Specialties II</td>
<td>3</td>
</tr>
<tr>
<td>ELEC 270, Work Experience</td>
<td>16</td>
</tr>
<tr>
<td><strong>Total Units = 40</strong></td>
<td></td>
</tr>
</tbody>
</table>

Additional general education and graduation requirements for the associate degree are listed in the catalog. The associate degree requires a minimum of 60 units.
Courses Required for the Major: | Units
---|---
PLBG 60A, Introduction to Plumbing I | 3
PLBG 60B, Introduction to Plumbing II | 3
PLBG 65A, Intermediate Plumbing I | 3
PLBG 65B, Intermediate Plumbing II | 3
PLPF 080, Introduction to Pipefitting | 3
PLPF 085, Intermediate Pipefitting | 3
PLPF 090, Advanced Pipefitting | 3
PLPF 270, Work Experience | 16

Total Units = 37

Additional general education and graduation requirements for the associate degree are listed in the catalog. The associate degree requires a minimum of 60 units.

Associate in Science Degree:
Construction Trades
Plumbing Trade Option (Non-apprentice)

Courses Required for the Major: | Units
---|---
PLBG 60A, Introduction to Plumbing I | 3
PLBG 60B, Introduction to Plumbing II | 3
PLBG 65A, Intermediate Plumbing I | 3
PLBG 65B, Intermediate Plumbing II | 3
PLBG 70A, Advanced Plumbing I | 3
PLBG 70B, Advanced Plumbing II | 3
PLBG 75A, Plumbing Construction Specialties | 3
PLBG 270, Work Experience | 16

Total Units = 37

Additional general education and graduation requirements for the associate degree are listed in the catalog. The associate degree requires a minimum of 60 units.

Associate in Science Degree:
Construction Trades
Sheet Metal Trade Option (Non-apprentice)

Courses Required for the Major: | Units
---|---
SHEE 60A, Level I Sheet Metal | 3
SHEE 60B, Level I Sheet Metal | 3
SHEE 65A, Level II Sheet Metal | 3
SHEE 65B, Level II Sheet Metal | 3
SHEE 70A, Level III Sheet Metal | 3
SHEE 70B, Level III Sheet Metal | 3
SHEE 75A, Level IV Sheet Metal | 3

Total Units = 21

Additional general education and graduation requirements for the associate degree are listed in the catalog. The associate degree requires a minimum of 60 units.
furnaces. This course also introduces the student to alternating current and electronic components and circuits used in HVAC systems. (FT) Associate Degree Credit.

**61B Construction Systems - Intermediate HVAC II**

2 hours lecture, 3 hours lab, 3 units  
Grade Only

**Prerequisite:** Construction Systems 061A with a grade of "C" or better, or equivalent.

**Limitation on Enrollment:** This course is not open to students with previous credit for HVAC 304.

This course instructs the HVAC trainee in HVAC controls and metering devices and introduces the trainee to control circuit analysis. This course also covers compressors and heat pumps and instructs the student in leak detection, evacuation, recovery and charging service procedures used to troubleshoot, repair and/or maintain proper operation of the mechanical refrigeration system. (FT) Associate Degree Credit.

**62A Construction Systems - Advanced HVAC I**

2 hours lecture, 3 hours lab, 3 units  
Grade Only

**Prerequisite:** Construction Systems 061B with a grade of "C" or better, or equivalent.

**Limitation on Enrollment:** This course is not open to students with previous credit for HVAC 305.

This course instructs the HVAC trainee in preventive maintenance, and provides an introduction to troubleshooting applying to all types of HVAC equipment. This course also covers troubleshooting electronic controls, gas heating, electric heating and oil heating. (FT) Associate Degree Credit.

**62B Construction Systems - Advanced HVAC II**

2 hours lecture, 3 hours lab, 3 units  
Grade Only

**Prerequisite:** Construction Systems 062A with a grade of "C" or better, or equivalent.

**Limitation on Enrollment:** This course is not open to students with previous credit for HVAC 306.

This course instructs the HVAC trainee in troubleshooting cooling, accessories, heat pumps and commercial heating and cooling systems. This course also covers water and air balance, steam systems and customer relations. (FT) Associate Degree Credit.

**63A Construction Systems - HVAC Specialties I**

2 hours lecture, 3 hours lab, 3 units  
Grade Only

**Prerequisite:** Construction Systems 062B with a grade of "C" or better, or equivalent.

**Limitation on Enrollment:** This course is not open to students with previous credit for HVAC 307.

This course covers advanced blueprint reading and specifications as they relate to HVAC, indoor air quality and energy conservation equipment commonly used in HVAC systems. This course also covers energy management systems and the methods of water treatment and water treatment equipment used with HVAC systems. (FT) Associate Degree Credit.

**63B Construction Systems - HVAC Specialties II**

2 hours lecture, 3 hours lab, 3 units  
Grade Only

**Prerequisite:** Construction Systems 063A with a grade of "C" or better, or equivalent.

**Limitation on Enrollment:** This course is not open to students with previous credit for HVAC 308.

This course covers commercial heating and cooling systems, maintenance of these systems and system start-up and shut down. This course also covers commercial and industrial refrigeration systems, equipment, refrigerated warehouses, walk-in coolers display cases, etc. (FT) Associate Degree Credit.

**70A Construction Systems - Introduction to Low Voltage Building Systems I**

2 hours lecture, 3 hours lab, 3 units  
Grade Only

**Advisory:** English 51 and English 56 and Mathematics 95, each with a grade of "C" or better, or equivalent, or Assessment Skill Levels W5 and R5 and M40.

**Limitation on Enrollment:** This course is not open to students with previous credit for Construction Electronic Systems Technician 301A.

This course provides the Construction Systems - Low Voltage Building Systems student with instruction in general construction site safety, measurements and formulas, use of hand and power tools, interpretation of blueprints, basic rigging techniques and methods used to move equipment and materials. Associate Degree Credit.

**70B Construction Systems - Introduction to Low Voltage Building Systems II**

2 hours lecture, 3 hours lab, 3 units  
Grade Only

**Prerequisite:** Construction Systems 70A with a grade of "C" or better, or equivalent.

**Limitation on Enrollment:** This course is not open to students with previous credit for Construction Electronic Systems Technician 301B.

This course provides the Construction Systems - Low Voltage Building Systems student with instruction in industry standards, and building codes, residential and...
commercial construction methods, basic electrical theory, electrical meters, OSHA safety standards, and ladders and rigging. (FT) Associate Degree Credit.

This discipline may offer specialized instruction in one or more of the following areas: Supervised Tutoring (044), Special Topics (265), Independent Study (290), Individualized Instruction (296), Service Learning (277), Applied Applications and Software Skills (045L), or Work Experience (270). Detailed course descriptions are listed on page 94. Please refer to the class schedule and/or see the dean or department chair for availability.

Courses

**Electrical (ELEC)**

60A Introduction to Electrical Construction I  
2 hours lecture, 3 hours lab, 3 units  
Grade Only

Advisory: Completion of English 51 and 56 and Mathematics 95, each with a grade of “C” or better, or equivalent, or Assessment Skill Levels W5 and R5, and M40.

Limitation on Enrollment: This course is not open to students with credit for Building Construction 108 or Electrical Apprenticeship 301A.

This course provides the electrical worker with instruction in general construction site safety, measurements and formulas, use of hand and power tools, interpretation of blueprints, basic rigging techniques and methods used to move equipment and materials. (FT) Associate Degree Credit.

60B Introduction to Electrical Construction II  
2 hours lecture, 3 hours lab, 3 units  
Grade Only

Prerequisite: Electrical 60A or 301A with a grade of “C” or better, or equivalent.

Limitation on Enrollment: This course is not open to students with credit for Building Construction 109 or Electrical Apprenticeship 301B.

This course provides the electrical student with instruction in basic principles of electrical safety and hazard procedures including working with toxins and vapors. Students will also be provided with instruction in techniques used to hand bend conduits and install anchors and supports. Additional instruction will include an introduction to basic electrical theory and test equipment, the use of NEC boxes, fittings and conductors, and the interpretation of related electrical blueprints and commercial/industrial/residential symbols, diagrams and schematics used for wiring. (FT) Associate Degree Credit.

65A Intermediate Electrical Construction I  
2 hours lecture, 3 hours lab, 3 units  
Grade Only

Prerequisite: Electrical 60B or 301B with a grade of “C” or better, or equivalent.

Limitation on Enrollment: This course is not open to students with credit for Building Construction 110 or Electrical Apprenticeship 302A.

This course covers intermediate electrical techniques including principles of alternating currents, characteristics of circuits, transformers, motor theory applications, grounding purposes and methods, National Electrical Code (NEC) requirements for conduit bending, types of bends, specifications for boxes and fittings, and location considerations. (FT) Associate Degree Credit.

65B Intermediate Electrical Construction II  
2 hours lecture, 3 hours lab, 3 units  
Grade Only

Prerequisite: Electrical 65A or 302A with a grade of “C” or better, or equivalent.

Limitation on Enrollment: This course is not open to students with credit for Building Construction 111 or Electrical Apprenticeship 302B.

This course covers the installation of connections for conductor termination and splices; use of cable pulling instruments and NEMA and NEC standards for cable tray; installation of electrical service and related components and equipment; use of manual take-off methods and troubleshooting techniques; identification of ratings for current breakers and fuses and regulations for sizing, use, and installation of relay switches, conductors and overrides; electrical lighting principles, types and applications. (FT) Associate Degree Credit.

70A Advanced Electrical Construction I  
2 hours lecture, 3 hours lab, 3 units  
Grade Only

Prerequisite: Electrical 65B or 302B with a grade of “C” or better, or equivalent.

Limitation on Enrollment: This course is not open to students with credit for Building Construction 212 or Electrical Apprenticeship 303A.

This course includes instruction in branch load calculations for circuits and varied electrical appliances; introduction to and identification of electrical conductors; devices used for overprotection of loads, currents, circuits and fuses; fill requirements for boxes/raceways; principles of wiring devices,
switches and receptacles and their locations; requirements for distribution equipment; settings for voltage, switch gear, circuits and components; distribution system transformers and their characteristics; types of components; NEC requirements; methods for locating and troubleshooting problems. (FT) Associate Degree Credit.

70B Advanced Electrical Construction II
2 hours lecture, 3 hours lab, 3 units
Grade Only

Prerequisite: Electrical 70A or 303A with a grade of “C” or better, or equivalent.

Limitation on Enrollment: This course is not open to students with credit for Building Construction 213 or Electrical Apprenticeship 303B.

This course provides the electrical worker with instruction in basic lighting and NEC requirements for lighting fixtures for indoor and outdoor use; an introduction to motor basics, calculations, transformers, instruments for testing, wiring, protection, maintenance, and troubleshooting for various types of motors and motor controls; introduction to heating, ventilation, and air conditioning (HVAC) systems and refrigeration theory, compressors, operating systems and system maintenance equipment, and safety requirements for varied locations; principles for combustion, hazardous materials and their reactions in varied locations, and the use of safety equipment. (FT) Associate Degree Credit.

75A Electrical Construction Specialties I
2 hours lecture, 3 hours lab, 3 units
Grade Only

Prerequisite: Electrical 70B or 303B with a grade of “C” or better, or equivalent.

Limitation on Enrollment: This course is not open to students with credit for Building Construction 222 or Electrical Apprenticeship 304A.

This course provides the electrical worker with instruction in calculations for wiring commercial and residential dwellings and NEC requirements for lighting and specialty fixtures; characteristics and types of standby emergency electrical systems and system applications, size of disconnect switches, feeder and branch circuits for DC systems; theory and operating principles for solid-state devices, operational amplifier circuits, specialty and transformers and components of fire alarm and security systems; installation methods for smoke and heat detectors. (FT) Associate Degree Credit.

75B Electrical Construction Specialties II
2 hours lecture, 3 hours lab, 3 units
Grade Only

Prerequisite: Electrical 75A or 304A with a grade of “C” or better, or equivalent.

Limitation on Enrollment: This course is not open to students with credit for Building Construction 223 or Electrical Apprenticeship 304B.

This course is designed to provide the electrical worker with advanced instruction of controls for motors, starters, relays, switches and transformers; installation and connection of gas burner controls and commercial and industrial HVAC control systems; NEC and OSHA requirements for connecting and grounding varied welding machines; installation and protection of heat-tracing and freeze protection equipment; principles and maintenance of motors and selection of materials and tools required for high voltage termination/splice according to manufacturer’s specifications. (FT) Associate Degree Credit.

270 Electrical Work Experience
Hours by arrangement, 1 - 4 units
Grade Only

Advisory: Completion of English 43 and English 42, each with a grade of “C” or better, or equivalent, or Assessment Skill Levels W4 and R4.

Limitation on Enrollment: To receive the work experience credit, concurrent enrollment in seven units of credit (must include related Electrical Trade option and may include work experience credit) for a fall or spring semester and/or one other class during a summer session.

(60-300 hours) The Electrical Work Experience program is designed to provide an opportunity to extend occupational learning through employment and coordinate the on-the-job training and the classroom instruction. The goals and learning objectives will be designed by the student cooperatively with the employer and Work Experience instructor/coordinator. (FT) Associate Degree Credit.

This discipline may offer specialized instruction in one or more of the following areas: Supervised Tutoring (044), Special Topics (265), Independent Study (290), Individualized Instruction (296), Service Learning (277), Applied Applications and Software Skills (045L), or Work Experience (270). Detailed course descriptions are listed on page 94. Please refer to the class schedule and/or see the dean or department chair for availability.
**Pipefitting (PLPF)**

**80 Introduction to Pipefitting**  
2 hours lecture, 3 hours lab, 3 units  
Grade Only  
*Prerequisite:* Plumbing (PLBG) 65B or 320 with a grade of "C" or better, or equivalent.  
*Limitation on enrollment:* This course is not open to students with credit for Pipefitting (PLPF) 325.  
This course is designed to give the Pipefitting student an introduction to blueprint drawings and detail sheets, piping systems, standards and specifications, and trade math. This course also includes advanced blueprint reading and trade math as well as motorized equipment and above ground pipe installation. (FT) Associate Degree Credit.

**85 Intermediate Pipefitting**  
2 hours lecture, 3 hours lab, 3 units  
Grade Only  
*Prerequisite:* Pipefitting (PLPF) 80 or 325 with a grade of "C" or better, or equivalent.  
*Limitation on enrollment:* This course is not open to students with credit for Pipefitting (PLPF) 330.  
This course is designed to give the Pipefitting student instruction in pipe hangers and supports, identifying and installing valves, field routing and vessel trim, spring can supports, planning work activities and performing non-destructive examination testing. (FT) Associate Degree Credit.

**90 Advanced Pipefitting**  
2 hours lecture, 3 hours lab, 3 units  
Grade Only  
*Prerequisite:* Pipefitting (PLPF) 85 or 330 with a grade of "C" or better, or equivalent.  
*Limitation on enrollment:* This course is not open to students with credit for Pipefitting (PLPF) 335.  
This course is designed to give the pipefitting student instruction in advanced pipe fabrication, aligning pipe to rotating equipment, steam traps, in-line specialties, special piping, hot taps, and maintaining valves. (FT) Associate Degree Credit.

**270 Pipefitting Work Experience**  
Lab hours by arrangement, 1-4 units  
Grade Only  
*Advisory:* English 43 and English 42, each with a grade of "C" or better, or equivalent, or Assessment Skill Levels W4 and R4.  
*Limitation on enrollment:* To receive the work experience credit, concurrent enrollment in seven units of credit (must include related Pipefitting Trade option and may include work experience credit) for a fall or spring semester and/or one other class during a summer session.

The Pipefitting Work Experience program is designed to provide an opportunity to extend occupational learning through employment and coordinate the on-the-job training and the classroom instruction. The goals and learning objectives will be designed by the student cooperatively with the employer and work experience instructor/coordinator. (FT) Associate Degree Credit.  

*This discipline may offer specialized instruction in one or more of the following areas: Supervised Tutoring (044), Special Topics (265), Independent Study (290), Individualized Instruction (296), Service Learning (277), Applied Applications and Software Skills (045L), or Work Experience (270). Detailed course descriptions are listed on page 94. Please refer to the class schedule and/or see the dean or department chair for availability.*

**Plumbing (PLBG)**

**60A Introduction to Plumbing I**  
2 hours lecture, 3 hours lab, 3 units  
Grade Only  
*Advisory:* Completion of English 51 and 56 and Mathematics 35, each with a grade of "C" or better, or equivalent, or Assessment Skill Levels W5 and R5, and M30.  
*Limitation on Enrollment:* This course is not open to students with credit for Plumbing (PLBG) 105 or 305.  
This course is designed to give the plumbing student introductory information regarding OSHA standards of safety and precautions for working on the construction site; a review of math as it relates to plumbing, hand and power tool usage, basic plumbing blueprint reading and basic rigging. (FT) Associate Degree Credit.

**60B Introduction to Plumbing II**  
2 hours lecture, 3 hours lab, 3 units  
Grade Only  
*Prerequisite:* Plumbing (PLBG) 60A or 305 with a grade of "C" or better, or equivalent.  
*Limitation on Enrollment:* This course is not open to students with credit for Plumbing (PLBG) 110 or 310.  
This course is designed to give the plumbing student an introduction to reading and interpreting the LAMPO uniform plumbing codes and residential plumbing drawings, identifying various types of pipe and the procedures for working with the pipe. This course will also include identification of various plumbing lines and their components. (FT) Associate Degree Credit.
65A Intermediate Plumbing I
2 hours lecture, 3 hours lab, 3 units
Grade Only
Prerequisite: Completion of Plumbing (PLBG) 60B or 310 with a grade of “C” or better, or equivalent.
Limitation on Enrollment: This course is not open to students with credit for Plumbing (PLBG) 115 or 315.
This course is designed to provide the intermediate plumbing student the knowledge of introductory plumbing math, the identification of various commercial drawings, the installation of DWV piping components and systems for commercial properties utilizing local and BOCA National Plumbing Codes. (FT) Associate Degree Credit.

65B Intermediate Plumbing II
2 hours lecture, 3 hours lab, 3 units
Grade Only
Prerequisite: Completion of Plumbing (PLBG) 65A or 315 with a grade of “C” or better, or equivalent.
Limitation on Enrollment: This course is not open to students with credit for Plumbing (PLBG) 120 or 320.
This course is designed to give the intermediate plumbing student the ability to perform testing of water supply piping and systems, installation of the components of a water supply system, and the ability to read and interpret commercial plumbing drawings for project requirements according to local and national codes. (FT) Associate Degree Credit.

70A Advanced Plumbing I
2 hours lecture, 3 hours lab, 3 units
Grade Only
Prerequisite: Completion of Plumbing (PLBG) 65B or 320 with a grade of “C” or better, or equivalent.
Limitation on Enrollment: This course is not open to students with credit for Plumbing (PLBG) 125 or 325.
This course is designed to provide the advanced plumbing student with the ability to perform applications of advanced math for plumbers and methods of handling waste. This course also provides information relating to water softening measures, methods of locating buried lines, the installation and maintenance of waste pressure booster systems, and the prevention of backflow. (FT) Associate Degree Credit.

70B Advanced Plumbing II
2 hours lecture, 3 hours lab, 3 units
Grade Only
Prerequisite: Completion of Plumbing (PLBG) 70A or 325 with a grade of “C” or better, or equivalent.
Limitation on Enrollment: This course is not open to students with credit for Plumbing (PLBG) 130 or 330.
This course is designed to provide the advanced plumbing student with the ability to organize job tasks, clean and disinfect potable water systems, thaw frozen pipes, install main to meter water services and solar systems. This course also covers the ability to rough-in fixtures for residential, commercial and handicapped settings and install natural gas and storm drainage systems. (FT) Associate Degree Credit.

75A Plumbing Construction Specialties
2 hours lecture, 3 hours lab, 3 units
Grade Only
Prerequisite: Completion of Plumbing (PLBG) 70B or 330 with a grade of “C” or better, or equivalent.
Limitation on Enrollment: This course is not open to students with credit for Plumbing (PLBG) 135 or 335.
This course is designed to introduce the plumbing student to specialty topics such as swimming pool installation, medical gas systems, mobile home and mobile home park plumbing systems, and private water waste and treatment systems (FT) Associate Degree Credit.

75B Plumbing Code
2 hours lecture, 3 hours lab, 3 units
Grade Only
Limitation on Enrollment: This course is not open to students with credit for Plumbing (PLBG) 340.
This course is designed to prepare the advanced plumbing student to apply plumbing codes to correctly design and build plumbing systems. Primary topics include coverage of codes pertaining to plumbing fixtures and fittings, water heaters and fuel piping, drainage, waste and vent systems, sewage and reclaimed water systems, sizing and standards, and alternate plumbing systems. (FT) Associate Degree Credit.

270 Plumbing Work Experience
300 hours lab, 4 units
Limitation on Enrollment: Student must be concurrently enrolled in a related plumbing course. To receive credit, a student must complete a minimum of seven units including work experience during Fall or Spring semester.
This course consists of a program of on-the-job learning experiences for plumbing students employed in related plumbing fields. Students may repeat this course up to three additional times for a total of 16 units. During summer sessions, one other course must be taken concurrently. One unit of credit is earned for each 75 hours of paid employment or 60 hours of volunteer work. Associate Degree Credit.
This discipline may offer specialized instruction in one or more of the following areas: Supervised Tutoring (044), Special Topics (265), Independent Study (290), Individualized Instruction (296), Service Learning (277), Applied Applications and Software Skills (045L), or Work Experience (270). Detailed course descriptions are listed on page 94. Please refer to the class schedule and/or see the dean or department chair for availability.

Sheet Metal (SHEE)

60A Level I Sheet Metal
2 hours lecture, 3 hours lab, 3 units
Advisory: Completion of English 56 and Mathematics 35, each with a grade of “C” or better, or equivalent, or Assessment Skill Levels R5 and M30.
Limitation on Enrollment: This course is not open to students with credit for Sheet Metal 105 or 301A.
In this course, trade mathematics and drawings, the tools of the trade, fasteners, metals, the principles of layout, sheet metal processing and fabrication are covered. (FT) Associate Degree Credit.

60B Level I Sheet Metal
2 hours lecture, 3 hours lab, 3 units
Prerequisite: Sheet Metal 60A or 301A with a grade of “C” or better, or equivalent.
Limitation on Enrollment: This course is not open to students with credit for Sheet Metal 110 or 301B.
In this course, continuation of fabrication (parallel line development), and trade math are covered, as well as basic piping practices and radial line development. (FT) Associate Degree Credit.

65A Level II Sheet Metal
2 hours lecture, 3 hours lab, 3 units
Prerequisite: Sheet Metal 60B or 301B with a grade of “C” or better, or equivalent.
Limitation on Enrollment: This course is not open to students with credit for Sheet Metal 115 or 302A.
This course includes: bend allowances, soldering, blueprints and specifications, duct fabrication, SMACNA Manuals, insulation, gutters and downspouts, roof flashings, and principles of air flow. (FT) Associate Degree Credit.

65B Level II Sheet Metal
2 hours lecture, 3 hours lab, 3 units
Prerequisite: Sheet Metal 65A or 302A with a grade of “C” or better, or equivalent.
Limitation on Enrollment: This course is not open to students with credit for Sheet Metal 120 or 302B.
This course is a continuation of the principles of air flow. Other topics include associated equipment, principles of refrigeration, fiberglass ducts and an introduction to triangulation. (FT) Associate Degree Credit.

70A Level III Sheet Metal
2 hours lecture, 3 hours lab, 3 units
Prerequisite: Sheet Metal 65B or 302B with a grade of “C” or better, or equivalent.
Limitation on Enrollment: This course is not open to students with credit for Sheet Metal 125 or 304A.
This course covers shop production and organization, air balancing and an introduction to a comprehensive review of fabrication. (FT) Associate Degree Credit.

70B Level III Sheet Metal
2 hours lecture, 3 hours lab, 3 units
Prerequisite: Sheet Metal 70A or 304A with a grade of “C” or better, or equivalent.
Limitation on Enrollment: This course is not open to students with credit for Sheet Metal 130 or 304B.
This course covers shop production and organization, air balancing and an introduction to a comprehensive review of fabrication. (FT) Associate Degree Credit.

75A Level IV Sheet Metal
2 hours lecture, 3 hours lab, 3 units
Prerequisite: Sheet Metal 70B or 304B with a grade of “C” or better, or equivalent.
Limitation on Enrollment: This course is not open to students with credit for Sheet Metal 135 or 305A.
In this course, students will continue to review fabrication as well as louvers, dampers, access doors, the use of hoods and ventilators, and how to design fume and exhaust systems per OSHA and ACGHI standards. (FT) Associate Degree Credit.

This discipline may offer specialized instruction in one or more of the following areas: Supervised Tutoring (044), Special Topics (265), Independent Study (290), Individualized Instruction (296),
Cosmetology

Description
The Cosmetology program is designed to provide entry level skills to students interested in a career in the cosmetology profession. California State law requires that persons enrolling in Cosmetology courses must be at least sixteen years of age. Students in the Cosmetology program will be required to comply with and maintain standards of dress and grooming. Excessive absences may result in exclusion from the program. All prospective students are required to attend an orientation program.

Orientation
Students must bring proof of placement test scores to the orientation session and Student Handbook.

Program Enrollment
Program add codes are required for both transfer and continuing students for spring, summer and fall semesters. Mid-spring and mid-fall courses are also part of the program and new courses begin each nine weeks. Program vacancies are filled by students from a waiting list.

Program Hours
Cosmetology courses are offered during the day and evening.

Full Time Program: For students enrolled in lecture courses numbered 50, 60, 70, 80, 81: 7:50 A.M.- 8:50 A.M., Monday through Friday.

For students enrolled in laboratory 50L, 60L, 80L & 90L: 8:50 A.M.- 4:30 P.M., Monday through Friday.

Half Time Evening Program: Lecture: Monday 5:00 - 10:00 P.M. and 5:30 - 10:00 P.M., Tuesday through Friday (laboratory only)

NOTE: A nine-week summer session is required for both full-time day and half-time evening students.

Prior Hours:
Students who have hours previously completed in a cosmetology program must provide written verification of hours completed. This is done by submitting State Board documentation to the Cosmetology Department.
The California State Board of Barbering and Cosmetology requires 1600 hours of instruction and a passing score on the State Board examination to become a licensed cosmetologist eligible for employment. Students participate in practical and theoretical training under the supervision of a State licensed and community college credentialed instructor at all times while enrolled in the program.

Program Emphasis
Students are expected to learn fundamental practices and procedures of cosmetology services. This includes laboratory instruction in client cosmetology services. Students are required to purchase all textbooks, uniforms, practical kits, tools and small manually handled equipment. Instructional opportunities provide the student with salon site visitation, guest speakers, exposure to the cosmetology industry, small business concepts and current changes in the field of cosmetology which lead to career opportunities and advancement. Students are provided with opportunities to develop skills in sales, community and client relations, care of skin, hair and nails, as well as salon management. A grade of “C” or better must be maintained in order to advance in the course sequence.

As of January 1, 1995, the California State Board of Cosmetology requires 400 hours of instruction for manicuring program licensure application.

Note: Half-time students should enroll in laboratory sections A & B, for example, Cosmetology 50LA & 50LB.

Faculty
Constance Calhoun A1-F (619) 388-3284
Patricia Grooms-Jones A1-G (619) 388-3296
Sudabeth Phillips A1-K (619) 388-3613
Ella Sloan A1-F (619) 388-3283

Career Options
Some careers in cosmetology require education beyond the associate degree. Examples of careers in cosmetology include: salon owner/manager, cosmetologist (salon services), platform stylist (demonstrates products and techniques for manufacturer), competition stylist, cosmetology instructor, technical writer for trade magazine, seminar/demonstration speaker and education specialist (for a manufacturer).

Academic Programs
The associate degrees in Cosmetology require completion of the courses listed below. Additional general education and graduation requirements for the associate degree are listed in the catalog. The associate degree requires a minimum of 60 units.

Certificate of Achievement: Cosmetology

Courses Required for the Major: Units
COSM 50L, Fundamentals of Cosmetology OR
COSM 50LA, 50LB, Fundamentals of Cosmetology I & II .......................... 6-7
COSM 50, Rules, Regulations, and Physiology ..................2.5
COSM 60L, Intermediate Cosmetology Lab I
OR
COSM 60LA, 60LB, Intermediate Cosmetology Lab I & II .................. 6-7
COSM 60, Facials, Hairstyling & Haircutting ..................2.5
COSM 70L, Intermediate Cosmetology Lab II OR
COSM 70LA, 70LB, Intermediate Cosmetology Lab II & III ........... 6
COSM 70, Chemistry and Chemical Services ..................2.5
COSM 80L, Advanced Cosmetology Lab IA OR
COSM 80LA, 80LB, Advanced Lab IA & IB .............. 5-6
COSM 80, Skin Care for Cosmetologists ..................2.5
COSM 90L, Advanced Cosmetology Lab II OR
COSM 90LA, 90LB, Advanced Lab II A & IIIB .............. 5-6
COSM 81, Basic Business Practices ..................2.5
Total Units = 40.5-44.5

Associate in Science Degree: Cosmetology

Courses Required for the Major: Units
Certificate of Achievement, Cosmetology 40.5-44.5
BUSE 100, Introduction to Business ..................3
CHEM 100, 100L, Fundamentals of Chemistry
and Lab .............................................3,1
Total Units = 47.5-51.5

Additional general education and graduation requirements for the associate degree are listed in the catalog. The associate degree requires a minimum of 60 units.

Recommended electives: Cosmetology 290;
Cosmetology 92 (Extended laboratory course).
Certificate of Achievement: Cosmetology Teacher Training Program

Upon successful completion of the Teacher Training Program, students will be eligible to take the California State Board Teacher's Training Examination in Cosmetology for licensing.

Courses Required for the Major: Units
Certificate of Achievement, Cosmetology 40.5-44.5
COSM 91A, Cosmetology Teacher Training Program I .................................................... 6
COSM 91B, Cosmetology Teacher Training Program II ................................................... 6
Total Units = 52.5-56.5

After completing 1,600 hours of training; all of the courses required for the Certificate of Achievement, Cosmetology; and passing the California State Board exam in cosmetology, students may continue their education while concurrently working in the salon or industry by enrolling in Cosmetology 152A and 152B for a maximum of 12 units and earning a specialized certificate in the Cosmetology Teacher Training Program.

Courses

Cosmetology (COSM)

50L Fundamentals of Cosmetology
18 hours lab, 6 units
Grade Only
Corequisite: Completion of or concurrent enrollment in Cosmetology 50 with a grade of "C" or better, or equivalent.
Advisory: Completion of or concurrent enrollment in English 51 and 56 with a grade of "C" or better, or equivalent, or Assessment Skill Levels W5 and R5.
Limitation on Enrollment: This course is not open to students with previous credit for Cosmetology 110, 110A or 50L.
This course is an introduction to the basic fundamentals of Cosmetology. Course content includes basic procedures of draping, shampooing, conditioning, haircutting, wet hairstyling, manicuring, pedicuring, facials, make-up, and removing unwanted hair. This course is intended to prepare students for 50LB and the California State Bureau of Barbering and Cosmetology licensure. (FT) Associate Degree Credit.

50LA Fundamentals of Cosmetology I
12 hours lab, 4 units
Grade Only
Corequisite: Completion of or concurrent enrollment in Cosmetology 50 with a grade of "C" or better, or equivalent.
Advisory: Completion of or concurrent enrollment in English 51 and 56 with a grade of "C" or better, or equivalent, or Assessment Skill Levels W5 and R5.
Limitation on Enrollment: This course is not open to students with previous credit for Cosmetology 110, 110A or 50L.
This course is an introduction to the basic fundamentals of Cosmetology. Course content includes basic procedures of draping, shampooing, conditioning, haircutting, wet hairstyling, manicuring, pedicuring, facials, make-up, and removing unwanted hair. This course is intended to prepare students for 50LB and the California State Bureau of Barbering and Cosmetology licensure exam. (FT) Associate Degree Credit.

50LB Fundamentals of Cosmetology II
9 hours lab, 3 units
Grade Only
Prerequisite: Cosmetology 50LA with a grade of "C" or better, or equivalent.
Corequisite: Completion of or concurrent enrollment in Cosmetology 50 or 60, each with a grade of "C" or better, or equivalent.
Advisory: Completion of or concurrent enrollment in English 51 and English 56 with a grade of "C" or better, or equivalent, or Assessment Skill Levels W5 and R5.
Limitation on Enrollment: This course is not open to students with previous credit for Cosmetology 110 or 110B or 50L.
This course is a continuation of Cosmetology 50LA, an introduction to the basic fundamentals of Cosmetology, at a more advanced level. Course content includes basic procedures of draping, shampooing, conditioning, haircutting, wet hairstyling, manicuring, pedicuring, facials, make-up, and removing unwanted hair. This course is intended to prepare students for 60LA and the California State Bureau of Barbering and Cosmetology licensure exam. Associate Degree Credit.

50 Rules, Regulations, and Physiology
2.5 hours lecture, 2.5 units
Grade Only
Corequisite: Cosmetology 50L; or 50LA and 50LB; or 60L; or 60LA and 60LB.
Advisory: Completion of or concurrent enrollment in English 51 and 56, each with a grade of "C" or better, or equivalent, or Assessment Skill Levels W5 and R5.
Cosmetology

Limitation on Enrollment: This course is not open to students with credit for Cosmetology 111, 111A or 111B.
This is an introduction to the basic principles of anatomy and physiology, including bone structure, circulation, muscle and nerve components of the body as well as hair structure. This course incorporates bacteriology, sanitation, sterilization and cosmetology rules and regulations as required for licensure in the State of California. Emphasis is placed on consumer protection and health of the community as related to cosmetology services. (FT) Associate Degree Credit.

60L Intermediate Cosmetology Lab I
18 hours lab, 6 units
Grade Only
Prerequisite: Cosmetology 50L or Cosmetology 50LA and 50LB, each with a grade of "C" or better, or equivalent.
Corequisite: Completion of or concurrent enrollment in Cosmetology 50, 60 or 70, each with a grade of "C" or better, or equivalent.
Limitation on Enrollment: This course is not open to students with previous credit for Cosmetology 120, 120A and 120B or 60LA and 60LB. Must obtain an Add Code from the instructor for enrollment.
This course provides for the supervised application of the basic fundamentals of Cosmetology. Course content includes basic procedures of hair coloring, permanent waving, soft curl permanent waving, chemical straightening, and thermal pressing and curling. A review of Cosmetology 50L is included to develop skill level and subject matter mastery of the following subjects: state board set, manicuring, pedicuring, artificial nails, facials, make up, removing unwanted hair, sanitation safety and client protection. The main focus of this course is intended to prepare students for 70L, 70LA and 70LB and the California State Bureau of Barbering and Cosmetology examination. This course also prepares students for client services. (FT) Associate Degree Credit.

60LB Intermediate Cosmetology Lab IB
10.5 hours lab, 3.5 units
Grade Only
Prerequisite: Cosmetology 60LA or 50L with a grade of "C" or better, or equivalent.
Corequisite: Completion of or concurrent enrollment in Cosmetology 50, 60 or 70, each with a grade of "C" or better, or equivalent.
Limitation on Enrollment: This course is not open to students with previous credit for Cosmetology 120 or 120B or 60L.
This course is a continuation of Cosmetology 60LA. It covers the second half of Cosmetology 60L. Course content includes basic procedures of hair coloring, permanent waving, soft curl permanent waving, chemical straightening, and thermal pressing and curling. A review of Cosmetology 50L is included to develop skill level and subject matter mastery of the following subjects: state board set, manicuring, pedicuring, artificial nails, facials, make up, removing unwanted hair, sanitation safety and client protection. This course together with Cosmetology 60LA is intended to prepare students for 70L or 70LA and 70LB and the California State Bureau of Barbering and Cosmetology examination. This course also prepares students for client services. (FT) Associate Degree Credit.

Advisory: Completion of or concurrent enrollment in English 51 and 56, each with a grade of "C" or better, or Assessment Skill Levels W5 and R5.
Limitation on Enrollment: This course is not open to students with credit for Cosmetology 122.
This course is an introduction to concepts related to facials, hairstyling and haircutting. Included in this course are basic principles of histology for the skin including diseases and disorders. Advanced facial treatments, massage and skin analysis for a diverse clientele are incorporated as well as advanced make-up techniques that include application, analysis, and corrective procedures. Basic principles of design used for haircutting, fingerwaving, wet hairstyling, blow drying, marcel and electric curling iron, pressing, artificial hair care and artificial hair styling are introduced. This course incorporates communication skills as related to client services and professionalism intended to support students in their employment goals. This course is intended to prepare students for Cosmetology 70 and 80 and the California State Bureau of Barbering and Cosmetology Exam. (FT) Associate Degree Credit.

70L Intermediate Cosmetology Lab II
18 hours lab, 6 units

Prerequisite: Cosmetology 60L; or 60LA and 60LB, each with a grade of "C" or better, or equivalent.
Corequisite: Completion of or concurrent enrollment in Cosmetology 60 or 70 or 81, each with a grade of "C" or better, or equivalent.
Limitation on Enrollment: This course is not open to students with previous credit for Cosmetology 130, 130A, 130B, 70LA, or 70LB. Must obtain an Add Code from the instructor for enrollment.

This course is an introduction to the basic laboratory fundamentals of chemicals and hair design. Course content includes basic procedures of hair coloring, permanent waving, soft curl permanent wavning, chemical straightening, and thermal pressing and curling. A review of the topics from Cosmetology 60L is included to maintain subject matter mastery and to prepare students for client services. Emphasis is placed on preparing students for 80L or 80LA and 80LB and the California State Bureau of Barbering and Cosmetology examination. (FT) Associate Degree Credit.

70 Chemistry and Chemical Services
2.5 hours lecture, 2.5 units

Corequisite: Completion of or concurrent enrollment in Cosmetology 060L; or 60LA and 60LB; or Cosmetology 070L; or 70LA and 70LB; or Cosmetology 080L; or 80LA and 80LB; or Cosmetology 090L; or 90LA and 90LB.
Limitation on Enrollment: This course is not open to students with previous credit for Cosmetology 131. Must obtain an Add Code from the instructor for enrollment.

This eight-week course is an introduction to the techniques used for hair coloring, permanent waving, relaxing and soft perming. An understanding of chemistry and formulation methods is included for all techniques. In addition, an advanced understanding of the relationship between all types of hair textures and basic chemical types and professional products is taught. Emphasis is placed on the development of consultation skills as related to client services and professionalism. This course is intended to prepare the student for the California State Bureau of Barbering and Cosmetology examination. (FT) Associate Degree Credit.
80L Advanced Cosmetology Lab I
18 hours lab, 6 units
Grade Only
Prerequisite: Cosmetology 70L; or 70LA and 70LB, each with a grade of "C" or better, or equivalent.
Corequisite: Completion of or concurrent enrollment in Cosmetology 60 or 70 or 81, each with a grade of "C" or better, or equivalent.
Limitation on Enrollment: This course is not open to students with previous credit for Cosmetology 140, 140A, 140B, 80L, 80LA, or 80LB. Must obtain an Add Code from the instructor for enrollment.
This course is an introduction to senior level techniques related to client services in Cosmetology. Course content includes advanced procedures for hair coloring, permanent waving, soft curl permanent waving, chemical straightening, thermal pressing and curling as well as advanced level facials, manicuring, haircutting, and wet hairstyling. This course is intended to prepare the student for 90L, 90LA, and 90LB, the California State Bureau of Barbering and Cosmetology examination as well as to introduce students to marketing strategies and to support their efforts in meeting professional and employment goals. (FT) Associate Degree Credit.

80LA Advanced Cosmetology Lab IA
8 hours lab, 2.5 units
Grade Only
Prerequisite: Cosmetology 70L; or Cosmetology 70LA & 70LB, each with a grade of "C" or better, or equivalent.
Corequisite: Completion of or concurrent enrollment in Cosmetology 60 or 70 or 81, each with a grade of "C" or better, or equivalent.
Limitation on Enrollment: This course is not open to students with previous credit for Cosmetology 140A, 140B, 80L, or 80LA.
This course is an introduction to senior level techniques related to client services in Cosmetology. Course content includes advanced procedures for hair coloring, permanent waving, soft curl permanent waving, chemical straightening, thermal pressing and curling as well as advanced level facials, manicuring, haircutting, and wet hairstyling. This course is intended to prepare the student for 90L, 90LA, and 90LB, the California State Bureau of Barbering and Cosmetology examination as well as to introduce students to marketing strategies and to support their efforts in meeting professional and employment goals. (FT) Associate Degree Credit.

80LB Advanced Lab IB
8 hours lab, 2.5 units
Grade Only
Prerequisite: Cosmetology 80L or 80LA and 70L; Cosmetology 70LA & 70LB, each with a grade of "C" or better, or equivalent.
Corequisite: Completion of or concurrent enrollment in Cosmetology 60 or 70 or 81, each with a grade of "C" or better, or equivalent.
Limitation on Enrollment: This course is not open to students with previous credit for Cosmetology 140 or 140B or 80L.
This course is a continuation of Cosmetology 80LA and covers the second half of Cosmetology 80L. It provides increased senior level techniques related to client services in Cosmetology. Course content includes advanced procedures for hair coloring, permanent waving, soft curl permanent waving, chemical straightening, thermal pressing and curling as well as advanced level facials, manicuring, haircutting, and wet hairstyling. This course is intended to prepare the student for 90L or 90LA and 90LB, the California State Bureau of Barbering and Cosmetology examination as well as to introduce students to marketing strategies and to support their efforts in meeting professional and employment goals. (FT) Associate Degree Credit.

80 Skin Care for Cosmetologists
5 hours lecture, 9 weeks, 2.5 units
Grade Only
Prerequisite: Cosmetology 70 with a grade of "C" or better, or equivalent.
Corequisite: Cosmetology 80LA, or 80LA and 80LB, or 60L, or 60LA and 60LB, or 90L, or 90LA and 90LB.
Limitation on Enrollment: This course is not open to students with credit for Cosmetology 142.
Histology of skin, including functions, diseases, disorders, cosmetic chemistry, electrical treatments and application of this knowledge to facial, manicuring and pedicuring services and scalp care. Associate Degree Credit.

81 Basic Business Practices
2.5 hours lecture, 2.5 units
Grade Only
Prerequisite: Cosmetology 50, 60, and 70, each with a grade of "C" or better, or equivalent.
Corequisite: Completion of or concurrent enrollment in Cosmetology 50L; or 50LA and 50LB or Cosmetology 60L; or 60LA and 60LB or Cosmetology 70L; or 70LA and 70LB or Cosmetology 80L; or 80LA and 80LB or
Cosmetology 90L; or 90LA and 90LB, each with a grade of "C" or better, or equivalent.

**Limitation on Enrollment:** This course is not open to students with previous credit for Cosmetology 151. This eight-week course is an introduction to basic business practices as related to the Cosmetology industry. Emphasis is placed on bookkeeping, business law and taxation, insurance, salesmanship, resume writing, interview techniques, business plan writing, and marketing. In addition, this course incorporates interpersonal relationships as they relate to client services and professionalism in the salon. (FT) Associate Degree Credit.

**90L Advanced Cosmetology Lab II**

18 hours lab, 6 units

**Prerequisite:** Cosmetology 80L; or 80LA and 80LB, each with a grade of "C" or better, or equivalent.

**Corequisite:** Completion of or concurrent enrollment in Cosmetology 60 or 70 or 81, each with a grade of "C" or better, or equivalent.

**Limitation on Enrollment:** This course is not open to students with previous credit for Cosmetology 150, 150A, 150B, 90LA, or 90LB. Must obtain an Add Code from the instructor for enrollment.

This course focuses on perfecting competence in advanced techniques related to client services in Cosmetology. Course content includes advanced procedures for hair coloring, permanent waving, soft curl permanent waving, chemical straightening, and thermal pressing and curling. Emphasis is placed on assignments that focus on advanced techniques for facials, manicures, haircuts and wet hairstyling. A mock board examination and practical drills prepare students for the California State Bureau of Barbering and Cosmetology exam. These proficiencies support students in their efforts to meet their professional and employment goals. (FT) Associate Degree Credit.

**90LA Advanced Lab IIA**

8 hours lab, 2.5 units

**Prerequisite:** Cosmetology 80L; or Cosmetology 80LA & 80LB with a grade of "C" or better, or equivalent.

**Corequisite:** Completion of or concurrent enrollment in Cosmetology 60 or 70 or 81 with a grade of "C" or better, or equivalent.

**Limitation on Enrollment:** This course is not open to students with previous credit for Cosmetology 150 or 150B or 90L.

This course covers the first half of Cosmetology 90L and focuses on perfecting competence in advanced techniques related to client services in Cosmetology. Course content includes advanced procedures for hair coloring, permanent waving, soft curl permanent waving, chemical straightening, and thermal pressing and curling. Emphasis is placed on assignments that focus on advanced techniques for facials, manicures, haircuts and wet hairstyling. A mock board examination and practical drills prepare students for the California State Bureau of Barbering and Cosmetology exam. These proficiencies support students in their efforts to meet their professional and employment goals. (FT) Associate Degree Credit.

**90LB Advanced Lab IIB**

8 hours lab, 2.5 units

**Prerequisite:** Cosmetology 90LA; or Cosmetology 80L; or Cosmetology 80LA & 80LB with a grade of "C" or better, or equivalent.

**Corequisite:** Completion of or concurrent enrollment in Cosmetology 60 or 70 or 81 with a grade of "C" or better, or equivalent.

**Limitation on Enrollment:** This course is not open to students with previous credit for Cosmetology 150 or 150B or 90L.

This course is a continuation of Cosmetology 90LA and covers the second half of Cosmetology 90L. It provides an increased focus on perfecting competence in advanced techniques related to client services in Cosmetology. Course content includes more advanced procedures for hair coloring, permanent waving, soft curl permanent waving, chemical straightening, and thermal pressing and curling. Emphasis is placed on assignments that focus on advanced techniques for facials, manicures, haircuts and wet hairstyling. A mock board examination and practical drills prepare students for the California State Bureau of Barbering and Cosmetology exam. These proficiencies support students in their efforts to meet their professional and employment goals. (FT) Associate Degree Credit.
practical and theoretical principles of effective teaching methods which include lesson planning, oral presentations, evaluations, test construction, and procedures to ensure environmental health and safety. Emphasis is focused on preparation for California Bureau of Barbering and Cosmetology Instructor Licensure and prospective employment in private and public Cosmetology Schools. (FT) Associate Degree Credit.

91B Cosmetology Teacher Training Program II
3 hours lecture, 10 hours lab, 6 units
Grade Only

Prerequisite: Cosmetology 91A with a grade of “C” or better, or equivalent.
Advisory: Completion of English 43 and English 42, each with a grade of “C” or better, or equivalent, or Assessment Skill Levels W4 and R4.
Limitation on Enrollment: This course is not open to students with credit for Cosmetology 152B. A valid California Cosmetology License and a minimum of one year of full time salon/industry experience.
Phase II of the Cosmetology Teacher Training program will provide the trainee with an opportunity to acquire additional skills, expand career options, workplace skill competencies, subject mastery skills and California State Board examination strategies necessary for acquiring their State Cosmetology Instructor's license. A total of 300 hours of lecture/demonstration and laboratory training to include technical and practical aspects of cosmetology science. This course is offered as a non-degree/credit for a specialized certificate.

92 Extended Laboratory Practice
6-18 hours lab per week
(9 week course), 1-3 unit
Credit/No Credit Only

Prerequisite: Cosmetology 60 and 60L, each with a grade of “C” or better, or equivalent.
Limitation on Enrollment: Must obtain an Add Code from the instructor for enrollment.
This course is continued laboratory practice for advanced cosmetology students who need to complete 1600 hours mandated for examination and for licensure by the California State Board of Cosmetology. Emphasis is placed on client services (including chemical and non-chemical services) and an understanding of all types of hair texture. This course teaches communication skills as related to client services and professionalism and is intended to support students in their employment goals. This course, in combination with Cosmetology 220, may be taken three times for credit. Associate Degree Credit.

290 Independent Study in Cosmetology
Hours by Arrangement; 1-3 units
Grade Only

Limitation on Enrollment: Must obtain an Add Code from instructor for registration.
This course is designed to deal with current problems and topics of special interest in cosmetology. This course may be taken four times with different content for a maximum of six units. Associate Degree Credit.

This discipline may offer specialized instruction in one or more of the following areas: Supervised Tutoring (044), Special Topics (265), Independent Study (290), Individualized Instruction (296), Service Learning (277), Applied Applications and Software Skills (045L), or Work Experience (270). Detailed course descriptions are listed on page 94. Please refer to the class schedule and/or see the dean or department chair for availability.
Disabled Students Programs and Services

Description
Disabled Students Programs and Services (DSPS) provides services and courses to support students with disabilities in the achievement of their academic and vocational goals. The instructional component promotes equal participation in mainstream academic programs through preparatory and skill maintenance courses, and offers courses for personal growth.

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Barbara Mason  A-115  (619) 388-3513

Career Options
Consult a DSPS counselor.

Academic Programs
The DSPS program is not an academic program designed to prepare professionals in the field of special education or rehabilitation. DSPS courses are designed for the student with a disability. Students consult with a DSPS counselor to develop the Student Education Plan and identify courses appropriate to support the academic or vocational goal. While several courses are recommended for students with any disability, some curricula focus on special skills particular to one disability, i.e., visual impairment or learning disability.

Distinctive Features
The DSPS program integrates adaptive computer technology in the classroom, coordinating instruction and access devices with the Computer Business Technology and Computer Information Sciences departments and the Independent Learning Center. Learning Disability course offerings include strategy programs in sentence writing and mathematics based on university research.

Note: DSPS courses are also listed in the Physical Education and Computer Information Sciences sections of the catalog. Additional courses are offered at Mesa and Miramar College campuses. Consult the appropriate semester class schedule.

Courses

Disabled Students Programs and Services (DSPS)
Courses listed under DSPS have been designed for students with disabilities. DSPS courses are also listed under Physical Education (PHYE) and Computer and Information Sciences (CISC). Additional DSPS classes are offered at Mesa and Miramar campuses. See appropriate catalog.

21 Accessible Computing Lab
1.5 - 6 hours lab, 0.5 - 2 units
Credit/No Credit Only
Limitation on Enrollment: This course is not open to students with credit for Disabled Students Programs and Services 76. This course is offered for students who benefit from adaptive computer access. The course modules teach students how to use the necessary adaptive hardware or software needed to access the computer. Training in all modules is individualized. Students also have the option of completing only those sections of the modules that are relevant to the goals on their Student Educational Contract (SEC). Credit for this course does not apply to the associate degree.

27 Career Planning for Students with Disabilities
2 hours, 2 units
Credit/No Credit Only
This course is designed to assist students with disabilities in acquiring an understanding of the world of work. Emphasis is placed on developing and pursuing goals for employment and on identifying community, state, and national assistance resources. Throughout the course, students evaluate their individual career goals, analyze their job skills, research the job market and construct an effective resume and cover letter for prospective employers. Course material also emphasizes preparing students to meet the psychological, social and cognitive demands of employment. (FT) Credit for this course does not apply to the associate degree.
34 College Success Skills

1 hour lecture, 1 unit
Credit/No Credit Only

Limitation on Enrollment: This course is not open to students with credit for Disabled Students Programs and Services 29.

This course is designed to assist students with disabilities to achieve their educational goals by providing them with an orientation to the college campus, policies, procedures and support services such as financial aid, tutoring, counseling, computer labs, and career and transfer information. Emphasis is placed on time management, mental and physical health, study skills, self-advocacy, accommodations, and interpersonal relationships as they relate to individual disabilities and college success. Throughout the course, students clarify goals, develop an education plan and identify the courses, services and programs that will lead to their success. Credit for this course does not apply to the associate degree.

38 Math Strategies for the Learning Disabled

3 hours, 3 units
Credit/No Credit Only

This course is designed for students with verified disabilities related to mathematics. It is taught as a lecture class that can be taken independently or in conjunction with Mathematics 32/Mathematics 35. This class utilizes a strategies-oriented course developing competency with basic mathematical operations and pre-algebra concepts. This course, in combination with Disabled Students Programs and Services 73, may be taken four times for credit. Credit for this course does not apply to the associate degree.

40 Individual Assessment and Educational Planning

0.5 hour, 0.5 unit
Credit/No Credit Only

Limitation on Enrollment: This course is not open to students with credit for Disabled Students Programs and Services 50.

This course is designed to facilitate students' awareness of individual learning aptitude as compared to measured academic achievement. Standardized achievement and aptitude assessment instruments are individually administered during the course in accordance with California Community College Learning Disabilities Eligibility Model to document a learning profile related to community college academic demands. Related academic study strategies and possible learning disability accommodations are addressed when appropriate. Credit for this course will not apply to the associate degree.

Learning Disabled

41 Introduction to Applied Study Skills and Strategies

0.5 hour lecture, 2 - 3 hours lab, 0.5 - 1.5 units
Credit/No Credit Only

This course is designed for students who are enrolled in a college course in which they have a verified disability related limitation. It is recommended for students who would benefit from formal assessment and small group instruction in applied study skills and learning strategies. The course provides guided instruction in the application of study skill strategies to a mainstreamed course. The focus of the course is on developing generalized study skills that (1) relate to successful learning in the community college setting and (2) that can be altered through individual effort and instruction. Individually guided practice of study skills is supported in an individual and/or small group setting. This course may be taken for lab credit four times with different content for a maximum of four units. Credit for the course does not apply to the associate degree.

42 Basic Skills Applied Study Strategies

2 - 3 hours lab, 0.5 - 1 unit
Credit/No Credit Only

This course is intended primarily for students needing disability related specialized support in mainstream basic skills classes in addition to the campus wide academic support services. The focus of this class is to provide study skill assistance for students enrolled in basic skill college classes. Initial emphasis is placed both on the application and generalization of study strategies as well as on assistive technology. Computer assisted instruction is utilized to supplement, review and rehearse basic skills learning. This course may be taken four times with different content for a maximum of four units. Credit for the course does not apply to the associate degree.

43 Advanced Applied Study Strategies

2 - 3 hours lab, 0.5 - 1 unit
Credit/No Credit Only

This course is intended primarily for students needing advanced academic disability related support in addition to the campus wide academic support services currently available. The focus of this class is to provide individualized study assistance for students in mainstream degree applicable college classes. Emphasis is placed on the application of study strategies to a
specific course. Both study strategies and assistive
technology are utilized to meet the demands of a
mainstream course content. Computer assisted
instruction is used to review related basic skills
instruction and to support research skill development.
This course may be taken four times with different
content for a maximum of four units. Credit for the
course does not apply to the associate degree.

47 Spelling and Auditory Processing
2 hours lecture, 2 units
Credit/No Credit Only
This course is designed for students who have identified
learning disabilities related to effective spelling and/or
reading decoding skills. The course introduces learning
and memory research related to spelling disabilities. A
multisensory awareness of speech sounds and auditory
processing strategies are emphasized. Common spelling
rules and expectancies are taught, and the effective use
of spelling related assistive technology is introduced.
Credit for the course does not apply to the associate
degree.

48 Effective Sentence Writing and Grammar
2 hours lecture, 2 units
Credit/No Credit Only
This course is designed for students who have verified
disabilities related to effective sentence writing skills.
It is intended to prepare students for a more successful
entry into the mainstream basic skills English
curriculum. Multisensory learning strategies are
emphasized that assist in the recognition of acceptable
sentence structures and appropriate grammar. Sentence
writing instruction progresses from very simple to more
complex structures. Credit for the course does not apply
to the associate degree.

49 Writing Structured Paragraphs
2 hours lecture, 2 units
Credit/No Credit Only
This course is designed for students who demonstrate
difficulty with written language. It is intended to
prepare students who have a writing related disability
to more successfully meet the minimum college
requirements for multi-paragraph essay writing. This
course is unique for the highly structured and
sequential strategies applied to essay writing.
Additionally, the course emphasizes the application of
assistive computer technology for facilitating
organizational pre-writing strategies, document
checking, and written language fluency. Credit for the
course does not apply to the associate degree.

Drama
See “Visual and Performing Arts” on page 313.

Courses

Education (EDUC)

100 Tutor Training
0.5 hour lecture, 1.5 hours lab, 1 unit
Credit/No Credit Only
Limitation on enrollment: Student must have completed
a minimum of 12 units of college credit with an
accumulated grade point average of 3.0 or better in
subject area he/she will tutor.
This course is designed to prepare college-level persons
to tutor adult/college students. Tutoring methods, use
of appropriate written and mediated instructional
materials, and supervised practice tutoring are included
in this course. (FT) Transfer Credit: CSU and/or private
coll/univ.; UC.

200 Teaching as a Profession
3 hours, 3 units
Grade Only
Advisory: English 51 and 56, each with a grade of “C” or
better, or equivalent, or Assessment Skill Levels W5 and
R5; and Educational Technology 199 with a grade of “C”
or better, or equivalent.
Limitation on Enrollment: Must meet safety and health
clearance standards for a public school field experience
placement.
This course is designed for students considering
teaching as a profession, for paraprofessionals, and for
volunteer tutors working in the public school system.
Career exploration, foundations of education, critical
issues, and an introduction to literacy acquisition are
addressed. Guided observations of public school
classrooms in a variety of subject areas are a
requirement of the course. (FT) Transfer Credit: CSU
and/or private coll/univ.

202 Introduction to Literacy Instruction
2 hours lecture, 2 units
Grade Only
Advisory: English 51 and 56, each with a grade of “C” or
better, or equivalent, or Assessment Skill Levels W5 and
R5.
This course is designed for students participating in the
Liberal Studies Blended Teacher Education Program, for
students considering teaching as a profession, and for
prospective literacy tutors. The basic processes of literacy acquisition are presented. Students develop competency in instructional literacy strategies and essential competencies for delivering culturally relevant reading instruction to emerging readers. Students should be prepared to complete the procedures necessary for field work in schools. (FT) Transfer Credit: CSU and/or private coll/univ.

270 Teaching as a Profession-Work Experience
Hours by arrangement, 1-4 units
Grade Only

Prerequisite: Education 200 with a grade of “C” or better, or equivalent and approval of Work Experience Coordinator.
Limitation on Enrollment: To receive credit a student must complete a minimum of seven units, including Work Experience, during the semester (or four units during the summer session) and must meet safety and health clearance standards for public school Work Experience placement.

This course is directed work study designed to provide the pre-service teacher with an opportunity to apply classroom theory in a public school setting with an assigned Work Experience supervisor. It is the purpose of this course to provide early supervised experience to pre-service teachers in order that they may begin to develop fluency with fundamental skills of literacy development, individual and small group tutoring, classroom management, and other routine teaching skills required in public schools. (FT) Transfer Credit: CSU and/or private coll/univ.

This discipline may offer specialized instruction in one or more of the following areas: Supervised Tutoring (044), Special Topics (265), Independent Study (290), Individualized Instruction (296), Service Learning (277), Applied Applications and Software Skills (045L), or Work Experience (270).

Detailed course descriptions are listed on page 94. Please refer to the class schedule and/or see the dean or department chair for availability.

<table>
<thead>
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<th>Course</th>
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<tr>
<td>Educational Technology (EDTC)</td>
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199 Introduction to Educational Technology
1.5 hours lecture, 1.5 hours lab, 2 units
Grade Only

Advisory: English 51 and 56, each with a grade of "C" or better, or equivalent, or Assessment Skill Levels W5 and R5; and Computer Business Technology 101 with a grade of "C" or better, or equivalent.

This course is intended for students participating in the Liberal Studies Blended Teacher Education program and for students considering teaching as a profession. The curriculum is designed to introduce basic computer skills and terminology in the context of teacher education. Basic competencies required for meeting the Educational Technology standards required for teachers are addressed in the curriculum. (FT) Transfer Credit: CSU and/or private coll/univ.
Description
The electricity program provides the student with an opportunity to master the skills required for success in the electrical trade. Entering students are not required to have any knowledge of the electrical trade. The two-year curriculum leads to a Certificate of Achievement or an Associate in Science degree.

Program Emphasis
The program begins with an introduction to basic electrical theory and continues through advanced electrical theory, installation and maintenance of industrial equipment, familiarization with electrical codes and blueprints, and the characteristics and uses of motor controls.

Faculty Office Telephone
Mike Brown T-107 (619) 388-3565

Career Options
Employment may be found as an electrician, electric lineman, maintenance electrician, electrical helper, electrical motor repairer, appliance repairer, or protective signal installer and repairer.

Academic Programs
The certificates of achievement and associate degree, Electricity, require completion of the courses listed below.

Certificate of Achievement: Electricity

Courses Required for the Major: Units
ELCT 111, Electrical Theory I .................................. 3
ELCT 111L, Electrical Laboratory I .......................... 2
ELCT 121, Electrical Theory II ................................. 3
ELCT 121L, Electrical Laboratory II ......................... 2
ELCT 131, Electrical Theory III ............................... 3
ELCT 131L, Electrical Laboratory III ....................... 2
ELCT 141, Electrical Theory IV ............................... 3
ELCT 141L, Electrical Laboratory IV ....................... 2
Total Units = 20

Certificate of Achievement: Electricity Lineman

Courses Required for the Major: Units
ELCT 190, Electric Lineman IA .................................. 5
ELCT 191, Electric Lineman IB .................................. 5
ELCT 192, Electric Lineman IIA .................................. 5
ELCT 193, Electric Lineman IIB .................................. 5
ELCT 194, Electric Lineman IIIA ............................... 5
ELCT 195, Electric Lineman IIIIB ............................. 5
Total Units = 30

Certificate of Achievement: Electricity Electrical Control Systems Option

Courses Required for the Major: Units
Complete requirements for the Certificate of Achievement, Electricity ........................................... 20
AND, in addition, complete:
ELCT 200, Electric Control Systems ............................ 3
ELCT 200L, Electric Control Systems Laboratory ...... 2
Total Units = 25

Associate in Science Degree: Electricity

Complete the Certificate of Achievement, Electricity. Recommended elective: Electricity 270. Additional general education and graduation requirements for the associate degree are listed in the catalog. The associate degree requires a minimum of 60 units.

Courses

Electricity (ELCT)

111 Electrical Theory I 3 hours, 3 units
Grade Only

Corequisite: Electricity 111L.
Advisory: English 56 and Mathematics 96, each with a grade of "C" or better, or equivalent, or Assessment Skill Levels R5 and M5.
This course is a study of the fundamentals of electrical theory including basic safety practices and a history of industrial electricity and electronics. Course topics include the theory and application of fundamental units of measurement, wire splicing, permanent magnets, electromagnets, and electrical/electronic symbols. This course includes a study of the theory of electricity sources including batteries, mechanical generators,
photocells, and thermocouples. In addition, Basic Ohm’s Law theory including calculations of DC voltage, DC current, resistance, DC power, inductance and capacitance in DC circuits is discussed. This course is designed as preparation for the major in electricity. (FT) Transfer Credit: CSU and/or private coll/univ.

**111L Electrical Laboratory I**

6 hours lab, 2 units
Grade Only

Corequisite: Electricity 111.
Advisory: English 56 and Mathematics 96, each with a grade of "C" or better, or equivalent, or Assessment Skill Levels R5 and M5.

This course involves laboratory practice in basic electricity. Laboratory time includes instruction and laboratory assignments in the proper use and care of electrical tools, meters, instruments, and equipment with an emphasis on safe working habits. Laboratory assignments include the application of basic direct and alternating current circuitry and wattage of fabricated circuits. Students gain additional practice in the development of electrical diagrams using proper symbols and nomenclature. An introduction to inductance and capacitance in direct current or DC circuits is included. This course is designed as a preparation for the major in Electricity. (FT) Transfer Credit: CSU and/or private coll/univ.

**121 Electrical Theory II**

3 hours, 3 units
Grade Only

Prerequisite: Electricity 111 and 111L, each with a grade of "C" or better, or equivalent.
Corequisite: Electricity 121L.

This course involves laboratory practice in direct current and alternating current circuits. Activities include practice with basic DC motor circuits, power transmission lines, and instruction in the safe use of three-phase power supplies. This course also includes practice using AC voltmeters, AC ammeters, and AC wattmeters to measure phase angle, real power, apparent power, watts, vars, volt-amps, and power factor in single-phase and poly-phase circuits including three-phase circuits with wye and delta connections. This course is designed as preparation for the major in Electricity. (FT) Transfer Credit: CSU and/or private coll/univ.

**131 Electrical Theory III**

3 hours, 3 units
Grade Only

Prerequisite: Electricity 121 and 121L, each with a grade of "C" or better, or equivalent.
Corequisite: Electricity 131L.

This course involves practice in planning the installation of electrical circuits on construction jobs according to the National Electrical Codes and Blueprints. This course also includes practice in making detailed drawings of electrical wiring circuits using standard symbols and estimating the wiring material required to complete a single-family dwelling. Planning the installation of communication circuits, heating systems, service entrance equipment, remote control systems, motor starting equipment, circuit protective devices, control components, and pilot devices is also included. This course is designed as preparation for the major in Electricity. (FT) Transfer Credit: CSU and/or private coll/univ.

**131L Electrical Laboratory III**

6 hours lab, 2 units
Grade Only

Prerequisite: Electricity 121 and 121L, each with a grade of "C" or better, or equivalent.
Corequisite: Electricity 131.

This course involves laboratory practice in the installation of construction wiring materials including installation and connection of lighting circuits, receptacle circuits, special purpose circuits, communication circuits, heating systems, service entrance equipment, remote control systems, electric motor circuits, and pilot devices. Safety is emphasized.
through practice in the installation of electrical equipment according to blueprints and local and national codes. Instruction and practice in fire prevention and construction site safety habits are also included. This course is designed as preparation for the major in Electricity. (FT) Transfer Credit: CSU and/or private coll/univ.

141 Electrical Theory IV
3 hours, 3 units
Grade Only

Prerequisite: Electricity 131 and 131L, each with a grade of "C" or better, or equivalent.
Corequisite: Electricity 141L.
This course involves the advanced theory of the characteristics and uses of direct current generators, direct current motors, direct current motor controls, alternating current generators, and three-phase motors. This course also includes the advanced theory of the characteristics and uses of three-phase motors and three-phase controllers, single-phase motors and single-phase controllers, electronic devices, and static controls. Digital and logic controls are also investigated. This course is designed as preparation for the major in Electricity. (FT) Transfer Credit: CSU and/or private coll/univ.

141L Electrical Laboratory IV
6 hours lab, 2 units
Grade Only

Prerequisite: Electricity 131 and 131L, each with a grade of "C" or better, or equivalent.
Corequisite: Electricity 141.
This course involves laboratory practice and experimentation with DC generators, DC motors, three-phase alternators, squirrel-cage induction motors, and wound rotor induction motors. This course also includes laboratory practice and experimentation with induction motors, synchronous motors, and single-phase motors, including split-phase, capacitor start, universal, and repulsion-start induction run motors. Additionally, experiments are conducted with phase sequence, frequency, selsyn systems, and SCR speed controls. This course is designed as preparation for the major in Electricity. (FT) Transfer Credit: CSU and/or private coll/univ.

190 Electric Lineman IA
5 hours, 5 units
Grade Only

Orientation in the power distribution and line construction industry. Basic electrical principles and safety on the job. (FT) Associate Degree Credit.

191 Electric Lineman IB
5 hours, 5 units
Grade Only

Study of the power distribution and line construction industry, including methods of producing electricity, A.C. and D.C. meters and circuitry. (FT) Associate Degree Credit.

192 Electric Lineman IIA
5 hours, 5 units
Grade Only

A study of alternating current circuits, A.C. and D.C. motors and generators, pole and overhead construction, and transformers and voltage regulators. (FT) Associate Degree Credit.

193 Electric Lineman IIB
5 hours, 5 units
Grade Only

A continuation of pole and overhead construction, including state safety order for line construction and maintenance, transmission and distribution systems, conductors and electrical systems faults, short circuits and system protective concepts. (FT) Associate Degree Credit.

194 Electric Lineman IIIA
5 hours, 5 units
Grade Only

Advanced theory of electrical distribution lines and systems, including phasing, system groundings, substations and use of electrical instruments. (FT) Associate Degree Credit.

195 Electric Lineman IIIB
5 hours, 5 units
Grade Only

A continuation of the advanced theory, including use of “hot sticks” and special equipment; repair and maintenance of poles and lines both cold and energized, safety practices and the local/state requirements. (FT) Associate Degree Credit.

200 Electrical Control Systems
3 hours, 3 units
Grade Only

Prerequisite: Electricity 121 and 121L, each with a grade of “C” or better, or equivalent
Corequisite: Electricity 200L.
This course involves electrical control system theory emphasizing standard motor controls, transducers, static control devices, programmed controllers, and remote electronic controls. (FT) Associate Degree Credit.
Description
Electronics is a field of technology that is concerned with the installation, operation, repair, maintenance, calibration, modification and service of electronic circuitry, components and systems. Technicians are also trained to diagnose problems arising from electromechanical malfunctions and to assist engineers or technologists in preparing prototypes of electronic units or systems.

Program Emphasis
Graduates of the Electronics program understand the physical sciences, mathematics, applications and customer relations necessary in the installation, construction, programming, operation, maintenance and diagnosis of microcomputers and microprocessor based systems.

Faculty Office Telephone
Fred Julian A-107D (619) 388-3720
Farnaz Khoromi A-107B (619) 388-3527

Career Options
Electronic Technician

Academic Programs

Certificate of Achievement: Electronics
This certificate of achievement provides basic preparation for electronic technicians.

Courses Required for the Major:

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
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<tbody>
<tr>
<td>ELDT 123, 123L, Introduction to Digital Circuits and Laboratory</td>
<td>3,1</td>
</tr>
<tr>
<td>ELDT 124, 124L, Basic DC/AC Electronics and Laboratory</td>
<td>4,1</td>
</tr>
<tr>
<td>ELDT 125, 125L, DC/AC Circuit Analysis with PSpice and Laboratory</td>
<td>4,1</td>
</tr>
<tr>
<td>ELDT 126, 126L, Introduction to Programming with C and C++ and Laboratory</td>
<td>3,1</td>
</tr>
<tr>
<td>ELDT 143, 143L, Semiconductor Devices and Laboratory</td>
<td>3,1.5</td>
</tr>
</tbody>
</table>
Certificate of Achievement: Electronics

Electronic Communication Systems Option

This program prepares students to function in entry level positions in electronic communication systems.

Course Requirements for the Major: Units
Complete the requirements for the Certificate of Achievement: Electronics, as specified above, ............................................................... 27

In addition, complete:
- ELDT 227, 227L, Lasers and Fiberoptics & Laboratory ............................................. 3, 1
- ELDT 228, 228L, Communication Circuits and CET/NARTE Preparation & Certification Laboratory ............................................. 3, 1
- ELDT 229, 229L, Advanced Telecommunications Networks & Laboratory ............................................. 3, 1

Total Units = 39

Certificate of Achievement: Electronics

Electronic Microprocessor/Microcontroller Design Option

This program provides basic preparation in the electronic microprocessor and/or microcontroller occupation.

Course Requirements for the Major: Units
Complete all the requirements for the Certificate of Achievement: Electronics, as specified above, ............................................................... 27

In addition, complete:
- ELDT 224, 224L, Microprocessor Design & Laboratory ............................................. 3, 1
- ELDT 230, 230L, Advanced Computer Designs & Laboratory ............................................. 3, 1
- ELDT 231, Advanced System Interfacing .................................................. 3

Total Units = 38

Associate in Science Degree: Electronics

An Associate in Science Degree may be earned in either Electronic Communication Systems or Electronic Microprocessor/Microcontroller Design. Complete the appropriate Certificate of Achievement in Electronic Systems and add: Electronic Systems 230, 230L, 231. Recommended electives: Electronic Systems 198, 270, 290. Additional general education and graduation requirements for the associate degree are listed in the catalog. The associate degree requires a minimum of 60 units.

Transfer Information

Students planning to transfer to a four-year college or university should complete courses required for the university major and the general education pattern required by that transfer institution. See catalog TRANSFER INFORMATION section. Additional courses may be required to meet university lower-division requirements. Course requirements at the transfer institution are subject to change and may be verified by a counselor or by consulting the current university catalog. Many Baccalaureate in Arts degrees require third semester competency in a foreign language. Consult the current catalog of the transfer institution and consult with a counselor.

Note: A Bachelor of Science degree in Electronic Engineering is offered by CSU Chico, Dominguez Hills, Fullerton, Sacramento and CSPU, Pomona. Obtain further information in the Transfer Center and see a counselor for transfer planning.

Courses

Electronic Systems (ELDT)

100 Electronic Assembly and Certification
2 hours lecture, 6 hours lab, 4 units
Grade Only

Advisory: English 43 and English 42, each with a grade of “C” or better or equivalent, or Assessment Skills Levels W4 and R4; and Mathematics 35 with a grade of “C” or better, or equivalent, or Assessment Skill Level M30.

Limitation on Enrollment: This course is open to students with credit for Electronic Systems 110 or Digital Technology 100.

This is a combination electronic survey and electronic assembly course. Using a modular approach, students are systematically promoted from one electrical concept to the next. Topics include D.C. electronics, A.C electronics, semiconductors, power supplies, amplifiers, oscillators, digital gates, and fiber optics (FT) Transfer Credit: CSU and/or private coll/unic.
123 Introduction to Digital Circuits
3 hours, 3 units
Grade Only
Advisory: Concurrent enrollment in Electronic Systems 123L.
Limitation on Enrollment: This course is not open to students with credit for Electronic Systems 220, 223 or Digital Technology 223.
This course is an introduction to digital technology with an emphasis on understanding, constructing and troubleshooting integrated circuits. Course content includes number systems and codes, truth tables, Boolean functions, combinatorial logic, registers, counters and device characteristics. (FT) Transfer Credit: CSU and/or private coll/univ.

123L Digital Circuits Laboratory
3 hours lab, 1 unit
Grade Only
Advisory: Concurrent enrollment in Electronic Systems 123.
Limitation on Enrollment: This course is not open to students with credit for Electronic Systems 222A, 223L or Digital Technology 223L.
This laboratory course is designed to demonstrate the concepts studied in Electronic Systems 123 and to familiarize students with a variety of digital electronic components and circuits. Emphasis is placed on developing students' skills in reading schematic diagrams, fabricating simple circuits, and safely using basic test equipment for measuring and troubleshooting. Equipment used in this laboratory includes volt-ohm-amp meters, oscilloscopes, digital multimeters (DMMs), function generators, and power supplies. (FT). Transfer Credit: CSU and/or private coll/univ.

124 Basic DC/AC Electronics
4 hours, 4 units
Grade Only
Advisory: Mathematics 95 with a grade of "C" or better, or equivalent, or Assessment Skill Level M40; and concurrent enrollment in Electronic Systems 124L.
Limitation on Enrollment: This course is not open to students with credit for Electronics Technology 120A or Digital Technology 124.
This course is a study of basic electricity and electrical circuit concepts. Course content includes Ohm's and Kirchhoff's Laws, Superposition Theorem, Thevenin's and Norton's Theorems, direct current (DC) series and parallel circuits, the generation and nature of alternating current (AC), power, capacitance, inductance, and magnetic circuits. Throughout the course, students apply the concepts of basic electronics to solve problems commonly found in industrial settings. (FT) Transfer Credit: CSU and/or private coll/univ.

124L Basic DC/AC Laboratory
3 hours lab, 1 unit
Grade Only
Advisory: Mathematics 95 with a grade of "C" or better, or equivalent, or Assessment Skill Level M40; and concurrent enrollment in Electronic Systems 124.
Limitation on Enrollment: This course is not open to students with credit for Electronics Technology 121A or Digital Technology 124L.
This laboratory course demonstrates the basic concepts of electricity and electrical circuits and familiarizes students with various electronic components and circuits. Course content is designed to develop students' skills in reading schematic diagrams, fabricating simple circuits, and safely using basic test equipment for measuring and troubleshooting. (FT). Transfer Credit: CSU and/or private coll/univ.

125 DC/AC Circuit Analysis with Pspice
4 hours, 4 units
Grade Only
Advisory: Electronic Systems 124 & 124L, each with a grade of "C" or better, or equivalent; and Mathematics 96 with a grade of "C" or better, or equivalent, or Assessment Skill Level M50; and concurrent enrollment in Electronic Systems 125L.
Limitation on Enrollment: This course is not open to students with credit for Digital Technology 125.
This course is a study of direct current and alternating current (DC/AC) electronic circuit analysis. Course material emphasizes circuit simulations on computers utilizing Pspice application to analyze current; voltage; resistance; capacitance; inductance; power and energy as well as series, parallel, and combination circuits; network theorems; transformers; passive filters, and response curves. (FT). Transfer Credit: CSU and/or private coll/univ.

125L DC/AC Circuit Analysis Laboratory
3 hours lab, 1 unit
Grade Only
Advisory: Electronic Systems 124 & 124L, each with a grade of "C" or better, or equivalent; and Mathematics 96 with a grade of "C" or better, or equivalent, or Assessment Skill Level M50; and concurrent enrollment in Electronic Systems 125.
Limitation on Enrollment: This course is not open to students with credit for Digital Technology 125L. This laboratory course demonstrates the basic concepts of computer assisted direct current and alternating current (DC/AC) circuit analysis. Equipment used in this course includes microcomputers utilizing industry standard software applications (Pspice), volt-ohm-amp meters (VOMs), oscilloscopes, digital multimeters (DMMs), function generators, and power supplies. (FT). Transfer Credit: CSU and/or private coll/uni.

126 Using C and C++ for Technology
3 hours, 3 units
Grade Only
Advisory: Concurrent enrollment in Electronic Systems 126L.
This course is an introduction to the C and C++ programming languages as they apply to the analysis of the theoretical concepts of electronic technology. The course is structured around a variety of prepared programming assignments that emphasize problem solving techniques and use of the computer as a problem solving tool with applications in electronics. Students work with state of the art and industry standard microcomputers, hardware, software application programs, and compilers. This course is designed as preparation for majors in the field of Electronics. (FT) Transfer Credit: CSU and/or private coll/uni.

126L Using C and C++ for Technology Laboratory
3 hours lab, 1 unit
Grade Only
Advisory: Concurrent enrollment in Electronic Systems 126.
This course provides the laboratory component to the study of C and C++ programming languages as they apply to the analysis of the theoretical concepts of electronic technology. The course is structured around a variety of prepared programming assignments that emphasize problem solving techniques and use of the computer as a problem solving tool with applications in electronics. Students work with state of the art and industry standard microcomputers, hardware, software application programs and compilers. This course is designed as preparation for majors in the field of Electronics. (FT) Transfer Credit: CSU and/or private coll/uni.

143 Semiconductor Devices
3 hours, 3 units
Grade Only
Advisory: Electronic Systems 124 & 124L, each with a grade of "C" or better, or equivalent; and Mathematics 96 with a grade of "C" or better, or equivalent, or Assessment Skill Level M50; and concurrent enrollment in Electronic Systems 143L.
Limitation on Enrollment: This course is not open to students with credit for Electronic Systems 140A or Digital Technology 143.
This course is an introductory study of the characteristics and operation of semiconductor devices and their associated circuits. Emphasis is placed on junction diodes, bipolar-junction transistors, power supplies, feedback, linear integrated circuits (IC's), multistage amplifiers, push-pull amplifiers, junction field-effect transistors (JFETs), metal oxide semiconductor field-effect transistors (MOSFETs) and PSpice analysis. (FT) Transfer Credit: CSU and/or private coll/uni.

143L Semiconductor Devices Laboratory
4.5 hours lab, 1.5 units
Grade Only
Advisory: Electronic Systems 124 & 124L, each with a grade of "C" or better, or equivalent; and Mathematics 96 with a grade of "C" or better, or equivalent, or Assessment Skill Level M50; and concurrent enrollment in Electronic Systems 143.
Limitation on Enrollment: This course is not open to students with credit for Electronics Technology 142A or Digital Technology 143L.
This laboratory course focuses on the theoretical concepts of electronic devices and circuits through practical experimentation, Pspice analysis and computer simulation. Course content and materials include circuit operation, testing, troubleshooting and measurement of diodes, transistors and field-effect transistors (FETs), the use of computer-aided engineering software, microcomputers, oscilloscopes, digital multimeters (DMM's), function generators, and power supplies. (FT). Transfer Credit: CSU and/or private coll/uni.

144 OP-AMPS, Sensors and Computers
3 hours, 3 units
Grade Only
Advisory: Mathematics 96 with a grade of "C" or better, or equivalent, or Assessment Skill Level M50; and concurrent enrollment in Electronic Systems 144L; and completion of or concurrent enrollment in Electronic
Systems 143 & 143L, each with a grade of "C" or better, or equivalent.

Limitation on Enrollment: This course is not open to students with credit for Digital Technology 144. This course is a study of operational amplifier theory and circuit applications. Course content emphasizes sensors, transducers, data conversions, and the associated circuitry necessary to condition outputs for interface to a computer. Applications to analog-to-digital and digital-to-analog conversions, optical sensors, displacement transducers and instrumentation devices are included. This course is designed as preparation for majors in the field of Electronics. (FT)

Transfer Credit: CSU and/or private coll/univ.

144L OP-AMPS and Sensors Laboratory
4.5 hours lab, 1.5 units
Grade Only

Advisory: Mathematics 96 with a grade of "C" or better, or equivalent, or Assessment Skill Level M50; and concurrent enrollment in Electronic Systems 144; and completion of or concurrent enrollment in Electronic Systems 143 & 143L, each with a grade of "C" or better, or equivalent.

Limitation on Enrollment: This course is not open to students with credit for Digital Technology 144L. This course provides the laboratory component to the study of operational amplifier theory and circuit applications. Course content emphasizes sensors, transducers, data conversions and the associated circuitry necessary to condition outputs for interface to a computer. Applications to analog-to-digital and digital-to-analog conversions, optical sensors, displacement transducers and instrumentation devices are included. This course is designed as preparation for majors in the field of Electronics. (FT) Transfer Credit: CSU and/or private coll/univ.

224 Microprocessor Design
3 hours lecture, 3 units
Grade Only

Advisory: Completion of or concurrent enrollment in Electronic Systems 123 and Electronic Systems 123L, each with a grade of "C" or better, or equivalent and concurrent enrollment in Electronic Systems 224L. This course is an applied study of digital circuits in microcomputer systems. Throughout the course, students examine the overall architecture of microcomputer systems, the interfacing of memory and input/output (I/O) devices, and machine language programming for the Z-80 microprocessor. (FT) Transfer Credit: CSU and/or private coll/univ.

224L Microprocessor Design Laboratory
4.5 hours lab, 1.5 units
Grade Only

Advisory: Completion of or concurrent enrollment in Electronic Systems 123 and Electronic Systems 123L, each with a grade of "C" or better, or equivalent concurrent enrollment in Electronic Systems 224. This laboratory course demonstrates the application of digital circuits in microprocessor systems. Course content includes assembly of printed circuit boards, troubleshooting of microprocessor-based designs and software/firmware design and troubleshooting. (FT) Transfer Credit: CSU and/or private coll/univ.

227 Introduction to Lasers and Fiber Optics
3 hours, 3 units
Grade Only

Advisory: Mathematics 96 with a grade of "C" or better, or equivalent, or Assessment Skill Level M50; and concurrent enrollment in Electronic Systems 227L; and completion of or concurrent enrollment in Electronic Systems 124 & 124L, each with a grade of "C" or better, or equivalent.

Limitation on Enrollment: This course is not open to students with credit for Digital Technology 144. This course is an introductory study of lasers, optical power meters, and laser systems designed to familiarize students with various industry supported lasers/fiber optics families. Emphasis is placed on providing students with a working knowledge of lasers and the ability to troubleshoot in the field. Topics covered include the properties of light, emission and absorption of light, lasing action, the temporal and spatial characteristics of lasers, optical energy, optical fibers, light sources, light receivers, fiber optic geometry, alignment and splicing techniques, communication links, and fiber optic system design. (FT) Transfer Credit: CSU and/or private coll/univ.
227L Lasers and Fiber Optics Laboratory
3 hours lab, 1 unit
Grade Only
Advisory: Mathematics 96 with a grade of "C" or better, or equivalent, or Assessment Skill Level M50; and concurrent enrollment in Electronic Systems 227; and completion of or concurrent enrollment in Electronic Systems 124 & 124L, each with a grade of "C" or better, or equivalent.
This laboratory course is designed to familiarize students with the elements and operation of lasers, optical power meters, and laser and fiber optics systems through experiments and projects conducted individually and in groups. This course provides students with the opportunity to enhance and further investigate the concepts presented in Electronic Systems 227. (FT) Transfer Credit: CSU and/or private coll/univ.

228 Communication Circuits and CET/NARTE Preparation
3 hours, 3 units
Grade Only
Advisory: Mathematics 96 with a grade of "C" or better, or equivalent, or Assessment Skill Level M50; and concurrent enrollment in Electronic Systems 228L; and completion of or concurrent enrollment in Electronic Systems 143 & 143L & 144 & 144L, each with a grade of "C" or better, or equivalent.
Limitation on Enrollment: This course is not open to students with credit for Digital Technology 228.
This course is a study of basic communication theory and is designed to Prepare students to take the Associate Electronics Technician (CET) and the 3rd Class Radio Telecommunications Technician (NARTE) examinations. (FT) Transfer Credit: CSU and/or private coll/univ.

228L Communication Circuits and Certification Laboratory
3 hours lab, 1 unit
Grade Only
Advisory: Mathematics 96 with a grade of "C" or better, or equivalent, or Assessment Skill Level M50; and concurrent enrollment in Electronic Systems 228; and completion of or concurrent enrollment in Electronic Systems 143 & 143L & 144 & 144L, each with a grade of "C" or better, or equivalent.
Limitation on Enrollment: This course is not open to students with credit for Digital Technology 228L.
This is a team project-oriented course that familiarizes students with the hardware and software needed to establish, run, and maintain advanced telecommunications networks at the local, metropolitan, and wide-area levels. (FT) Transfer Credit: CSU and/or private coll/univ.

229 Advanced Telecommunications Networks
3 hours, 3 units
Grade Only
Advisory: Mathematics 96 with a grade of "C" or better, or equivalent, or Assessment Skill Level M50; and concurrent enrollment in Electronic Systems 229L; and completion of or concurrent enrollment in Electronic Systems 126 & 126L & 228 & 228L, each with a grade of "C" or better, or equivalent.
This course is a project-oriented course that focuses on local, metropolitan, and wide-area network hardware system design, installation, maintenance and troubleshooting. Hardware topics presented include topologies, transmission media, access and interfacing techniques. Hardware technologies utilized include Fiber Distributed Data Interface (FDDI), Asynchronous Transfer Mode (ATM), Fast Internet and Token Ring. This course prepares students to take the Network Plus exam. (FT) Transfer Credit: CSU and/or private coll/univ.

229L Advanced Telecommunications Networks Laboratory
3 hours lab, 1 unit
Grade Only
Advisory: Mathematics 96 with a grade of "C" or better, or equivalent, or Assessment Skill Level M50; and concurrent enrollment in Electronic Systems 229; and completion of or concurrent enrollment in Electronic Systems 126 & 126L & 228 & 228L, each with a grade of "C" or better, or equivalent.
This is a team project-oriented course that familiarizes students with the hardware and software needed to establish, run, and maintain advanced telecommunications networks at the local, metropolitan, and wide-area levels. (FT) Transfer Credit: CSU and/or private coll/univ.

230 Advanced Computer Designs
3 hours, 3 units
Grade Only
Advisory: Concurrent enrollment in Electronic Systems 230L; and completion of or concurrent enrollment in Electronic Systems 224 & 224L, each with a grade of "C" or better, or equivalent.
Limitation on Enrollment: This course is not open to students with credit for Digital Technology 230.
This course is an advanced practical study of operating systems, chip sets, system board configurations, and bus architecture. Emphasis is placed on the application of digital course material to modern microprocessor-based systems from a design perspective. This project oriented course examines: microprocessor machine language programming, hardware devices, hardware designs, system clock generation, bus characteristics, tri-state characteristics, buffers, I/O techniques, major microprocessor family comparisons, timing diagrams, memory organization, ROM, EPROM, RAM, memory mapping, memory refresh, decoding techniques and chip level troubleshooting. (FT) Transfer Credit: CSU and/or private coll/univ.

230L Advanced Computer Designs Laboratory
3 hours lab, 1 unit
Advisory: Concurrent enrollment in Electronic Systems 230; and completion of or concurrent enrollment in Electronic Systems 224 & 224L, each with a grade of "C" or better, or equivalent.
Limitation on Enrollment: This course is not open to students with credit for Digital Technology 230L. This is a practical course designed as a verification of the student’s understanding of the theoretical concepts of computer and microprocessor based designs through construction and testing of a complete microcomputer system. Throughout the course, students work with several pieces of electronic test equipment currently used in the industry in order to build and troubleshoot their projects. Students are expected to locate and purchase necessary components and breadboarding materials. (FT) Transfer Credit: CSU and/or private coll/univ.

231 Advanced System Interfacing
3 hours, 3 units
Advisory: Electronic Systems 224 & 224L, each with a grade of "C" or better, or equivalent; and concurrent enrollment in Electronic Systems 230 & 230L.
Limitation on Enrollment: This course is not open to students with credit for Digital Technology 231. This course is a continuation of the study of microprocessors and their support families. Course material emphasizes peripheral chips and various microprocessors that work together to add intelligence to modern electronic equipment. This course is designed to expose students to common usage microprocessor devices in order to gain a working knowledge of I/O techniques and to be able to troubleshoot in the field. (FT) Transfer Credit: CSU and/or private coll/univ.

251 A+ Certification
3 hours, 3 units
Grade only
This course is an open entry/exit course providing preparation for employment in the electronics industry by becoming an A+ Certified Technician. Students pass a rigorous proctored computer-based exam that tests their knowledge of configuring, installing, diagnosing, repairing, upgrading, and maintaining microcomputers and their peripherals. Upon passing the exam, students are awarded the A+ Certification with a specialty in Microsoft Windows/DOS environments. (FT) Associate Degree Credit.

251L A+ Certification Laboratory
3 hours lab, 1 unit
Grade only
This course is an open entry/exit course providing preparation for employment in the electronics industry by becoming an A+ Certified Technician. Using simulated examinations, students are systematically promoted from one major topic to the next. (FT) Associate Degree Credit.

270 Work Experience
Hours by Arrangement, 1-4 units
Grade only
Limitation on Enrollment: Must obtain an Add Code from Work Experience Coordinator for registration. To receive credit, a student must complete a minimum of seven units during the semester, including work experience. This course is not open to students with credit for Digital Technology 270. A program of on-the-job learning experiences for students employed in a job related to their major. The combined maximum credit for all work experience courses from all disciplines may not exceed 16 units. To receive credit, a student must complete a minimum of seven units during the semester, including work experience. Transfer Credit: CSU and/or private coll/univ.

290 Independent Study
1-3 hours by Arrangement, 1-3 units
Grade only
Limitation on Enrollment: Must obtain an Add Code from instructor for registration. This course is not open to students with credit for Digital Technology 290. For advanced students in Electronic Systems or Electro-Optical Technology who wish to pursue special problems and projects relating to their particular
subject area. The student meets with the instructor at specific intervals and is expected to do primary research, analyze problems and submit reports. This course may be taken four times with different content for a maximum of six units. (FT) Transfer Credit: CSU and/or private coll/univ.

This discipline may offer specialized instruction in one or more of the following areas: Supervised Tutoring (044), Special Topics (265), Independent Study (290), Individualized Instruction (296), Service Learning (277), Applied Applications and Software Skills (045L), or Work Experience (270). Detailed course descriptions are listed on page 94. Please refer to the class schedule and/or see the dean or department chair for availability.

Description
The engineering curriculum is heavily based on mathematics and physical sciences. Students benefit by having access to state-of-the-art CAD/CAM facilities as well as to a high technology center that is at the cutting edge of new technologies, thereby enhancing career choices and rewards. This pre-engineering preparation provides an excellent foundation for transfer to a four-year university as an engineering major.

Program Emphasis
University schools of engineering have similar science and mathematics requirements but may differ in preparation for various engineering options. Courses offered in the San Diego City College Engineering program meet basic requirements for lower division preparation for California universities. Some universities may also require engineering courses as preparation for specific engineering majors. The Engineering program is designed to prepare students for transfer to California State University and University of California institutions.

Faculty Office Telephone
Fred Julian, Jr. A-107D (619) 388-3720
Farnaz Khoromi A-107C (619) 388-3527
Victor Korski A-107D (619) 388-3614

Career Options
Most careers in engineering require education beyond the associate degree. A list of career options available to persons with baccalaureate engineering preparation include: aerospace, agricultural, architectural, biomedical, chemical, civil, computer, electrical, industrial, mechanical and nuclear engineering.

Academic Programs
The associate degree in engineering requires completion of the courses listed below. Additional general education and graduation requirements for the associate degree are listed in the catalog. The associate degree requires a minimum of 60 units.
Certificate of Achievement: Engineering Drafting Option

Courses Required for the Major Units
ENGE 108, Dimensioning and Tolerancing ........................................ 3  
ENGE 111, Introduction to Computer Aided Design .................. 3  
ENGE 151, Engineering Drawing .................................................. 2  
ENGE 152, Engineering Design ................................................... 3  
MATH 96, Intermediate Algebra with Geometry ........................ 5  
ENGL 101, Reading and Composition ............................................ 3  
Total Units = 19

Associate in Science Degree: Engineering

Courses Required for the Major Units
CHEM 200, 200L, General Chemistry I and Laboratory .......................... 3,2  
MATH 150, Calculus Analytic Geometry I ................................. 5  
MATH 151, Calculus Analytic Geometry II ............................... 4  
MATH 252, Calculus Analytic Geometry III .............................. 4  
MATH 255, Differential Equations .............................................. 3  
PHYS 195A, Mechanics ............................................................... 4  
PHYS 195A, Problems in Mechanics ........................................... 1  
PHYS 195B, Electricity and Magnetism ...................................... 4  
PHYS 196B, Problems in Electricity and Magnetism ................ 1  
PHYS 195C, Waves, Light, Modern Physics ............................ 4  
PHYS 196C, Problems in Light and Modern Physics ............... 1  
Total Units = 36


Transfer Information

Students planning to transfer to a four-year college or university should complete courses required for the university major and the general education pattern required by that transfer institution. See catalog TRANSFER INFORMATION section. Additional courses may be required to meet university lower-division requirements. Course requirements at the transfer institution are subject to change and may be verified by a counselor or by consulting the current university catalog. Many Baccalaureate in Arts degrees require third semester competency in a foreign language. Consult the current catalog of the transfer institution and consult with a counselor.

San Diego State University

Aerospace Engineering, B.S.: Chemistry 200, 200L; Engineering 200, 210, 250, 260; Mathematics 150, 151, 252; Physics 195A,B,C and 196A,B,C; Mathematics 107, 107L or Engineering 115 (Mesa).

Civil Engineering, B.S.: Chemistry 200, 200L; Engineering 200, 210, 250, 260; Mathematics 150, 151, 252; Physics 195A,B,C, 196A,B,C; Mathematics 107, 107L or Engineering 115 (Mesa); Mathematics 119.

Electrical Engineering, B.S.: Chemistry 200, 200L; Computer & Information Systems 192; Engineering 200, 240, 250, 260; Mathematics 150, 151, 252; Physics 195A,B and 196A,B.

Mechanical Engineering, B.S.: Chemistry 200, 200L; Engineering 200, 210, 250, 260; Mathematics 150, 151, 252; Physics 195A,B,C, 196A,B,C; Mathematics 107, 107L or Engineering 115 (Mesa).

University of California, San Diego

UCSD offers engineering degrees in three departments.

MAE, Aerospace, B.S.; Engineering Science, B.S.; Mechanical Engineering, B.S.: Chemistry 200, 200L, 201, 201L; Engineering 151, 210; Mathematics 150, 151, 252, 254 and 255; Physics 195A,B,C and 196A,B,C; Computer Information Sciences 192 or Engineering 115 (Mesa).


ECE, Electrical Engineering, B.S.: Chemistry 200, 200L; Mathematics 150, 151, 252, 254 and 255; Physics 195A,B,C, 196A,B,C; Computer Information Sciences 192 or 190.

ECE, Engineering Physics, B.S.: Chemistry 200, 200L; Mathematics 150, 151, 252 254 and 255; Physics 195A,B,C and 196A,B,C; Computer Information Sciences 190.

Structural Engineering, B.S.: Mathematics 150, 151, 252, 254 and 255; Physics 195A,B,C, 196A,B,C; Computer Information Sciences 192; Chemistry 200, 200L.
050 Building Educational Bridges Through Robotics Competitions
1 hour lecture, 2 hours lab, 1.50 units
Credit/No Credit Only

Limitation on Enrollment: This course is not open to students with previous credit for Engineering 265A, Building Educational Bridges through Robotics Competitions. This introductory course addresses the knowledge, skills and activities needed to organize, promote and manage a robotics competition team. Team building and collaborative learning are stressed. State-of-the-art computer software, employing pedagogically developed graphical command boxes, is used to develop effective, easy to use and understand programs to control the robots. Associate Degree Credit.

108 Dimensioning and Tolerancing
3 hours lecture, 3 units

Limitation on Enrollment: This course is not open to students with credit for Manufacturing Technology 108. This course is an introductory study of dimensioning and tolerancing. The course content emphasizes symbology, datum reference, tolerances of location and of form and run-out and includes a complete orientation to American National Standard Institute Standard Y14.5. This course is designed for the transfer student planning to major in engineering or disciplines included in the physical sciences. (FT) Transfer Credit: CSU and/or private coll/univ.

111 Introduction to Computer-Aided Design
2 hours lecture, 3 hours lab, 3 units
Grade Only

Limitation on Enrollment: This course is not open to students with credit for Drafting 111. This course is an introductory study of computer-aided design, engineering, and manufacturing. Emphasis is placed on providing the student with a hands-on overview of microcomputer systems and executable features of interactive software programs that are used in industry. This course is designed for the transfer student planning to major in engineering or disciplines included in the physical sciences. (FT) Transfer Credit: CSU and/or private coll/univ.

151 Engineering Drawing
6 hours lab, 2 units

Prerequisite: Mathematics 96 with a grade of “C” or better, or equivalent, or Assessment Skill Level M50
Advisory: English 56 with a grade of “C” or better, or equivalent, or Assessment Skill Level R5.
This course is a study of engineering design with an emphasis on developing drawing skills and techniques for engineers. Course content includes elementary orthographic and pictorial drawing, sections and dimensioning, instrument and freehand drawing as an aid to visualization and design, and computer-aided design (CAD). This course is designed for the transfer student planning to major in engineering or disciplines included in the physical sciences. (FT) Transfer Credit: CSU and/or private coll/univ.; UC. (CAN ENGR 2)

152 Engineering Design
2 hours lecture, 3 hours lab, 3 units
Grade Only

Prerequisite: Engineering 151 with a grade of “C” or better, or equivalent.
Limitation on Enrollment: This course is not open to students with Drafting 120.
This course is a study of engineering design with an emphasis on the presentation and interpretation of engineering drawings. Course content includes tolerance studies, gear and computer-aided manufacturing (CAM) design, as well as fit and function studies relating to manufacturing processes with computer-aided drawing (CAD) as they influence design decisions. This course is designed for the transfer student planning to major in engineering or disciplines included in the physical sciences. (FT) Transfer Credit: CSU and/or private coll/univ.

198 Computer Applications in Engineering
2 hours lecture, 3 hours lab, 3 units
Grade Only

This course is a presentation of computer applications in Engineering through specific software and hardware currently utilized by practicing engineers. This course is designed for the transfer student planning to major in engineering or disciplines included in the physical sciences. (FT) Transfer Credit: CSU and/or private coll/univ.

200 Statics
3 hours, 3 units

Prerequisite: Physics 195A with a grade of “C” or better, or equivalent.
Corequisite: Completion of or concurrent enrollment in Mathematics 151.
Limitation on Enrollment: This course is not open to students with credit for Engineering Technology 150. This course is a study of the applications of the principles of mechanics to rigid bodies in equilibrium. Course content emphasizes areas of friction, centroids, center of gravity, analysis of structures, moments of inertia and methods of virtual work. This course is designed for the transfer student planning to major in engineering or disciplines included in the physical sciences. (FT) Transfer Credit: CSU and/or private coll/univ.; UC. (CAN ENGR 8)

210 Properties of Materials 3 hours, 3 units
Prerequisite: Physics 195A with a grade of “C” or better, or equivalent.
Corequisite: Completion of or concurrent enrollment in Chemistry 200 and 200L.
This course is a study of the chemical, physical and mechanical properties of engineering materials including metals, ceramics, polymers and composites. Emphasis is placed on function and structure as they relate to specific design considerations. This course is designed for the transfer student planning to major in engineering or disciplines included in the physical sciences. (FT) Transfer Credit: CSU and/or private coll/univ.; UC. (CAN ENGR 4)

240 Digital Systems 3 hours, 3 units
Advisory: Mathematics 96 with a grade of “C” or better, or equivalent, or Assessment Skill Level M50.
Limitation on Enrollment: This course is not open to students with credit for Physical Science 265: Digital Systems.
This course is an introduction to modeling, analysis, and design of digital systems, primarily at the Logic Design Level. Students apply the basic theory of switching networks, use Boolean algebra to analyze and synthesize switching networks, design logic gate networks, use simplification schemes to minimize part count and cost while providing optimum performance, and design and analyze sequential and combinational circuits using flip-flops and logic gate networks. This course is designed for the transfer student planning to major in engineering or disciplines included in the physical sciences. (FT) Transfer Credit: CSU and/or private coll/univ.; UC. (CAN ENGR 12)

250 Dynamics 3 hours, 3 units
Prerequisite: Engineering 200 with a grade of “C” or better, or equivalent.
Corequisite: Completion of or concurrent enrollment in Mathematics 252.
Limitation on Enrollment: This course is not open to students with credit for Engineering Technology 250. This course is a study of the fundamental principles of bodies in motion with an emphasis on kinematics and kinetics of particles and rigid bodies, moving reference frames, work-energy, linear and angular momentum relationships and their application to engineering problems. Vector notation is used throughout the course. This course is designed for the transfer student planning to major in engineering or disciplines included in the physical sciences. (FT) Transfer Credit: CSU and/or private coll/univ.; UC.

260 Electric Circuits 3 hours, 3 units
Prerequisite: Physics 195B and Mathematics 151, each with a grade of “C” or better, or equivalent.
This course is an introduction to network analysis, basic network theorems, mesh and nodal analysis with independent and controlled sources. Course content emphasizes steady state and transient responses of networks, complex frequency transformation; A.C., circuit analysis, power, reactive apparent power, and power factor as well as balanced three-phase electric power systems. This course is designed for the transfer student planning to major in engineering or disciplines included in the physical sciences. (FT) Transfer Credit: CSU and/or private coll/univ.; UC. (CAN ENGR 12)

This discipline may offer specialized instruction in one or more of the following areas: Supervised Tutoring (044), Special Topics (265), Independent Study (290), Individualized Instruction (296), Service Learning (277), Applied Applications and Software Skills (045L), or Work Experience (270). Detailed course descriptions are listed on page 94. Please refer to the class schedule and/or see the dean or department chair for availability.
MECOMTRONICS (MEchanics + COMputers + electronICS) is defined as an Engineering Technology discipline that combines the areas of mechanical and electronics technology, and computer hardware and software systems. This discipline has been created to respond to the specialized demands for the multifunctional engineering technician. MECOMTRONICS technicians are prepared with the knowledge and skills to work in a technologically diversified business environment. These technicians will be able to participate on a team to specify, trouble-shoot, develop, design, and prepare for production of cost-efficient, state-of-the-art products which can compete for value in a global economy.

Program Emphasis
The MECOMTRONICS curriculum is based on integrated technical and core (English, Math and Physics) competencies, and it emphasizes project-based learning using a just-in-time instructional delivery. Students will work in teams to learn concepts, solve problems and make discoveries in a workplace-related environment. Students will use traditional, as well as on-line electronics resources and industry supplied data as sources of information.

Faculty
Fred Julian, Jr./ Engineering  A-107D  (619) 388-2720
Carlos de la Lama/Math  M-211  (619) 388-3362
James D. Nulton/Math  M-108  (619) 388-3637

Career Options
R & D technician, electronics technician, engineer-in-training

Academic Programs
The associate degree in Engineering Technology MECOMTRONICS requires completion of the courses listed below. Additional general education and graduation requirements for the associate degree are listed in the catalog. The associate degree requires a minimum of 60 units.

Associate in Science Degree: Electronics and Computer Engineering Technology

Program Prerequisite
Mathematics 96 with a grade of “C” or better, or equivalent, or Assessment Skill Level M50 or equivalent. English 51 and 56 each with a grade of “C” or better, or equivalent, or Assessment Skill Levels R5 and W5.

Courses Required for the Major

<table>
<thead>
<tr>
<th>Semester</th>
<th>Course Title</th>
<th>Units</th>
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<tbody>
<tr>
<td>I</td>
<td>MCTR 101A, Basic Computer Systems Maintenance, Support and Applications</td>
<td>3</td>
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<tr>
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<td>MCTR 102A, DC Circuits</td>
<td>3</td>
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<td></td>
<td>ENGL 101, Reading and Composition</td>
<td>3</td>
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<td></td>
<td>MATH 181, Mecomtronics College Algebra and Trigonometry I</td>
<td>3</td>
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<td>MCTR 90, Science for Technical Applications</td>
<td>3</td>
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<tr>
<td>II</td>
<td>MCTR 103A, AC Circuits</td>
<td>3</td>
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<td></td>
<td>MCTR 104A, Applied C Programming for Technology</td>
<td>3</td>
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<td></td>
<td>MATH 182, Mecomtronics College Algebra and Trigonometry II</td>
<td>3</td>
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<td></td>
<td>MCTR 120A, Basic Physics for Technical Applications I</td>
<td>4</td>
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<tr>
<td>III</td>
<td>MCTR 201A, Electronic Devices and Circuits</td>
<td>3</td>
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<td>MCTR 202A, Digital Electronics</td>
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<td>ENGL 205, Critical Thinking and Intermediate Composition</td>
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<td>MATH 183, Mecomtronics Calculus I</td>
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<td></td>
<td>MCTR 120B, Basic Physics for Technical Applications II</td>
<td>4</td>
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<tr>
<td>IV</td>
<td>MCTR 203A, Electrical and Mechanical Power Systems</td>
<td>4</td>
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<td></td>
<td>MCTR 204A, Industrial Electronics</td>
<td>3</td>
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<tr>
<td></td>
<td>MATH 184, Mecomtronics Calculus II</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>MCTR 120C, Basic Physics for Technical Applications III</td>
<td>4</td>
</tr>
</tbody>
</table>

Total Units = 58

Transfer Information
Students planning to transfer to a four-year college or university should complete courses required for the university major and the general education pattern required by that transfer institution. See catalog TRANSFER INFORMATION section. Additional courses may be required to meet university lower-division
requirements. **Course requirements at the transfer institution are subject to change and may be verified by a counselor or by consulting the current university catalog. Many Baccalaureate in Arts degrees require third semester competency in a foreign language. Consult the current catalog of the transfer institution and consult with a counselor.**

- College and university offering degrees in Engineering Technology include:
  - California State Polytechnic University, Pomona
  - California State University, Sacramento
  - California State University, Long Beach

## Courses

### Mecomtronics (MCTR)

#### 90 Science for Technical Applications
2 hours lecture, 3 hours lab, 3 units

*Prerequisite:* Mathematics 96 with a grade of "C" or better, or equivalent, or Assessment Skill Level M50.

This science course presents basic vocabulary, concepts and scientific techniques that are used to analyze and understand technical applications. Topics of study include the measurement of velocity and acceleration, the laboratory study of conductivity, Ohm's law, resistors in series and in parallel, the investigation of gas laws, capacitance bridge, Kirchoff's laws, AC voltage measurements, and the study of mass density and viscosity. The laboratory focuses on the specific current physical science needs of the Engineering Technology/Mecomtronics program. Analytical reading and problem solving are required for success in this course. The lectures address theory, concepts and problems required for a solid comprehension of basic physical science and for rapidly bringing the student's knowledge to a level where modern ideas can be understood. Associate Degree Credit.

#### 102A DC Circuits
2 hours lecture, 3 hours lab, 3 units

*Prerequisite:* Mathematics 96 with a grade of "C" or better, or equivalent or Assessment Skill Level M50.

Corequisite: Mathematics 181.

This course, the first semester of a two-semester sequence in electric circuits, introduces DC electronics principles and practices through integration of theory, application, and structured discovery activities. Emphasis is placed on activity-based learning through a variety of hands-on projects. Topics include but are not limited to fundamental aspects of DC circuits and passive devices, Kirchoff's voltage and current laws; mesh and nodal analysis; DC network theorems; applications using P-Spice, Electronics Workbench, or equivalent software; DC measurements and instrumentation; magnetism. This course is intended solely for the students enrolled in the Engineering Technology/Mecomtronics program. (FT) Transfer Credit: CSU and/or private coll/univ.

#### 103A AC Circuits
2 hours lecture, 3 hours lab, 3 units

Prerequisite: Mecomtronics 102A with a grade of "C" or better, or equivalent.

Corequisite: Mathematics 182.

This course is the second semester of a two-semester sequence in electric circuits. Topics include DC transient analysis in RL and RC circuits; basic AC circuit theorems; phasor analysis of AC circuits; simulation of AC circuits using P-Spice, Electronics Workbench or equivalent simulation software; and transformer and operation, application, and theory of basic electrical measurement instrumentation. This course is intended solely for students enrolled in the second semester of the Engineering Technology/Mecomtronics program. (FT) Transfer Credit: CSU and/or private coll/univ.

#### 104A Applied C Programming for Technology
2 hours lecture, 3 hours lab, 3 units

Prerequisite: Mathematics 181 with a grade of "C" or better, or equivalent.
This is an introduction to structured programming using ANSI C, which is used in engineering technology. Programming problems applicable to engineering technology, physics, and mathematics are used to develop and illustrate the structures of the C programming language. Topics include data types, operators, functions, input/output operations, decision statements, loop structures, recursion, pointers, arrays, strings, and binary I/O operations. This course is intended solely for students enrolled in the second semester of the Engineering Technology/Mecomtronics program. (FT) Transfer Credit: CSU and/or private coll/univ.

120A Basic Physics for Technical Applications I
3 hours lecture, 3 hours lab, 4 units
Prerequisite: MATH 96 with a grade of "C" or better, or equivalent, or Assessment Skill Level M50.
This course is an introduction of physics presenting tools that are used in technical applications. Topics of study include measurement standards, scalar and vector quantities, kinematics in one, two and three dimensions, Newton's laws of motion, the gravitational force, the harmonic oscillator, work and energy, and momentum. The course centers on "hands-on" approaches to analysis of physical phenomena, without neglecting conceptual and calculation rigor. This course is intended for students in the Engineering Technology/MECOMTRONICS program. (FT) Transfer Credit: CSU and/or private coll/univ (elective credit only).

120B Basic Physics for Technical Applications II
3 hours lecture, 3 hours lab, 4 units
Prerequisite: MECOMTRONICS 120A and Mathematics 183, each with a grade of "C" or better, or equivalent.
This course is the second in a sequence of three introductory technical physics courses intended for the Engineering Technology/MECOMTRONICS program. (FT) Transfer Credit: CSU and/or private coll/univ (elective credit only).

120C Basic Physics for Technical Applications III
3 hours lecture, 3 hours lab, 4 units
Prerequisite: MECOMTRONICS 120B and Mathematics 183, each with a grade of "C" or better, or equivalent.
Corequisite: Mathematics 184.
This course is the third course in a three-course sequence in technical science and physics and is intended for students enrolled in the Engineering Technology/MECOMTRONICS program. This course presents the tools that are used in technical applications. The topics of study include the electric fields, electric potential, circuit elements, DC and AC circuit analysis, magnetic field, electromagnetism, geometric and physical optics, the special theory of relativity, discoveries in modern physics and an introduction to quantum mechanics. Emphasis is placed on the conceptual and computational principles of physics and experimental studies that demonstrate the use of the equations discussed in the theory. Analytical reading and problem solving are required for success in this course. (FT) Transfer Credit: CSU and/or private coll/univ (elective credit only).

131 Research, Composition and Presentation I
2 hours lecture, 2 units
Prerequisite: ENGL 51 and 56, each with a grade of "C" or better, or equivalent, or Assessment Skill Level R5 and W5.
This is the first semester English course for students enrolled in the Mecomtronics program. The course emphasizes competence in college-level composition, reading and writing principles, and the practice of effective, logical, and precise expression of ideas. Students read and write technical documents and prepare a variety of written and oral projects and a documented research report. Students will write a minimum of 5,000 words, including drafts and revisions, present two formal oral reports, and learn basic word processing skills. (FT) Transfer Credit: CSU and/or private coll/univ.

132 Research, Composition and Presentation II
2 hours lecture, 2 units
Prerequisite: MCTR 131 with a grade of "C" or better, or equivalent.
This is the second-semester English course for students enrolled in the Mecomtronics program. The course builds on skills learned in Mecomtronics 131, emphasizing more complex written projects and a
documented field research paper. In addition, the student develops competence in the reading and writing of technical documents, the analysis and interpretation of written material, and the use of written sources as the starting point for expository writing. Students will write a minimum of 5,000 words, including drafts and revisions. (FT) Transfer Credit: CSU and/or private coll/univ.

133 Research, Composition and Presentation III
2 hours lecture, 2 units
Grade Only
Prerequisite: MCTR 132 with a grade of "C" or better, or equivalent.
This is the third-semester English course for students enrolled in the Mecomtronics program. The course builds on skills learned in Mecomtronics 132, emphasizing complex written projects including argumentation and persuasion, and a documented research project. In addition, students develop additional competence in the reading and writing of technical documents, the analysis and interpretation of written materials—both technical and rhetorical—and the use of written sources as the starting point for expository writing. Students will write a minimum of 5,000 words including drafts and revisions. (FT) Transfer Credit: CSU and/or private coll/univ.

201A Electronic Devices and Circuits
2 hours lecture, 3 hours lab, 3 units
Grade Only
Prerequisite: Mecomtronics 103A and Mathematics 182, each with a grade of "C" or better, or equivalent.
This is an introductory course on the theory, operation, and application of semiconductor junction devices. Emphasis is placed on activity-based learning through a variety of hands-on projects. Topics include but are not limited to physical principles of semiconductors, characteristics and operation of diodes, Zener diodes, bipolar junction transistors, junction field-effect transistors, d-c characteristics, biasing and d-c stability of diodes and bipolar junction transistors, algebraic and load line analysis techniques, electronic simulation using P-Spice, Electronics Workbench or equivalent, and applications of semiconductor devices. This course is intended solely for students enrolled in the third semester of the Engineering Technology/Mecomtronics program. (FT) Transfer Credit: CSU and/or private coll/univ.

202A Digital Electronics
2 hours lecture, 3 hours lab, 3 units
Grade Only
Prerequisite: Mecomtronics 103A with a grade of "C" or better, or equivalent.
This is an introductory course to digital electronics and its applications to engineering. Emphasis is placed on activity-based learning through a variety of hands-on laboratory projects. Topics include applied Boolean algebra and number systems; Karnaugh maps; combinatorial logic and analysis; logic building blocks including gates, gate analysis, flip-flops, shift registers; and digital circuit simulation using Logic Works or equivalent software. This course is intended solely for students enrolled in the second semester of the Engineering Technology/Mecomtronics program. (FT) Transfer Credit: CSU and/or private coll/univ.

203A Electrical and Mechanical Power Systems
2 hours lecture, 3 hours lab, 3 units
Grade Only
Prerequisite: Mecomtronics 103A with a grade of "C" or better, or equivalent.
This course is a study of electrical and mechanical power components and systems used in the transmission of mechanical power and the distribution of electrical power. Topics include analysis of electric circuits; electromagnetic devices and their use in systems; discrete semiconductor switching devices; hydraulic and pneumatic power devices; types and uses of electric motors and generators as well as power distribution systems. Troubleshooting and repair of hydraulic, pneumatic control equipment and electrical/electronic systems are studied through a number of industry-based projects. This course is intended solely for students enrolled in the third semester of the Engineering Technology/Mecomtronics program. (FT) Transfer Credit: CSU and/or private coll/univ.

204A Industrial Electronics
3 hours lecture, 3 hours lab, 4 units
Grade Only
Prerequisite: Mecomtronics 201A, 202A, and Mathematics 183, each with a grade of "C" or better, or equivalent.
This is a capstone course for the Engineering Technology/Mecomtronics program and introduces the fundamentals of industrial electronics as well as provides an environment in which students in this program use a combination of skills in a major project. Modern industrial electronics and control devices are introduced through various activities. Topics include but are not limited to logic controllers, thyristors, opto-electronic devices, and motors. This course is
intended solely for students enrolled in the fourth semester of the Engineering Technology/Mecomtronics program. (FT) Transfer Credit: CSU and/or private coll/univ.

This discipline may offer specialized instruction in one or more of the following areas: Supervised Tutoring (044), Special Topics (265), Independent Study (290), Individualized Instruction (296), Service Learning (277), Applied Applications and Software Skills (045L), or Work Experience (270). Detailed course descriptions are listed on page 94. Please refer to the class schedule and/or see the dean or department chair for availability.
English

Description
The English program provides a breadth of course work designed to improve reading, writing, listening, speaking, and critical thinking skills. Reading courses focus on academic reading and study skills. The English for Speakers of Other Languages (ESOL) program offers four levels of academic English instruction including reading, listening/speaking, and composition. Writing classes range from developmental writing to transfer-level courses in reading and composition, composition and literature, and intermediate composition and critical thinking, as well as a two-semester sequence in creative writing. Literature offerings include an introductory course and specialized courses such as British and American Literature and women in literature. Humanities courses explore cultural achievements of world civilizations. English department courses meet English Composition requirements for the associate degree and for University of California, and California State University, Communications in the English Language and Critical Thinking requirements. Literature courses may also meet general education, humanities, multicultural studies requirements and preparation for transfer.

Program Emphasis
The English major at the lower-division level emphasizes learning to read more critically and to write more effectively using strategies of narration, exposition and argument. The English major primarily serves students transferring to colleges and universities where the focus is on academic writing, research and criticism.

Career Options
Most careers require education beyond the associate degree. Strong linguistic, analytical and imaginative skills developed in English help to prepare students for employment in many fields including law, education, communications, governmental affairs or business.

Academic Programs
The associate degree in English requires completion of the courses listed for the degree. Additional general education and graduation requirements for the associate degree are listed in the catalog. The associate degree requires a minimum of 60 units.

Associate in Arts Degree: English

Courses Required for the Major: Units
ENGL 101, Reading and Composition or
ENGL 105, Composition and Literature .................. 3
*ENGL 205, Critical Thinking and
Intermediate Literature .................................. 3
**ENGL 215, English Literature I: 800-1799 .......... 3
**ENGL 216, English Literature II: 1800-Present; .... 3
Select three units from:
ENGL 208, Introduction to Literature
ENGL 220 Masterpieces of World Literature I:
1500 BCE - 1600 CE
ENGL 221 Masterpieces of World Literature II:
1600-Present .............................................. 3
Select three units from:
**ENGL 210 American Literature I ...................... 3
**ENGL 211 American Literature II .................... 3
ENGL 245 Writing Creative Nonfiction ............... 3
ENGL 247 Writing Seminar-Poetry .................... 3
ENGL 249 Introduction to Creative Writing ............ 3
ENGL 253 Fundamentals of Fiction Writing ......... 3
Total Units = 21

*Meets SDSU/CSU critical thinking requirement.
**Recommended sequences for UC transfer.
Not all courses are offered at each campus. For graduation requirements see Requirements for the Associate Degree on page 62.

Electives as needed to meet minimum of 60 units required for the degree:

**Recommended Electives:** English 202, 209, 238, 240, 245, 247, 249, 253, 254; Humanities 101, 102, 201, 202; Journalism 200, 210A/B/C/D.

Courses designed to support this and other majors:

ESOL 19, 20, 21, 22, 30, 31, 32, 40.

**Transferable Units as Prep for the Major at SDSU**

SDSU will accept a total of 12 units of literature and creative writing as preparation for the English Major. This includes any combination of lower division literature courses and up to six units of creative writing courses.

**Note:** English 215 and 216 are required by SDSU and UCSD. Other course electives are available at Mesa and Miramar Colleges.

**Transfer Information**

Students planning to transfer to a four-year college or university should complete courses required for the university major and the general education pattern required by that transfer institution. See catalog TRANSFER INFORMATION section. Additional courses may be required to meet university lower-division requirements. **Course requirements are subject to change at the transfer institution and may be verified by a counselor or by consulting the current university catalog. Many Baccalaureate in Arts degrees require a third semester competency in a foreign language. Consult the current catalog of the transfer institution and consult with a counselor.**

**San Diego State University**

**Communication, Journalism Major, B.A.:** Radio and Television 200; Journalism 200 (Mesa).

**Comparative Literature, B.A.:** English 101 or 105 and 220, 221.

**Comparative Literature for the Single Subject Teaching Credential, B.A.:** English 101 or 105, 202, 205, 220, 221 and 249 or 245 or 247 or 253 or 254; Dramatic Arts 120 (Miramar) or Humanities 201; one sequence from English 210, 211 or 215, 216; and Radio and Television 200 (City) or Journalism 200 (Mesa).

**English, B.A.:** English 101 or 105; English 215 and 216; three units from English 208, 220 or 221; three units from English 210, 211, 245, 249, or 247 or 253 or 254 (Mesa).

**English, Single Subject Teaching Credential, B.A.:** English 101 or 105, 202; English 210 and 211 or 215 and 216; English 245 or 247 or 249 or 253 or 254 (Mesa); English 208, 220 or 221 or Dramatic Arts 120 (Miramar); Humanities 201; Radio and Television 200 (City).

**Humanities, B.A.:** History 100, 101 (City, Mesa), Humanities 101; three units from: English 208, 220, 221, Humanities 201, Philosophy 103 (City, Mesa) or Humanities 106 (City, Mesa).

**University of California, San Diego**

All UCSD Literature majors must enroll in at least one upper division literature course in a secondary literature, e.g., French, German, Italian, Latin, Russian and Spanish. Proficiency in a second language is recommended prior to transfer. See a counselor for further information.

**Literature, Primary Concentration in Literatures in English, B.A.:** English 215 and 216; Black Studies 155; Chicano Studies 135; Third semester foreign language competency.

**Literature, Literature/Writing, B.A.:** English 215 and 216; 210 and 211; Black Studies 155; Chicano Studies 135; History 155 (Mesa). Third semester foreign language competency.

**Linguistics, B.A.:** See Languages and consult a counselor.

**Courses**

**English for Speakers of Other Languages (ESOL)**

The English for Speakers of Other Languages Program is designed to prepare students to read, write, speak and listen at a level that enables them to succeed in college courses.

The program consists of four levels and the student is assigned a level based on the result of his/her placement test.

The first level, L19, is a combined skills class in a lecture/lab format. Students who successfully complete this course are at the intermediate-low level. Some students at the beginning level may find ESOL 19 difficult. For these students, counselors are available to discuss options and resources, including classes at Continuing Education.

The second and third levels, L20 and L30, are made up of three courses. The grammar-writing component is a
This course prepares students to read at the intermediate-mid ESOL level. In this course, students learn reading strategies and apply them as they read a variety of texts. Students practice identifying text organization, vocabulary and grammar to facilitate comprehension. Students also begin to use information from class readings in discussion, critical thinking and writing. (FT) Credit does not apply to the associate degree.

022 Listening and Speaking for Non-native Speakers of English I

3 hours, 3 units

Prerequisite: English for Speakers of Other Languages 19 with a grade of “C” or better, or equivalent, or Assessment Skill Level L20.

This course prepares students to understand spoken English and to speak at the intermediate-mid ESOL level. In this course, students begin to develop communicative competence through listening to and participating in a variety of communicative activities. Students also begin to study grammatical structures specifically related to oral/aural course work to make connections between structure and communicative needs. In addition, students discuss, write about and think critically about information from oral and written sources. (FT) Credit does not apply to the associate degree.

030 Writing for Non-native Speakers of English II

6 hours, 6 units

Grade Only

Prerequisite: English for Speakers of Other Languages 20, 21, and 22, each with a grade of “C” or better, or equivalent, or Assessment Skill Level L30.

This course in writing and grammar prepares students to write at the intermediate-high ESOL level. In this course, students learn to write compositions and other types of texts that communicate a basic awareness of critical reasoning and the components of the academic essay and other types of writing. To achieve these goals, students learn and apply knowledge of syntax and grammatical structures in the production and editing of compositions so that errors, which may be frequent, will not obscure meaning. Students also read and understand a variety of texts as well as communicate a familiarity with academic study skills and work habits. Credit does not apply to the associate degree.
031 Reading for Non-native Speakers of English II

*Prerequisite:* English for Speakers of Other Languages 20, 21, and 22, each with a grade of “C” or better, or equivalent, or Assessment Skill Level L30.
This course prepares students to read at the intermediate-high ESOL level. In this course, students continue to develop reading skills needed for academic and workplace success. To achieve these goals, students read a variety of texts and apply appropriate reading strategies to facilitate comprehension. In addition, students engage in activities to build background knowledge as well as knowledge of text structure, grammar and vocabulary. Students also use information from class reading in class discussion, critical thinking and writing. (FT) Credit does not apply to the associate degree.

032 Listening and Speaking for Non-native Speakers of English II

*Prerequisite:* English for Speakers of Other Languages 20, 21, and 22, each with a grade of “C” or better, or equivalent, or Assessment Skill Level L30.
This course prepares students to understand spoken English and speak at the intermediate-high ESOL level. In this course, students continue to develop communicative competence through listening to and participating in a variety of communicative activities. Students also continue to develop knowledge of grammatical structures specifically related to oral/aural course work. In addition, students discuss, write about, and think critically about information from oral and written sources. (FT) Credit does not apply to the associate degree.

040 Reading and Writing for Non-native Speakers of English III

*Prerequisite:* English for Speakers of Other Languages 30, 31, and 32, each with a grade of “C” or better, or equivalent, or Assessment Skill Level L40.
*Limitation on Enrollment:* This course is not open to students with credit for English 010 or 62.
This course prepares students to read and write at the advanced ESOL level. In this course students write essays and other types of texts that have some complexity of expression, contain relatively few mechanical and grammatical errors and illustrate evidence of critical reasoning. Students also read academic and workplace texts and apply study skills and work habits necessary for success in further academic and vocational studies. Students who complete this course will be prepared to enter English 51 and 56. (FT) Credit does not apply to the associate degree.

**Courses**

**English (ENGL)**

**Basic Skills Courses**

All courses at this level are offered for college credit. Credit for these courses will not apply toward the associate degree, but will count toward the determination of a student’s workload and eligibility for financial aid.

**Reading**

042 College Reading and Study Skills I

(Formerly English 055)

*3 hours lecture, 3 units*

*Advisory:* Assessment Skill Level R3. This course is designed for native speakers of English. ESL students should enroll in ESOL 19, 20, 21, 22, 30, 31, 32 or 40 as recommended by the placement test for non-native English speakers.

*Limitation on enrollment:* This course is not open to students with previous credit for English 55.
This course is designed for students who need to improve their reading skills in order to succeed in college courses. In this course, students practice the reading process, reading extensively and intensively, and develop confidence and enjoyment in reading. Students also read and respond to a variety of materials, including non-fiction and textbook assignments, and learn strategies for reading difficult material to facilitate comprehension and critical thinking. In addition, students develop writing, vocabulary, discussion, and study skills. (FT) Credit for this course does not apply to the associate degree.

**Writing**

043 English Review

(Formerly English 050)

*3 hours lecture, 3 units*

*Advisory:* English 42 with a grade of "C" or better, or equivalent, or Assessment Skill Level W3. This course is designed for native speakers of English. ESL students should enroll in English for Speakers of Other Languages 19, 20, 21, 22, 30, 31, 32, or 40 as
recommended by the placement test for non-native speakers.

**Limitation on enrollment:** This course is not open to students with previous credit for English 50.

This course is designed for students who need review of and practice with writing unified paragraphs and purposeful basic compositions. In this course students develop knowledge of the writing process as well as knowledge of grammatical structures to compose clear and complete sentences, paragraphs, and short essays. Students also read texts as the basis for writing and develop critical thinking skills necessary for success in college courses. (FT) Credit for this course does not apply to the associate degree.

**050 English Review**
(see English 043 on page 241)

**055 College Reading and Study Skills I**
(see English 042 on page 241)

**English 101 Preparatory Courses**

All courses at this level are offered for college credit. Three units of course work at this level may be applied to the associate degree. Credit for courses at this level will count toward the determination of a student’s workload and eligibility for financial aid.

**Writing**

**051 Basic Composition**

3 hours lecture, 3 units

*Prerequisite:* English for Speakers of Other Languages 40 or English 43 with a grade of "C" or better, or equivalent, or Assessment Skill Level W4.

This course is designed to prepare students to write successfully at the transfer level. In this course students practice the writing process in the production and editing of essays. Students also review grammatical and mechanical structures as needed to support the successful expression of meaning. In addition, students read and think critically using a variety of texts which are the basis for writing and class discussion. A District-wide, timed-writing examination, holistically graded by English instructors, is part of the final course grade. Designated sections of this course may be taught from a specific cultural perspective and are cross-listed under Black Studies and Chicano Studies in the class schedule. Three units of English credit at this level (either English 51 or English 56) may be applied to the associate degree. (FT) Associate Degree Credit.

**Reading**

**056 College Reading and Study Skills II**

3 hours lecture, 3 units

*Prerequisite:* English for Speakers of Other Languages 40 or English 42 with a grade of "C" or better, or equivalent, or Assessment Skill Level R4.

This course is designed for students who need to develop advanced reading skills to succeed in transfer level courses. In this course, students focus on academic reading and study skills and practice strategies to improve reading comprehension and critical thinking. Students also build writing, vocabulary, discussion and study skills to accurately express information and reflect the meaning of class readings. Three units of English credit at this level (either English 51 or English 56) may be applied to the associate degree. (FT) Associate Degree Credit.

**English Courses**
(Also see Humanities)

**047L Skills: English Center and Laboratory**

1-12 hours lab, 0 units

Credit/No Credit

*Limitation on Enrollment:* Student must be enrolled in a companion college course. This is an open entry/open exit supplemental course designed to assist students to succeed in completing their computer assignments in a companion course. This course may be taken four times with different companion subject-matter courses as needed. This course does not apply to the associate degree.

**092A Persuasive Writing**

3 hours, 3 units

Credit/No Credit

This course is intended for students enrolled at San Diego State University; for Freshmen, a score of 150 or lower on the CSU English Placement Test (EPT), and for transfer students, a score of 7 or lower on the Transfer Writing Assessment (TWA). It is designed to help students develop methods of reading and writing necessary for success in SDSU’s Rhetoric and Writing Studies 100. In this course, students read persuasive texts and integrate the ideas of multiple authors and their own into argumentative essays. The course stresses paragraph and essay development and reviews sentence structure, mechanics, and grammar as needed. (FT) Associate Degree Credit.
092B Persuasive Writing II
3 hours, 3 units
Credit/No Credit

Limitation on Enrollment: This course is not open to students with credit for English 92A.
Enrollment is intended for students admitted to San Diego State University who have taken SDSU's Rhetoric and Writing Studies 92A, 94, or 95 and received a grade of Satisfactory Progress (SP). Only students who have not received credit for English 92A or Satisfactory Progress (SP) for RWS 92A or 97A at San Diego State University may enroll in English 92B. This course is designed to help students develop methods of reading and writing necessary for success in SDSU's Rhetoric and Writing Studies 100. In this course, students read persuasive texts and integrate the ideas of multiple authors and their own into argumentative essays. The course stresses paragraphs and essay development and reviews sentence structure, mechanics, and grammar as needed. To earn a grade of "CR," SDSU students must submit a passing final portfolio graded by SDSU's Rhetoric and Writing Studies (RWS) Department. (FT) Associate Degree Credit.

101 Reading and Composition
3 hours lecture, 3 units
Prerequisite: English 51 and English 56; or English 92A or English 92B or English 64, each with a grade of "C" or better, or equivalent, or Assessment Skill Levels W5 and R5.
This course is designed for transfer-level students or for those who want to develop competence in college level reading and composition. In this course, students read, analyze, discuss and think critically using a variety of works and sources. Based on these activities, students write essays, fully-documented research projects, and other types of texts for various purposes and audiences. This written work, which demonstrates effective, logical, and precise expression of ideas, totals at least 6000 graded words. Designated sections of this course may be taught from a specific cultural perspective. (FT) Transfer Credit: CSU and/or private coll/univ.; UC. (CAN ENGL 2) (CAN ENGL SEQ A = ENGL 101+105)

105 Composition and Literature
3 hours lecture, 3 units
Prerequisite: English 51 and 56; or English 064; or English 92A or 92B, each with a grade of “C” or better, or equivalent, or Assessment Skill Levels W5 and R5.
This is a composition course using literature as a background for improving writing skills. Students discuss the general nature and elements of literature and literary criticism by reading and analyzing representative works of fiction, drama, and poetry. Based on this subject matter, students are required to write a variety of critical papers, including a research paper, comprising at least 6,000 graded words. This course is designed for transfer students and is suitable for those students interested in literature and in developing strong critical and analytical writing skills. Designated sections of this course may be taught from a specific cultural perspective. (FT) Transfer Credit: CSU and/or private coll/univ.; UC. (CAN ENGL 4) (CAN ENGL SEQ A = ENGL 101+105)

202 Introduction to Linguistics
3 hours, 3 units
Prerequisite: English 51 and 56, each with a grade of "C" or better, or equivalent, or Assessment Skill Levels W5 and R5.
Advisory: Completion of English 101 or 105 with a grade of "C" or better, or equivalent, or Assessment Skill Levels W6 and R6.
This course is designed to introduce students to the field of Linguistics. In this course, students develop an understanding of the nature of language through the study of core areas in linguistics including phonetics, phonology, morphology, syntax, semantics and pragmatics. Students also read, write and think critically about related fields such as psycholinguistics, sociolinguistics, historical linguistics, and animal communication. This course is designed for students who plan to transfer as well as for those with a general interest in linguistics. (FT) Transfer Credit: CSU and/or private coll/univ.; UC.

205 Critical Thinking and Intermediate Composition
3 hours, 3 units
Prerequisite: English 101 or 105 with a grade of “C” or better, or equivalent, or Assessment Skill Levels W6 and R6
This course is designed to help students who are planning to transfer to a four-year college or university to develop critical thinking, reading, writing, and research skills beyond the level of English 101 and English 105; it is a required course within many curricula. Assignments require a total of at least 8,000 words of graded writing. The course focuses on writing argumentative prose and critically evaluating arguments. A majority of the written assignments require some research and documentation, including library research. Designated sections of this course may be taught from a specific cultural perspective and are cross-listed under Black Studies and Chicano Studies in the catalog and class schedule. (FT) Transfer Credit: CSU and/or private coll/univ.; UC.
208 Introduction to Literature  3 hours, 3 units
Prerequisite: English 51 and 56, each with a grade of "C" or better, or equivalent, or Assessment Skill Levels W5 and R5.
Advisory: Completion of English 101 or 105 with a grade of "C" or better, or equivalent, or Assessment Skill Levels W6 and R6.
This course provides an inquiry into the basic nature of literature and is designed for students with a general interest as well as for those majoring in the field. Students read and analyze representative literary works in fiction, non-fiction, poetry and drama from various cultures and periods, applying practical critical techniques in essays, reports, and exams. (FT) Transfer Credit: CSU and/or private coll/univ.; UC.

209 Literary Approaches to Film  3 hours lecture, 3 units
Prerequisite: English 51 and English 56, each with a grade of "C" or better, or equivalent, or Assessment Skill Levels W5 and R5.
Advisory: English 101 or English 105, with a grade of "C" or better, or equivalent, or Assessment Skill Levels W6 and R6.
This course focuses on literary values, such as plot, conflict, symbolism, theme and character as observed in feature films. It also focuses on cultural values with special reference as to how films define problems, establish a network of varied values, confront moral dilemmas, and explore human emotions. This course satisfies general education requirements in humanities and serves as an elective for English majors. It is designed for students who are interested in literature as well as those interested in the study of film. (FT) Transfer Credit: CSU and/or private coll/univ.; UC.

210 American Literature I  3 hours, 3 units
Prerequisite: English 101 or 105 with a grade of "C" or better, or equivalent, or Assessment Skill Levels W6 and R6.
This course is a survey of American literature from its beginning to the late 19th Century including representative works from the Colonial Period (1588-1765), the New Republic (1765-1829). In this class students read and discuss the authors of these periods, addressing relevant social, political, cultural, and religious issues. The students critically analyze in essays, exams, and research papers the authors, specific works, and other topics as assigned. Classroom activities include lectures and discussions of principal authors and works. Selected representative readings are required. (FT) Transfer Credit: CSU and/or private coll/univ.; UC. (CAN ENGL 14) (CAN ENGL SEQ C = ENGL 210+211).

211 American Literature II  3 hours, 3 units
Prerequisite: English 101 or 105 with a grade of "C" or better, or equivalent, or Assessment Skill Levels W6 and R6.
A survey of American Literature from the late 19th Century to the present which includes representative works from the Age of Realism (1865-1914), the Modernist Period (1914-1945), and the Postmodern Era (1950-present). In this class students read and discuss the authors of these periods, addressing relevant social, political, cultural, and religious issues. The students critically analyze in essays, exams, and research papers the authors, specific works, and other topics as assigned. Classroom activities include lectures and discussions of principal authors and their works. Selected representative readings are required. (FT) Transfer Credit: CSU and/or private coll/univ.; UC. (CAN ENGL 16) (CAN ENGL SEQ C = ENGL 210+211).

215 English Literature I: 800-1799  3 hours, 3 units
Prerequisite: English 101 or 105 with a grade of "C" or better, or equivalent or Assessment Skill Levels W6 and R6.
This course offers a survey of British literature from the Anglo-Saxon period to the pre-Romantic period (approximately 800 to 1799), including representative works from the Old and Middle English periods, the Renaissance and the Elizabethans, the Cavalier, Metaphysical, and Puritan periods, the Restoration and the Neoclassical periods. Students read and discuss the major authors of these periods, addressing relevant social, political, cultural, and religious issues. Students critically analyze, in essays and research papers, authors, specific works, and other topics as assigned. This course satisfies requirements for the major in English as well as general education and humanities requirements. (FT) Transfer Credit: CSU and/or private coll/univ.; UC. (CAN ENGL 8) (CAN ENGL SEQ B = ENGL 215+216).

216 English Literature II: 1800-Present  3 hours, 3 units
Prerequisite: English 101 or 105 with a grade of "C" or better, or equivalent or Assessment Skill Levels W6 and R6.
This course offers a survey of British literature from the Romantic period to the 20th century (approximately 1800 to the present) including representative works from the pre-Romantic and Romantic periods, the
Victorian and later Victorian period and the Modern period. Students read and discuss the major authors of these periods, addressing relevant social, political, cultural, and religious issues. Students critically analyze, in essays and research papers, authors, specific works, and other topics as assigned. This course satisfies requirements for the major in English as well as general education and humanities requirements. (FT) Transfer Credit: CSU and/or private coll/univ.; UC. (CAN ENGL 10) (CAN ENGL SEQ B = ENGL 215+216).

220 Masterpieces of World Literature I: 1500 BCE - 1600 CE

3 hours lecture, 3 units
Prerequisite: English 51 and English 56, each with a grade of “C” or better, or equivalent, or Assessment Skill Level W5/R5.
Advisory: English 101 or English 105, each with a grade of "C" or better, or equivalent, or Assessment Skill Level W6/R6.
This course offers a survey of world literature in translation, from the ancient world through the European renaissance (approximately 1500 BCE - 1600 CE), including the established classic literature of the Near East, Greece and Rome, India, China, Japan, Africa, the Islamic world, and Europe. Students read and discuss a variety of authors from these regions, and address relevant social, cultural, and religious issues. Students critically analyze, in essays and papers, specific authors, works, themes, and other topics as assigned. (FT) Transfer Credit: CSU and/or private coll/univ.; UC.

221 Masterpieces of World Literature II: 1600 - Present

3 hours, 3 units
Prerequisite: English 51 and 56, each with a grade of “C” or better, or equivalent, or Assessment Skill Levels W5 and R5.
Advisory: English 101 or 105 with a grade of “C” or better, or equivalent, or Assessment Skill Levels W6 and R6.
This course offers a survey of world literature in translation, from the close of the European renaissance through the present time, including the literature of Asia, Europe, North America, Central America, South America, Africa and the Islamic world. Students read and discuss a variety of authors from these regions, and address relevant social, religious, and cultural issues. Students critically analyze, in essays and papers, specific authors, works, themes, and other topics as assigned. This course satisfies requirements for the major in English as well as general education and humanities requirements. (FT) Transfer Credit: CSU and/or private coll/univ.; UC.

237 Women in Literature

3 hours, 3 units
Prerequisite: English 51 and 56, each with a grade of “C” or better, or equivalent, or Assessment Skill Levels W5 and R5.
Advisory: Completion of English 101 or 105 with a grade of “C” or better, or equivalent, or Assessment Skill Levels W6 and R6.
This course introduces the student to images of women in literature and to women writers. Students read from a variety of genres including stories, poetry, novels, and essays, written by women and men from a range of social, cultural, and ethnic backgrounds. (FT) Transfer Credit: CSU and/or private coll/univ.; UC.

238 Evaluating Children's Literature

3 hours lecture, 3 units
Prerequisite: English 51 and English 56, each with a grade of “C” or better, or equivalent, or Assessment Skill Levels W5 and R5.
Advisory: English 101 or English 105, each with a grade of "C" or better, or equivalent, or Assessment Skill Levels W6 and R6.
This course is a survey of children's literature from folktale to current works. The course compares works from a variety of authors, cultures, and historical periods while emphasizing current American works. Principles of literary criticism are applied in evaluating the themes, language, and structure of works studied. This class is suitable for students interested in literature as well as for students who are preparing to teach. (FT) Transfer Credit: CSU and/or private coll/univ.

245 Writing Creative Nonfiction

3 hours, 3 units
Prerequisite: English 51 with a grade of “C” or better, or equivalent, or Assessment Skill Level W5.
Advisory: Completion of English 101 or 105 with a grade of “C” or better, or equivalent, or Assessment Skill Levels W6 and R6.
Limitation on Enrollment: This course is not open to students with credit for English 246A and/or 246B.
This course is an intensive workshop in writing creative nonfiction. Students submit original creative nonfiction for class discussion and learn to use the workshop format to further their work. Additional exploration of the principles and methods of creative nonfiction are offered through lecture and the critical analysis of student and master works addressing personal, social, political, and/or cultural issues. Increased writing skills
help students not only in preparing for such writing-related careers as publishing, journalism, communications, and education, but also in better understanding literature and learning to use language successfully, which is necessary in nearly all professions. (FT) Transfer Credit: CSU and/or private coll/univ.; UC.

247 Writing Seminar — Poetry

3 hours, 3 units

Prerequisite: English 51 and 56, each with a grade of “C” or better, or equivalent, or Assessment Skill Levels W5 and R5.
Advisory: Completion of English 101 or 105 with a grade of “C” or better, or equivalent, or Assessment Skill Levels W6 and R6.
This introductory workshop provides guidance and models for students creating poetry, which is discussed and analyzed by the class. Students read and critique traditional, contemporary and multicultural poems that provide models for their original work. (FT) Transfer Credit: CSU and/or private coll/univ.; UC.

249 Introduction to Creative Writing

3 hours, 3 units

Prerequisite: English 51 with a grade of “C” or better, or equivalent, or Assessment Skill Level W5.
Advisory: Completion of English 101 or 105 with a grade of “C” or better, or equivalent, or Assessment Skill Levels W6 and R6.
Limitation on Enrollment: This course is not open to students who have credit for English 249A or 249B.
This is an introductory course in creative writing which focuses on the study of fiction and poetry. Students analyze technique in the works of professional writers and in their own original works. After submitting writing, students participate in informal discussion of their work which includes helpful criticism from the class and the instructor. Increased writing skills help students prepare for careers in communication, education, writing, advertising, selling, journalism, law, business, and government. (FT) Transfer Credit: CSU and/or private coll/univ.; UC. (CAN ENGL 6)

253 Fundamentals of Fiction Writing

3 hours, 3 units

Prerequisite: English 51 with a grade of “C” or better, or equivalent, or Assessment Skill Level W5.
Advisory: Completion of English 101 or 105 with a grade of “C” or better, or equivalent, or Assessment Skill Levels W6 and R6.
Limitation on Enrollment: This course is not open to students who have credit for English 252A.
This course is an intensive workshop in fiction-writing techniques. Students submit original fiction for class discussion and learn to utilize criticism offered by the instructor and peers. Critical thinking abilities are applied as students analyze orally and in writing student and master works addressing personal, social, political, and/or cultural issues. Increased writing skills help students not only in preparing for such writing-related careers as publishing, journalism, communications, and education, but also in better understanding literature and learning to use language successfully, which is necessary in nearly all professions. (FT) Transfer Credit: CSU and/or private coll/univ.; UC.

This discipline may offer specialized instruction in one or more of the following areas: Supervised Tutoring (044), Special Topics (265), Independent Study (290), Individualized Instruction (296), Service Learning (277), Applied Applications and Software Skills (045L), or Work Experience (270). Detailed course descriptions are listed on page 94. Please refer to the class schedule and/or see the dean or department chair for availability.

101 Introduction to the Humanities I

3 hours, 3 units

Advisory: English 51 and 56, each with a grade of “C” or better, or equivalent, or Assessment Skill Levels W5 and R5.
The development of an understanding and appreciation of mankind’s cultural heritage from the earliest times to approximately 1500. A survey will be made of the literature, philosophy, music, painting, architecture, and sculpture of both Western and Eastern civilizations during this period of time. (FT) Transfer Credit: CSU and/or private coll/univ.; UC.

102 Introduction to the Humanities II

3 hours, 3 units

Advisory: English 101 with a grade of “C” or better, or equivalent, or Assessment Skill Levels W6 and R6.
This interdisciplinary course is designed for students interested in meeting general education requirements in humanities. The course develops students’ understanding and appreciation of humankind’s cultural heritage from approximately 1400CE to the present time. A survey is made of the literature, philosophy, music, painting, architecture, and sculpture of both Western and non-Western civilizations. (FT) Transfer Credit: CSU and/or private coll/univ.; UC.
106 World Religions

3 hours, 3 units

Advisory: English 51 and 56, each with a grade of “C” or better, or equivalent, or Assessment Skill levels W5 and R5.

This course is an introduction to the basic elements of the religions of the world, their similarities and differences, and their impact on believers and society. The course includes a study of the historical development, basic doctrines, and important sects of the major religions of the world, as well as a study of scriptural and artistic creations from these traditions. Some analysis of tribal religious beliefs and practices is included. (FT) Transfer Credit: CSU and/or private coll/univ.; UC.

201 Mythology

3 hours, 3 units

Advisory: English 51 and 56, each with a grade of “C” or better, or equivalent, or Assessment Skill Levels W5 and R5.

This course introduces students to the major images and themes of the myths of widely separated peoples of the world throughout history. By analyzing various archetypal patterns found in the great civilizations and tribal cultures of the world, students understand both the uniqueness of each culture’s world view and the commonality of human mythological conceptions. Literature and the arts are used to demonstrate these cultures’ mythic ideas. This course meets GE and CSU requirements. (FT) Transfer Credit: CSU and/or private coll/univ. UC Transfer Credit: Humanities (HUMA) 201 and 203ABC combined: maximum credit, two courses.

202 Mythology: Hero’s Journey

3 hours, 3 units

Advisory: English 51 and 56, each with a grade of “C” or better, or equivalent, or Assessment Skill Levels W5 and R5.

Analysis of the hero’s journey, internal and external, as reflected in myths of the world, with consideration of such phenomena as the “shadow,” the “double,” the “other.” Also, exposure to art in which the hero’s journey is thematic. Transfer Credit: CSU and/or private coll/univ.

This discipline may offer specialized instruction in one or more of the following areas: Supervised Tutoring (044), Special Topics (265), Independent Study (290), Individualized Instruction (296), Service Learning (277), Applied Applications and Software Skills (045L), or Work Experience (270). Detailed course descriptions are listed on page 94. Please refer to the class schedule and/or see the dean or department chair for availability.

Foreign Languages

See “Languages” on page 252.

French

See “Languages” on page 252.

Geography

See “Physical and Earth Sciences” on page 289.

Geology

See “Physical and Earth Sciences” on page 289.

German

See “Languages” on page 252.

Health Education

See “Physical Education” on page 299.
Health Sciences

There is currently no program in Health Sciences. The following courses are offered and may be used as associate degree electives.

Courses

Health Sciences (HEAN)

93 Residential Services Specialist I

3 hours, 3 units

Advisory: English 43 and English 42, each with a grade of "C" or better, or equivalent or Assessment Skill Levels W4 and R4.

Limitation on Enrollment: This course is not open to students with credit for Health Sciences 265, Residential Services Specialist I.

This course is a study of the theories and skills needed by persons involved in residential care for the developmentally disabled. Course content emphasizes the history and trends in service provision in the United States. This includes current principles of normalization and assessment procedures as well as an overview of common developmental disabilities. The interdisciplinary team process and basic counseling techniques are included. Associate Degree Credit.

94 Residential Services Specialist II

3 hours, 3 units

Advisory: English 43 and English 42, each with a grade of "C" or better, or equivalent or Assessment Skill Levels W4 and R4.

Limitation on Enrollment: This course is not open to students with credit for Health Sciences 265, Residential Services Specialist II.

This course is a study of the theories, knowledge and practical skills needed by persons involved in residential care for the developmentally disabled. Course content emphasizes hands-on behavior management techniques, health and developmental needs, program planning and implementation, and approaches to developing social adaptation and other life skills. Associate Degree Credit.

This discipline may offer specialized instruction in one or more of the following areas: Supervised Tutoring (044), Special Topics (265), Independent Study (290), Individualized Instruction (296), Service Learning (277), Applied Applications and Software Skills (045L), or Work Experience (270). Detailed course descriptions are listed on page 94. Please refer to the class schedule and/or see the dean or department chair for availability.
History

Description
History is the study of human experience from the dawn of time to the present. It examines people, institutions, ideas and events of the past and the present. The primary objectives of the History program are: to meet general education requirements for American Institutions, Humanities and Social Sciences; completion of the Associate in Arts degree; and preparation for transfer to a four-year institution and completion of general education requirements for the student enrolled in a four-year institution.

Program Emphasis
The study of history develops cultural literacy, critical thinking, and other useful skills. San Diego City College offers the two-semester Western Civilizations survey sequence along with the two-semester American History survey sequence. Completion of these two sequences provides the student with the necessary lower division preparation for a baccalaureate degree in History at San Diego State University.

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Ternot MacRenato A-1(M) (619) 388-3634

Career Options
Most careers in history require education beyond the associate degree and some require a graduate degree. This is not a comprehensive list but some of the most common career options with history preparation include: archivist, business person, diplomatic corps, historian, journalist, lawyer, librarian, museum curator, park historian, professor, teacher and writer.

Academic Programs
The associate degree in History requires completion of three of the four course sequences in History listed for the degree. Additional general education and graduation requirements for the associate degree are listed in the catalog. The associate degree requires a minimum of 60 units.

Associate in Arts Degree: History
Courses Required for the Major:
Select three of the five six-unit course sequences or 18 units

<table>
<thead>
<tr>
<th>Course Sequence</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>HIST 100 &amp; 101, World History, I and II</td>
<td>3,3</td>
</tr>
<tr>
<td>HIST 105 &amp; 106, Introduction to Western Civilization, I and II</td>
<td>3,3</td>
</tr>
<tr>
<td>HIST 109 &amp; 110, History of the United States, I and II</td>
<td>3,3</td>
</tr>
<tr>
<td>HIST 115A &amp; 115B, History of the Americas, I and II</td>
<td>3,3</td>
</tr>
<tr>
<td>HIST 120, Introduction to Asian Civilization and HIST 121, Asian Civilization in Modern Times</td>
<td>3,3</td>
</tr>
</tbody>
</table>

Total Units = 18

Recommended electives: History 175, 290, 296.

Transfer Information
Students planning to transfer to a four-year college or university should complete courses required for the university major and the general education pattern required by that transfer institution. See catalog TRANSFER INFORMATION section. Additional courses may be required to meet university lower-division requirements. Course requirements at the transfer institution are subject to change and may be verified by a counselor or by consulting the current university catalog. Many Baccalaureate in Arts degrees require a third semester competency in a foreign language. Consult the current catalog of the transfer institution and consult with a counselor.

California State University, San Marcos
History, B.A.: Select one 6-unit sequence from: History 109 and 110 or 105 and 106 or 100 and 101 (City, Mesa). Select one course from: History 113, 165, 175 or 250. Select 6 units from Literature, Religion, Political Science, Economics, Philosophy, Sociology, Anthropology, Fine Arts. Select 6 units from one of the above-listed fields of study as a second field. Three units from English 101 or 105. Complete 3rd level course in a Foreign Language.

San Diego State University
History, B.A.: History 100 and 101, and six units from 105 and 106, 109 and 110, 115A and 115B.
University of California, San Diego

History, B.A.: History 109 and 110 or History 113 (Mesa) or Black Studies 140A or Black Studies 140B and Chicano Studies 110B or Chicano Studies 141B.

## Courses

### History (HIST)

#### 100 World History I
3 hours, 3 units

Advisory: English 51 and 56, each with a grade of “C” or better, or equivalent, or Assessment Skill Levels W5 and R5.

The growth of civilizations and the interrelationships of peoples of Europe, Asia, Africa and America to 1650.

Transfer Credit: CSU and/or private coll/univ.; UC. (CAN HIST 14) (CAN HIST SEQ C = HIST 100 + 101)

#### 101 World History II
3 hours, 3 units

Advisory: English 51 and 56, each with a grade of “C” or better, or equivalent, or Assessment Skill Levels W5 and R5.

The growth of civilizations and the interrelationships of peoples of Europe, Asia, Africa and America since 1650.

Transfer Credit: CSU and/or private coll/univ.; UC. (CAN HIST 16) (CAN HIST SEQ C = HIST 100 + 101)

#### 105 Introduction to Western Civilization I
3 hours, 3 units

Advisory: English 51 and 56, each with a grade of “C” or better, or equivalent, or Assessment Skill Levels W5 and R5.

A broad study of the major elements in the Western heritage, from the world of the earliest civilizations to that of the Reformation, designed to further the beginning student’s general education, introduce him/her to the ideas, attitudes, and institutions basic to Western civilizations. (FT) Transfer Credit: CSU and/or private coll/univ.; UC. (CAN HIST 2) (CAN HIST SEQ A = HIST 105 + 106).

#### 106 Introduction to Western Civilization II
3 hours, 3 units

Advisory: English 51 and 56, each with a grade of “C” or better, or equivalent, or Assessment Skill Levels W5 and R5.

Traces Western civilization from Scientific Revolution to the present. (FT) Transfer Credit: CSU and/or private coll/univ.; UC. (CAN HIST 4) (CAN HIST SEQ A = HIST 105 + 106).

#### 109 History of the United States I
3 hours, 3 units

Advisory: English 51 and 56, each with a grade of “C” or better, or equivalent, or Assessment Skill Levels W5 and R5.

Limitation on Enrollment: This course is not open to students with previous credit for Black Studies 112A, 140A or History 110A.

This course, which covers the history of the United States from its colonial origins through the period of Reconstruction, provides an overview of the diverse peoples who interacted, settled, and influenced the history of the nation and its developing economic, social, and political institutions. The course requires students to analyze a variety of materials, think critically, and write thesis-based essays. The course is required for history majors and is recommended for transfer students. History 109 taken in conjunction with History 110, 115B, 123, 151; Black Studies 140B; Chicano Studies 141B; or Political Science 102 satisfies the District and may satisfy the CSU graduation requirements in United States History, Constitution, and American Institutions and the requirement in California state and local government. (FT) Transfer Credit: CSU and/or private coll/univ. UC Transfer Credit: History (HIST) 109, 110 combined with 150, 151, Black Studies 140AB or Chicano Studies 141AB: maximum credit, one series. (CAN HIST 8) (CAN HIST SEQ B = HIST 109 + 110).

#### 110 History of the United States II
3 hours, 3 units

Advisory: English 51 and 56, each with a grade of “C” or better, or equivalent, or Assessment Skill Levels W5 and R5.

Limitation on Enrollment: This course is not open to students with previous credit for Black Studies 112B, 140B, or History 110B.

This course, which covers the history of the United States from Reconstruction to the present, provides an overview of the diverse peoples who influenced the history of the nation and its maturing economic, social, and political institutions. The course requires students to analyze a variety of materials, think critically, and write thesis-based essays. The course is required for history majors and is recommended for transfer students. History 110 taken in conjunction with History 109, 115A, 150; Black Studies 140A; or Chicano Studies 141A satisfies the District and may satisfy CSU.
requirements in United States History, Constitution, and American Institutions and the requirement in California state and local government. History 110 also satisfies the District and CSU requirements in California state and local government for those students who have completed equivalent United States history, Constitution, and American Ideals courses outside the State of California. (FT) Transfer Credit: CSU and/or private coll/univ. UC Transfer Credit: History (HIST) 109, 110 combined with 150, 151, Black Studies 140AB or Chicano Studies 141AB: maximum credit, one series. (CAN HIST 10) (CAN HIST SEQ B = HIST 109 + 110).

115A History of the Americas I

3 hours lecture, 3 units
Advisory: English 51 and English 56, each with a grade of "C" or better, or equivalent, or Assessment Skill Levels W5 and R5.
This course provides a framework for interpreting the history of the Americas, from 1500 through 1800. This survey examines how diverse peoples migrated or were transported to perform labor among indigenous peoples of varying levels of social organization and technological sophistication. The course includes treatment of how these peoples interacted and reciprocally influenced each others' cultural forms, political institutions, social relations, and economics. Emphasizing the comparative history of these societies, the course traces the eventual emergence of independence movements setting the stage for establishment of autonomous nation states. The course also traces the simultaneous development and evolution of capitalism in the Western Hemisphere during the period. This course requires students to analyze a variety of source materials, think critically, and write thesis-based essays. This general education course is designed for both history majors and the general transfer student. (FT) Transfer Credit: CSU and/or private coll/univ.; UC.

115B History of the Americas II

3 hours lecture, 3 units
Advisory: English 51 and English 56, each with a grade of "C" or better, or equivalent, or Assessment Skill Levels W5 and R5.
This course provides a framework for interpreting the history of the Americas, from the 19th century into the present. This survey examines the independence movements and the development of autonomous nation states throughout the Americas. Emphasizing the comparative history of these societies, the course traces Roman Catholic Church-state relations, the constitutional history of Latin American nations in relation to California, the United States, and Canada, including 20th century constitutional reforms. The course also outlines economic shifts, involving the expansion of agricultural commodity production, global commerce, and industrialization. Finally, the course highlights international relations among nations in the Western Hemisphere, the cold War, and the impact of modernization theory. This general education course is designed for both history majors and the general transfer student. (FT) Transfer Credit: CSU and/or private coll/univ.; UC.

120 Introduction to Asian Civilizations
3 hours lecture, 3 units
Advisory: English 51 and 56, each with a grade of "C" or better, or equivalent, or W5/R5.
Students learn about early seventeenth century Asian culture, thought, and institutions. Subjects include governmental development, cultural and artistic achievements, philosophy, and religion. This course is intended for transfer students planning to major in history, business, or other social science. (FT) Transfer Credit: CSU and/or private coll/univ.; UC.

121 Asian Civilizations in Modern Times
3 hours lecture, 3 units
Advisory: English 51 and English 56, each with a grade of "C" or better, or equivalent, or Assessment Skill Levels W5 and R5.
This course examines the evolution of the distinct cultures, thought, and institutions in East, South, and Southeast Asia from the sixteenth century to the present through critical investigations into the impact of modernization on the political, social, economic, and cultural dimensions of these societies. Emphasis is placed on topics such as the first encounters with Western powers, the evolution of Western imperialism, the rise of nationalist movements and independent nation states, and their evolution and progress to the present. (FT) Transfer Credit: CSU and/or private coll/univ.; UC.

This discipline may offer specialized instruction in one or more of the following areas: Supervised Tutoring (044), Special Topics (265), Independent Study (290), Individualized Instruction (296), Service Learning (277), Applied Applications and Software Skills (045L), or Work Experience (270). Detailed course descriptions are listed on page 94. Please refer to the class schedule and/or see the dean or department chair for availability.
Languages

Description
The study of languages provides communication skills, provides exposure to the richness of cultural variety, increases transfer options to universities with language requirements, opens new career opportunities, enriches global travel, and provides personal enrichment. The program is designed to prepare students for transfer to a baccalaureate institution and for proficiency in a language in a variety of settings.

Program Emphasis
The Language program provides transfer level courses in Arabic, French, German, Italian, Spanish and Russian. Students develop skills of understanding, speaking, reading and writing, culture and increase familiarity with basic features of the English language. They also have opportunities to become acquainted with the literature, culture, history and current events of other countries through films, videotapes, field trips and campus and community international events.

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Career Options
Knowledge of another language is required or highly desirable for consular and junior foreign service, import, export, and international business and travel, health and missionary fields, overseas teaching, translating and interpreting, and travel and tourism industries. Learning another language is an asset in broadening communication skills and in the travel and tourism industry.

Academic Programs
The associate degree in a language requires completion of the courses listed below. Additional general education and graduation requirements for the associate degree are listed in the catalog. The associate degree requires a minimum of 60 units.
Associate in Arts Degree:  
Languages

Courses Required for the Major:   

Select one language sequence:
FREN, GERM, ITAL, SPAN 101, First Course in Language ..................................................... 5
FREN, GERM, ITAL, SPAN 102, Second Course in Language ..................................................... 5
FREN, GERM, ITAL, SPAN 201, Third Course in Language ..................................................... 5
*FREN, SPAN 202, Fourth Course in Language ........ 5
FREN, GERM, ITAL 210, The Grammar of Spoken Language I or SPAN 210, Conversation and Composition Spanish I ..................................................... 3
FREN, GERM, ITAL 211, The Grammar of Spoken Language II or SPAN 211, Conversation and Composition Spanish II ..................................................... 3

*French and Spanish language sequences only
Total Units = 21-26

Recommended electives: American Sign Language 100, 101, 200, 201; Arabic 101, 102, 296; French 280, 290, 296; German 290, 296; Italian 296; Spanish 290, 296.

Courses Offered in Support of Other Majors:
Arabic 85; Spanish 85.

Transfer Information
Students planning to transfer to a four-year college or university should complete courses required for the university major and the general education pattern required by that transfer institution. See catalog TRANSFER INFORMATION section. Additional courses may be required to meet university lower-division requirements. Course requirements at the transfer institution are subject to change and may be verified by a counselor or by consulting the current university catalog. Many Baccalaureate in Arts degrees require a third semester competency in a foreign language. Consult the current catalog of the transfer institution and consult with a counselor.

San Diego State University
French, B.A.: French 101, 102, 201, 202 (City, Mesa).
German, B.A.: German 101, 102, 201 (Mesa), 210 (City) or 211 (City).
Italian, B.A.: Italian 101, 102, 201 (City, Mesa).
Russian, B.A.: Russian 101, 102, 210 (Mesa).
Spanish, B.A.: Spanish 101, 102, 201, 202, 210, 211.

University of California, San Diego
Italian Studies, B.A.: Italian 101, 102 and 201.
Linguistics, B.A.: See a counselor.
Linguistics, Language, B.A.: Select one from American Sign Language 100 (Mesa), 101, 200 (Mesa), 201; French 101, 102, 201 or 210 and 211, and 202; German 101, 102 and 201; Italian 101, 102, 201; Spanish 101, 102, 201 or 210 and 211 and 202.

Courses

American Sign Language/Interpreting (AMSL)

100 American Sign Language I
2.5 hours lecture, 1.5 hours lab, 3 units
Grade Only
Advisory: English 51 and English 56 each with a grade of “C” or better, or equivalent, or Assessment Skill Levels W5 and R5.
Introduction to American Sign Language as it is used within Deaf Culture. Instruction in the basic structure of the language and development in its use. (FT) Transfer Credit: CSU and/or private coll/univ.; UC.

101 American Sign Language II
2.5 hours lecture, 1.5 hours lab, 3 units
Prerequisite: American Sign Language 100 with a grade of “C” or better, or equivalent.
A continuation of the study of the structure of American Sign Language and development of skills in its use. (FT) Transfer Credit: CSU and/or private coll/univ.; UC.

200 American Sign Language III
2.5 hours lecture, 1.5 hours lab, 3 units
Prerequisite: American Sign Language 101 with a grade of “C” or better, or equivalent.
Continuation of development of skill in American Sign Language with emphasis on intermediate
comprehension and expression. (FT) Transfer Credit: CSU and/or private coll/univ.; UC.

201 American Sign Language IV
2.5 hours lecture, 1.5 hours lab, 3 units
Prerequisite: American Sign Language 200 with a grade of "C" or better, or equivalent. Be prepared to be tested for equivalent interpreting competency. An advanced course in American Sign Language to increase fluency as well as to provide linguistic and cultural perspectives needed for application to the interpreting process. (FT) Transfer Credit: CSU and/or private coll/univ.; UC.

101 First Course in Arabic
5 hours lecture, 5 units
Advisory: English 56 with a grade of "C" or better, or equivalent, or Assessment Skill Level R5. This course is an introduction to the sound and writing system of the Arabic language. The course also provides students with the basic structural and lexical knowledge to enable them to communicate orally and in writing in Arabic at a beginning level. Emphasis is placed on developing the students' ability to perform language functions in real-life situations through structured activities and grammatical exercises and on providing students with an overview of Arabic culture. (FT) Transfer Credit: CSU and/or private coll/univ.; UC.

102 Second Course in Arabic
5 hours lecture, 5 units
Prerequisite: Arabic 101 with a grade of "C" or better, or equivalent.
A continuation of Arabic 101. (FT) Transfer Credit: CSU and/or private coll/univ.; UC. (CAN FREN 4) (CAN FREN SEQ A=FREN 101+102).

201 Third Course in French
5 hours, 5 units
Prerequisite: French 101 with a grade of "C" or better, or three years of high school French, or equivalent. A continuation of French 102. A continuation of grammar, and abundant exercises in hearing, speaking, reading and writing French. (FT) Transfer Credit: CSU and/or private coll/univ.; UC. (CAN FREN 6) (CAN FREN SEQ B=FREN 201+202).
202 Fourth Course in French  
5 hours, 5 units 
Prerequisite: French 201 with a grade of “C” or better, or equivalent.  
Limitation on Enrollment: This course is not open to students with credit for French 200.  
A continuation of French 201. (FT) Transfer Credit: CSU and/or private coll/univ.; UC. (CAN FREN 10) (CAN FREN SEQ B=FREN 201+202).

210 The Grammar of Spoken French I  
3 hours, 3 units 
Prerequisite: French 102 with a grade of “C” or better, or three years of high school French, or equivalent.  
Advisory: Concurrent enrollment in French 201.  
French 210 is designed to give students abundant practice in developing oral and written fluency in the language. Topics providing basis for discussion and prepared talks will include everyday life situations, current events and French culture. (NOTE: Although French 210 may be taken after the completion of French 102, or three years of high school French, majors and minors are advised to take French 210 concurrently with French 201, if possible.) (FT) Transfer Credit: CSU and/or private coll/univ.; UC.

211 The Grammar of Spoken French II  
3 hours, 3 units 
Prerequisite: French 210 with a grade of “C” or better, or equivalent.  
German 211 is a continuation of German 210 at a more advanced level. (NOTE: German majors and minors are advised to take German 211 concurrently with German 202, if possible.) (FT) Transfer Credit: CSU and/or private coll/univ.; UC.

280 French Reading Seminar  
3 hours, 2 units 
Guided reading in French literature adapted to individual interests and needs: novels, short stories, poetry, newspapers and magazines. Discussed in French by students during class. Transfer Credit: CSU and/or private coll/univ.; UC. Transfer limitations. See a counselor.

This discipline may offer specialized instruction in one or more of the following areas: Supervised Tutoring (044), Special Topics (265), Independent Study (290), Individualized Instruction (296), Service Learning (277), Applied Applications and Software Skills (045L), or Work Experience (270). Detailed course descriptions are listed on page 94. Please refer to the class schedule and/or see the dean or department chair for availability.

101 First Course in German  
5 hours, 5 units 
Advisory: English 56 with a grade of “C” or better, or equivalent, or Assessment Skill Level R5.  
Limitation on Enrollment: This course is not open to students with credit for German 100.  
An introductory course stressing correct pronunciation and the ability to speak, understand and read the language of everyday life. Fundamentals of grammar and composition and a rapid reading of simple German are practiced. (FT) Transfer Credit: CSU and/or private coll/univ.; UC. (CAN GERM 2) (CAN GERM SEQ A = GERM 101+102).

102 Second Course in German  
5 hours, 5 units 
Prerequisite: German 101 with a grade of “C” or better, or equivalent.  
Limitation on Enrollment: This course is not open to students with credit for German 200.  
A continuation of German 101. (FT) Transfer Credit: CSU and/or private coll/univ.; UC. (CAN GERM 4) (CAN GERM SEQ A = GERM 101+102).

201 Third Course in German  
5 hours, 5 units 
Prerequisite: German 102 with a grade of “C” or better, or equivalent.  
Limitation on Enrollment: This course is not open to students with credit for German 200.  
A continuation of German 102. (FT) Transfer Credit: CSU and/or private coll/univ.; UC. (CAN GERM 8)

210 The Grammar of Spoken German I  
3 hours, 3 units 
Prerequisite: German 210 with a grade of “C” or better, or equivalent.  
Advisory: Concurrent enrollment in German 201.  
German 210 is designed to give students abundant practice in developing oral and written fluency in the language. Topics providing basis for discussion and prepared talks will include everyday life situations, current events, and German culture. (FT) Transfer Credit: CSU and/or private coll/univ.; UC.

211 The Grammar of Spoken German II  
3 hours, 3 units 
Prerequisite: German 210 with a grade of “C” or better, or equivalent.  
German 211 is a continuation of German 210 at a more advanced level (NOTE: German majors and minors
advised to take German 211 concurrently with German 202, if possible). (FT) Transfer Credit: CSU and/or private coll/univ.; UC.

<table>
<thead>
<tr>
<th>Course</th>
<th>Type</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Italian (ITAL)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>101 First Course in Italian</strong></td>
<td>5 hours, 5 units</td>
<td></td>
</tr>
<tr>
<td><em>Advisory:</em> English 56 with a grade of “C” or better, or equivalent, or Assessment Skill Level R5. <em>Limitation on Enrollment:</em> This course is not open to students with credit for Italian 100. This is the first course in the sequence of study of the Italian language and culture. In this interactive course, students use Italian in speaking, listening, reading, and writing at the novice level. Basic language structures and vocabulary for communication are examined and explored in Italian. Students with two years of high school Italian are eligible to enroll in Italian 101. (FT) Transfer Credit: CSU and/or private coll/univ.; UC. (CAN ITAL 2) (CAN ITAL SEQ A = ITAL 101 + 102)</td>
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<td></td>
</tr>
<tr>
<td><strong>102 Second Course in Italian</strong></td>
<td>5 hours lecture, 5 units</td>
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<tr>
<td><em>Prerequisite:</em> Italian 101 with a grade of “C” or better, or equivalent. Students with two years of high school Italian are eligible to enroll in Italian 101. <em>Advisory:</em> concurrent enrollment in Italian 296. <em>Limitation on Enrollment:</em> This course is not open to students with credit for Italian 100. This is a continuation of Italian 101. In this interactive course, students use listening, reading, speaking and writing at a more complex level. The students further develop their receptive and productive language competencies at the low- to mid- intermediate level. Additional language structures and vocabulary for communication are examined and explored in Italian. (FT) Transfer Credit: CSU and/or private coll/univ.; UC. (CAN ITAL 4) (CAN ITAL SEQ A = ITAL 101 + 102).</td>
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<tr>
<td><strong>201 Third Course in Italian</strong></td>
<td>5 hours lecture, 5 units</td>
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<tr>
<td><em>Prerequisite:</em> Italian 102 with a grade of &quot;C&quot; or better, or equivalent or three years of high school Italian with a grade of &quot;C&quot; or better, or equivalent. <em>Advisory:</em> Concurrent enrollment in Italian 296. This is an intermediate course in Italian. In this interactive course, students use the language through speaking, listening, reading and writing at the intermediate level. More complex language structures and vocabulary for communication are examined and explored. (FT) Transfer Credit: CSU and/or private coll/univ.; UC. (CAN ITAL 8)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>210 The Grammar of Spoken Italian I</strong></td>
<td>3 hours, 3 units</td>
<td></td>
</tr>
<tr>
<td>Italian 210 is designed to give students abundant practice in developing oral and written fluency in the language. Topics providing basis for discussion and prepared talks will include everyday life situations, current event, and culture. (FT) Transfer Credit: CSU and/or private coll/univ.; UC.</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>211 The Grammar of Spoken Italian II</strong></td>
<td>3 hours, 3 units</td>
<td></td>
</tr>
<tr>
<td>Italian 211 is a continuation of Italian 210 at a more advanced level. Topics providing basis for discussion and prepared talks will include everyday life situations, current events, and culture. (FT) Transfer Credit: CSU and/or private coll/univ.; UC.</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>290 Independent Study</strong></td>
<td>Hours by Arrangement; 1-3 units</td>
<td></td>
</tr>
<tr>
<td><em>Limitation on Enrollment:</em> Must obtain an Add Code from instructor for registration. For intermediate students who wish to work on special projects. This course may be taken four times with different content for a maximum of six units. Transfer Credit: CSU and/or private coll/univ.; UC transfer limitations. See a counselor.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Spanish (SPAN)

85 Occupational Spanish  
3 hours, 3 units
An intensive vocationally oriented course designed to give rudimentary skills in hearing, speaking, reading and writing basic Spanish. Practice in the vocabulary, nomenclature and functional grammar typical of actual job situations. (FT) Credit does not apply to the associate degree.

101 First Course in Spanish  
5 hours, 5 units
Advisory: English 43 with a grade of "C" or better, or equivalent, or Assessment Skill Level W4. 
Limitation on Enrollment: This course is not open to students with credit for or concurrent enrollment in Spanish 100.
This is an entry-level course designed to introduce students to the Spanish language and cultures of the Spanish-speaking world. In this interactive course, students learn and use the language by speaking, listening, reading, and writing at the novice level. Basic language structures and vocabulary for communication are examined and explored in Spanish. (FT) Transfer Credit: CSU; UC. (CAN SPAN 2) (CAN SPAN SEQ A = SPAN 101 + 102)

102 Second Course in Spanish  
5 hours, 5 units
Prerequisite: Spanish 101 with a grade of "C" or better, or equivalent or two years of high school Spanish with a grade of "C" or better, or equivalent.
Advisory: English 43 with a grade of "C" or better, or equivalent or Assessment Skill Level W4; concurrent enrollment in Spanish 296.
Limitation on Enrollment: This course is not open to students with credit for or concurrent enrollment in Spanish 100.
This is a continuation of Spanish 101. In this interactive course, students use listening, reading, speaking and writing at a more complex level. Students further develop their receptive and productive competencies to the intermediate low or mid level. Additional language structures and vocabulary for communication are examined and explored in Spanish. (FT) Transfer Credit: CSU and/or private coll/univ. UC Transfer Credit: Spanish (SPAN) 199 is equivalent to 102 and 201 combined (per catalog): maximum credit, 10 units. (CAN SPAN 4) (CAN SPAN SEQ A = SPAN 101 + 102)

201 Third Course in Spanish  
5 hours, 5 units
Prerequisite: Spanish 102 with a grade of "C" or better, or equivalent.
Limitation on Enrollment: This course is not open to students with credit for or concurrent enrollment in Spanish 199 or 200.
This course is the first semester of an intermediate level study of Spanish. It stresses further grammatical development in Spanish beyond second semester through oral and written communication. It also provides increased practice in readings of culturally relevant authentic materials. (FT) Transfer Credit: CSU and/or private coll/univ. UC Transfer Credit: Spanish (SPAN) 201, 202 combined with Chicano 203, 204: maximum credit, one series. (CAN SPAN 8) (CAN SPAN SEQ B = SPAN 201 + 202)

202 Fourth Course in Spanish  
5 hours, 5 units
Prerequisite: Spanish 201 with a grade of “C” or better, or equivalent.
Limitation on Enrollment: This course is not open to students with credit for Spanish 200.
This course is offered as an advanced intermediate level course. It reviews and furthers grammatical features in Spanish through oral and written communication within a cultural background. Readings of literary and/or culturally relevant authentic materials are examined in depth. (FT) Transfer Credit:CSU and/or private coll/univ. UC Transfer Credit: Spanish (SPAN) 201, 202 combined with Chicano 203, 204: maximum credit, one series. (CAN SPAN 10) (CAN SPAN SEQ B = SPAN 201 + 202)

210 Conversation and Composition Spanish I  
3 hours, 3 units
Prerequisite: Spanish 102 with a grade of "C" or better, or equivalent.
This course further develops oral comprehension and fluency as well as written communication at a mid-intermediate level in Spanish through culturally relevant materials. Students increase vocabulary, dramatize everyday topics of conversation, interpret and describe materials, and compare and contrast Latin American and Spanish cultures with U.S. culture both orally and in writing. Writing strategies are emphasized and literature is introduced. This course is intended for students who want to enhance their skills in the Spanish language. (FT) Transfer Credit: CSU and/or private coll/univ.; UC.
211 Conversation and Composition Spanish II
3 hours, 3 units

Prerequisite: Spanish 210 with a grade of “C” or better, or equivalent.
This course further develops oral comprehension and fluency as well as written communication at an advanced intermediate level in Spanish through culturally relevant materials. Students further increase vocabulary, dramatize everyday topics of conversation, interpret and describe materials, and compare and contrast Latin American and Spanish cultures with U.S. culture, both orally and in writing. Pre-reading strategies introduced in Spanish 210 are used as a basis upon which to build course emphasis in reading. More literature is introduced. This course is intended for students who want to further enhance their skills in Spanish. (FT) Transfer Credit: CSU and/or private coll/univ.; UC.

290 Independent Study
Hours by Arrangement; 1-3 units

Limitation on Enrollment: Must obtain an Add Code from instructor for registration.
For intermediate students who wish to work on special projects. This course may be taken four times with different content for a maximum of six units. Transfer Credit: CSU and/or private coll/univ.; UC transfer limitations. See a counselor.

296 Individual Instruction in Spanish
1.5 - 6 hours lab, 0.5 - 2 units
Credit/No Credit Only

Limitation on Enrollment: Concurrent enrollment in a designated Spanish course is required. The instructor of the related course will supply Add Code to the student, which permits registration in the course. This is a supplementary course designed to reinforce student achievement of the learning objectives and is offered concurrently with a designated Spanish course. Learning activities may employ a variety of self-paced multimedia systems or laboratory or field research arrangements to assist students in reaching the specific learning objectives in the concurrent Spanish course. Transfer Credit: CSU and/or private coll/univ.

Legal Assistant
(Paralegal)

A joint program with San Diego Miramar College

Description
The Legal Assistant (Paralegal) program prepares students for the Intermediate position between the legal secretary and the attorney. This program provides professional training focusing on occupational competency. The legal assistant performs paralegal tasks in the law firm that include legal research, writing, preparation of document, and other work requiring paralegal skills. Legal assistants additionally interface with clients and may assume some administrative duties. This is not a pre-law program but is rather designed to qualify graduates for employment in law firms, government agencies, corporations and other law-related occupations.

Joint Program
Students can complete the core curriculum for the certificate and/or Associate Degree at City College. The legal specialty courses and electives are to be completed at San Diego Miramar College.

San Diego Miramar College is an American Bar Association approved legal assistant program and offers courses at City College. The courses are designed to give students who choose to work toward an Associate Degree and/or a Certificate of Achievement an opportunity to complete the core classes at City College. Students are encouraged to refer to the San Diego Miramar College catalog and/or consult with an academic advisor or the Program Director for legal assistant.

Program Information

P. Darrel Harrison (619) 388-7892
Program Director at Miramar College and City College

City College Counseling (619) 388-3540
Miramar College Counseling (619) 388-7840
Legal Assistant Core Curriculum

Courses offered at City College

Courses Required for the Major: Units
LEGL 100, Legal Procedures ........................................... 3
LEGL 105, Legal Research ............................................. 3
LEGL 110, Legal Writing & Communications ............. 3
LEGL 115, Civil Litigation I .......................................... 3
LEGL 120, Civil Litigation II ......................................... 3

Total Units = 15

Associate in Science Degree:
Legal Assistant (Paralegal) Joint Program

Courses Required for the Major: Units
Core Curriculum .................................................. 15

Courses to be completed at Miramar College:
Select nine units from the following legal specialty courses:
LEGL 140, 145, 150, 160, 165, 170, 175, 180 .......... 9
Select six to ten units from the following law-related courses:
Administration of Justice 102, 160, 230;
Business 140;
Real Estate 105;
Labor Studies 112*;
Computer Business Technology 221, 222;
Accounting 116A, 120 ........................................ 6-10

Total Units = 30-34

*Offered at City College only.

For graduation requirements see Requirements for the Associate Degree on page 62.

Electives as needed to meet minimum of 60 units required for the degree:
Recommended Elective: Legal Assistant 210, 296.

Certificate of Achievement:
Legal Assistant (Paralegal)

This option is only available to students entering the program who have completed all general education core requirements through coursework received by either an Associates in Arts degree or a Bachelor’s degree. The Certificate of Achievement requires completion of the core courses (15 units), legal specialty courses (9 units) and law related courses (6-10 units).

Courses

Legal Assistant (LEGL)

100 Legal Procedures

3 hours, 3 units
Grade Only

Knowledge and skills required of a legal assistant including: court structure, role of paralegals and introduction to legal writing, case analysis, and legal assistant employment. (FT) Transfer Credit: CSU and/or private coll/univ.

100A Introduction to Paralegalism

1 hour lecture, 1 unit
Grade Only

Limitation on Enrollment: This course is not open to students with previous credit for Legal Assistant 100 or Administration of Justice 105 or Business 180.

Students entering the legal assistant program learn about the paralegal’s role in the workplace and legal system. Topics include the following: introduction to the professional associations, history of the profession, regulation and licensing of paralegals, legal ethics, an overview of the court structure, legal terminology, legal analysis, and an introduction to the legal specialties offered in the program. (FT) Transfer Credit: CSU and/or private coll/univ.

100B Legal Procedures

2 hours lecture, 2 units
Grade Only

Advisory: Legal Assistant 100A with a grade of "C" or better, or equivalent.

Limitation on Enrollment: This course is not open to students with previous credit for Legal Assistant 100 or Administration of Justice 105 or Business 180.

This course provides an overview of various legal specialties offered under the legal assistant program and the job functions performed in them. Topics include an introduction to the litigation process, bankruptcy, family law, contract law, corporate law, estates, trusts and wills, federal court practices and procedures, legal communications, and legal research. Student’s also learn specialized legal terminology. (FT) Transfer Credit:
105 Legal Research  
3 hours lecture, 3 units  
Grade Only

Advisory: Legal Assistant 100B with a grade of "C" or better, or equivalent.

Limitation on Enrollment: This course is not open to students with previous credit for Administration of Justice 107 or Business 181.

This core course introduces students to the basics of legal research. Students receive an overview of the types of research methods used, the primary and secondary sources available, an understanding of official and unofficial opinions, a review of binding and persuasive authority, the Shepard's system of validating cases and statutes, use of internet research, and an introduction to Lexis-Nexis, an online legal research system. (FT) Transfer Credit: CSU and/or private coll/univ.

110 Legal Writing & Communications  
3 hours lecture, 3 units  
Grade Only

Advisory: Completion of or concurrent enrollment in Legal Assistant 105 with a grade of "C" or better, or equivalent.

Limitation on Enrollment: This course is not open to students with previous credit for Administration of Justice 108 or Business 182.

This core course covers legal writing and oral communications. Students receive a thorough examination of case analysis, legal reasoning, brief writing, legal memoranda, reports, and correspondence. They also develop interpersonal skills and learn how to interface with clients. (FT) Transfer Credit: CSU and/or private coll/univ.

115 Civil Litigation I  
3 hours lecture, 3 units  
Grade Only

Advisory: Completion of or concurrent enrollment in Legal Assistant 105 or Legal Assistant 110 with a grade of "C" or better, or equivalent.

Limitation on Enrollment: This course is not open to students with previous credit for Administration of Justice 109 or Business 183.

This core class introduces paralegal students to the civil litigation process. Students learn, analyze, and examine the basic principles of civil procedures as applicable to jurisdiction, venue, and preparation of pleadings in an action by both plaintiffs and defendants in the California court system. (FT) Transfer Credit: CSU and/or private coll/univ.

120 Civil Litigation II  
3 hours lecture, 3 units  
Grade Only

Advisory: Legal Assistant 115 with a grade of "C" or better, or equivalent.

Limitation on Enrollment: This course is not open to students with previous credit for Administration of Justice 110 or Business 184.

This core course continues the study of the litigation process. Students utilize the exercises and legal documents prepared in Legal Assistant 115. Students receive an in-depth analysis of the rules of discovery which is the fact-finding portion of the litigation proceedings, the course emphasizes research and writing as they relate to the process of trial and settlement preparation. (FT) Transfer Credit: CSU and/or private coll/univ.

140 Law Office Management  
3 hours lecture, 3 units  
Grade Only

Advisory: Completion of or concurrent enrollment in Legal Assistant 100B with a grade of "C" or better, or equivalent.

Limitation on Enrollment: This course is not open to students with previous credit for Administration of Justice 111 or Business 185.

This course introduces a legal specialty elective in the Legal Assistant program. Students study systems and procedures for administration and management of a law office. Course emphasizes file management, personnel issues, law library maintenance, computer systems, ordering supplies, financial analysis and billing, risk management, and legal ethics. (FT) Associate Degree Credit.

145 Federal Court Practices and Procedures  
3 hours lecture, 3 units  
Grade Only

Advisory: Legal Assistant 105 with a grade of "C" or better, or equivalent.

Limitation on Enrollment: This course is not open to students with previous credit for Administration of Justice 112 or Business 186.

Students learn about federal court practices including criminal, civil, bankruptcy, and appellate procedures. The course emphasizes rules of practice to help students develop the skills legal assistants utilize in law offices. (FT) Transfer Credit: CSU and/or private coll/univ.
150 Criminal Litigation and Procedure  
3 hours, 3 units  
Grade Only  

Advisory: Legal Assistant 100 with a grade of “C” or better, or equivalent.  
Limitation on Enrollment: This course is not open to students with credit for Administration of Justice 113 or Business 187.  
The criminal court system, criminal investigation and prosecution, discovery and investigation, pretrial motions, trial preparation and procedures, and post-trial motions and relief. This course will provide students with an understanding of criminal litigation practice and procedure. (FT) Transfer Credit: CSU and/or private coll/univ.  

155 Employment Law  
3 hours lecture, 3 units  
Grade Only  

Advisory: Legal Assistant 105 or 110 with a grade of "C" or better, or equivalent.  
This course provides an overview of the legal relationship between employer and employee. It also provides a basic understanding of employment-related laws and the impact those laws have on employers/employees. Students learn about both the federal and state regulatory environment as it applies to employment law. Subjects include pre-employment concerns, legal aspects of the employer/employee relationship, discrimination issues and actions, terminations, and ethical issues in employment law. (FT) Transfer Credit: CSU and/or private coll/univ.  

160 Bankruptcy Law  
3 hours, 3 units  
Grade Only  

Advisory: Completion of or concurrent enrollment in Legal Assistant 105 or Legal Assistant 110 with a grade of "C" or better, or equivalent.  
Limitation on Enrollment: This course is not open to students with previous credit for Business 265: Bankruptcy Law.  
This course is a specialty elective in the Legal Assistant program that focuses on bankruptcy law and procedures. It covers commencement of a case, preparing of schedules, operating and liquidating procedures, adversary matters and litigation in bankruptcy court, and debtors’ and creditors’ rights and obligations. (FT) Transfer Credit: CSU and/or private coll/univ.  

165 Family Law  
3 hours lecture, 3 units  
Grade Only  

Advisory: Completion of or concurrent enrollment in Legal Assistant 100B with a grade of "C" or better, or equivalent.  
Limitation on Enrollment: This course is not open to students with previous credit for Business 265, Family Law.  
This course presents a legal specialty option in the Legal Assistant program. The family law course provides legal assistants exposure to domestic relations law and its application to family situations. The course encompasses formation of the marital relationship, dissolution, child custody and support, adoption, abortion, paternity, and domestic violence. (FT) Transfer Credit: CSU and/or private coll/univ.  

170 Corporate Law  
3 hours, 3 units  
Grade Only  

Advisory: Legal Assistant 100 with a grade of “C” or better, or equivalent.  
Limitation on Enrollment: This course is not open to students with credit for Business 265: Corporate Law.  
This course studies the various forms of business enterprises, including sole proprietorships, partnerships, and corporations. The focus is on the legal steps and forms needed to create, maintain, and dissolve each type of business with an emphasis on corporations. (FT) Transfer Credit: CSU and/or private coll/univ.  

175 Estates, Trusts, and Wills  
3 hours, 3 units  
Grade Only  

Advisory: Legal Assistant 100 with a grade of “C” or better, or equivalent.  
Limitation on Enrollment: This course is not open to students with credit for Business 265: Estates, Trusts, and Wills.  
This course identifies the responsibilities and duties that can be performed by the paralegal under the supervision of the attorney handling an estate. After reviewing the general principles of law and terminology that are basic to an understanding of the field of estate administration, a chronological treatment of the procedural steps required to complete the administration is presented, including current federal and state tax consequences. (FT) Transfer Credit: CSU and/or private coll/univ.
180 Contract Law

3 hours lecture, 3 units
Grade Only

Advisory: Legal Assistant 100 with a grade of “C” or better, or equivalent.
This course in contracts is designed to serve as a specialty requirement in the legal assistant program.
This specialty prepares students with the knowledge and skills for drafting and interpreting different types of contracts including an overview of the elements of a contract, performance and breach issues, defenses to formation and enforcement, contract remedies, and third party contracts. Transfer Credit: CSU and/or private coll/univ.

200 Elder Law

3 hours lecture, 3 units
Grade Only

Advisory: Legal Assistant 105 or Legal Assistant 110 with a grade of "C" or better, or equivalent.
This specialty elective in the Legal Assistant program focuses on legal topics that affect older people. These topics include financial and estate planning, health care, personal planning and protection, and consumer protection. This course benefits students seeking employment in law firms handling elder law and senior care housing facilities. (FT) Transfer Credit: CSU and/or private coll/univ.

This discipline may offer specialized instruction in one or more of the following areas: Supervised Tutoring (044), Special Topics (265), Independent Study (290), Individualized Instruction (296), Service Learning (277), Applied Applications and Software Skills (045L), or Work Experience (270).
Detailed course descriptions are listed on page 94. Please refer to the class schedule and/or see the dean or department chair for availability.

Liberal Arts

Designed for students who wish a broad knowledge of liberal arts. This flexible major can be taken by students who wish to earn a general associate degree. It is also appropriate for transfer students. Those planning to transfer to a four-year institution should consult a counselor.

Caution: Because admission and major preparation requirements vary at each UC, CSU, and private institution, it is strongly advised that students meet with a counselor to determine the specific admissions and major preparation requirements of the selected transfer institution.

Associate in Arts Degree: Liberal Arts

Option I Units

Courses Required for the Major: 39-40
The student will select courses that conform to the CSU General Education area requirements. Refer to page 73 of this catalog.

Option II Units

Courses Required for the Major: 34-38
The student will select the core general education courses that conform to the SDCCD-UCSD Transfer Admission Guarantee (TAG) agreement. Courses taken under this agreement are guaranteed to apply toward the completion of college general education requirements at UCSD.

The core requirements for general education are one year of a transferable sequence in the following areas: (a) writing, (b) the humanities, (c) the social sciences, (d) foreign language, and (e) mathematics or a natural science. For more information, see a counselor.

Option III Units

Courses Required for the Major: 37-40
The student will select courses that conform to the Intersegmental General Education Transfer Curriculum
(IGETC) area requirements. For specific information, see a counselor.

Transfer Information
Students planning to transfer to a four-year college or university should complete courses required for the university major and the general education pattern required by that transfer institution. See catalog TRANSFER INFORMATION section. Additional courses may be required to meet university lower-division requirements. Course requirements at the transfer institution are subject to change and may be verified by a counselor or by consulting the current university catalog. Many Baccalaureate in Arts degrees require third semester competency in a foreign language. Consult the current catalog of the transfer institution and consult with a counselor.

Liberal Arts, Option III
with an Emphasis in Global/International Studies:

Description
The Liberal Arts program with an Emphasis in Global/International Studies degree is designed to provide students with information about how the global/international system operates and to prepare them with the necessary knowledge and skills to live and work successfully in an ever changing world.

Program Emphasis
The program provides the student with the transfer major courses that contain global/international components. Many of the courses will also meet District and baccalaureate general education and multicultural requirements.

Faculty

<table>
<thead>
<tr>
<th>Name</th>
<th>Office</th>
<th>Telephone</th>
</tr>
</thead>
<tbody>
<tr>
<td>Steve Bouscaren</td>
<td>A-1(S)</td>
<td>(619) 230-2609</td>
</tr>
<tr>
<td>Myles Clowers</td>
<td>A-1(Q)</td>
<td>(619) 230-2575</td>
</tr>
<tr>
<td>Pamela Perkins</td>
<td>C-225(A)</td>
<td>(619) 230-2611</td>
</tr>
<tr>
<td>Hope Shaw</td>
<td>C-122(D)</td>
<td>(619) 230-2481</td>
</tr>
<tr>
<td>Jose Soler-Tossas</td>
<td>A-1(B)</td>
<td>(619) 230-2590</td>
</tr>
</tbody>
</table>

Career Options
Most career options in global/international studies require education beyond the associate degree and some require a graduate degree. While the following list is not comprehensive, some of the common career opportunities would include foreign service, international business, governmental relations, public affairs, international trade and commerce, international civil service, both non-government and governmental organizations, language specialty and interpretation, and international advocacy and consultation.

Academic Programs
The Liberal Arts with an Emphasis in Global/International Studies degree provides basic lower division courses that prepare for transfer to university programs and also provide an introduction to cultural, international and global concepts for occupations requiring interaction with other cultures and/or global areas and for retraining for international positions.

Liberal Arts, Option III:

Degree Emphasis: Global/International Studies

Courses Required for the Major Units
The student will select courses that conform to the Intersegmental General Education Transfer Curriculum (IGETC) area requirements. For specific information, see a counselor 37-40

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>ANTH 103, Cultural Anthropology</td>
<td>3</td>
</tr>
<tr>
<td>ECON 120, Principles of Economics</td>
<td>3</td>
</tr>
<tr>
<td>GEOG 102, Cultural Geography</td>
<td>3</td>
</tr>
<tr>
<td>POLI 140, International Relations</td>
<td>3</td>
</tr>
<tr>
<td>SPEE 180, Intercultural Communication</td>
<td>3</td>
</tr>
<tr>
<td>2 semesters of a language*</td>
<td>10</td>
</tr>
</tbody>
</table>

Total Units = 62-65

*See preparation for specific baccalaureate degree. For other graduation requirements see Requirements for the Associate Degree on page 62.

Electives as needed to meet minimum of 60 units required for the degree:

Recommended electives: Computer competence, Fluency in a second language, Business 119; English 101 or 105; Biology 101 or 120; one lower division transfer course in Arts and Humanities; Psychology 101, and one lower division transfer course in the social sciences that relates to the language/cultural area of interest.

Transfer Information
Students planning to transfer to a four-year college or university should complete courses required for the university major and the general education pattern required by that transfer institution. See catalog TRANSFER INFORMATION section. Additional courses may be required to meet university lower division requirements. Course requirements at the transfer institution are subject to change and may be verified by a counselor or by consulting the current university catalog. Many Baccalaureate in Arts degrees require...
third semester competency in a foreign language. Consult the current catalog of the transfer institution and consult with a counselor.

- San Diego State University

  Latin American Studies, B.A.: Spanish 101, 102, 201, 202, 210, 211; twelve units from Anthropology 103, Economics 120, 121, Geography 102, History 115A, 115B, Political Science 101, 103.

  Social Science, Emphasis in Africa and the Middle East, B.A.: History 100, 101; six units from Anthropology 103, Economics 120, 121, English 220, 221, Geography 101, 102.

- National University, San Diego

  International Relations, B.A.: See a counselor for lower division preparation for this degree program.

Teacher Education Preparation

At the time of catalog print, these programs were in the process of being revised. Students should check with the counseling Department or Transfer Center for current information.

LIBRARY SCIENCE (LIBS)

101 Information Literacy and Research Skills

1 hour lecture, 1 unit

Advisory: English 51 or English 56, each with a grade of “C” or better, or equivalent, or Assessment Skill Level W5 or R5.

This course is an overview of information resources and the skills required to use them effectively. Through lectures, hands-on assignments, and other methods, students learn how to use library resources such as electronic indexes and databases, online services, and the Internet as well as develop strategies for conducting research. This course is intended for students who wish to acquire skills that enable them to find information for academic research, career demands, and/or lifelong learning. (FT) Transfer Credit: CSU and/or private coll/univ.

This discipline may offer specialized instruction in one or more of the following areas: Supervised Tutoring (044), Special Topics (265), Independent Study (290), Individualized Instruction (295), Service Learning (277), Applied Applications and Software Skills (045L), or Work Experience (270). Detailed course descriptions are listed on page 94. Please refer to the class schedule and/or see the dean or department chair for availability.
Machine Technology

Description
The Machine Technology program offers a variety of instruction in the process of modern manufacturing. Emphasis is placed on CAD/CAM and C.N.C. technology.

Program Emphasis
The Machine Technology program prepares students for C.N.C. machining and is also ideal for students who need to upgrade prior machine shop training to comply with the current needs of industry.

Faculty Office Telephone
John Bollinger A-107D (619) 388-3373

Career Options
CAD/CAM technician, C.N.C. machining technician

Academic Programs
The certificates of completion and achievement and the associate degrees in Machine Technology require completion of the courses listed below.

Certificate of Completion:
C.N.C. Technology Option*

<table>
<thead>
<tr>
<th>Courses</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>MACT 140, Basic Principles for Machine Technology</td>
<td>4</td>
</tr>
<tr>
<td>MACT 150, Introduction to CNC &amp; EDM</td>
<td>4</td>
</tr>
<tr>
<td>MACT 151, Introduction to CNC Verification &amp; Communication</td>
<td>4</td>
</tr>
<tr>
<td>MACT 160, Introduction to CAD/CAM</td>
<td>4</td>
</tr>
<tr>
<td>Total Units = 16</td>
<td></td>
</tr>
</tbody>
</table>

*This is a department award in recognition of information on the transcript and does not imply that a graduation requirement has been met.

Certificate of Achievement:
C.N.C. Technology Option

Courses Required for the Major: Units
Complete requirements for Certificate of Completion, C.N.C. Operator Option..................................................16
and, in addition, complete:
MACT 151, Introduction to C.N.C Verification & Communication.................................................. 4
MACT 160, Introduction to CAD/CAM................................. 4
Total Units = 24

Certificate of Achievement:
Computer Aided Manufacturing Option

Courses Required for the Major: Units
Complete all requirements for Certificate of Achievement, C.N.C. Technology Option...........24
and, in addition, complete:
MACT 161, Applications of CAD/CAM I.............................. 2
MACT 162, Applications of CAD/CAM II............................ 2
MACT 180, Advanced CAD/CAM........................................ 4
MACT 181, Applications of Advanced CAD/CAM I.................. 2
MACT 182, Applications of Advanced CAD/CAM II................. 2
Total Units = 36

Associate in Science Degree:
Computerized Numerical Control

An Associate in Science Degree may be earned in Computerized Numerical Control. Complete the Computer Aided Manufacturing Option Certificate of Achievement as specified above (36 units). Recommended electives: Machine Technology 290. Additional general education and graduation requirements for the associate degree are listed in the catalog ACADEMIC REQUIREMENTS section. The associate degree requires a minimum of 60 units.
Courses

Machine Technology (MACT)

140 Machine Technology
3 hours lecture, 3 hours lab, 4 units
Grade Only
Advisory: English 51 and English 56, each with a grade of "C" or better, or equivalent, or Assessment Skill Levels W5 and R5; and completion of or concurrent enrollment in Mathematics 095 with a grade of "C" or better, or equivalent, or Assessment Skill Level M40.
This course is an introduction to the Machine Technology field. Emphasis is placed on safety, measurements, common formulas, machining applications, drawings, and career opportunities in the field. This course is designed for students planning to major in the occupational field of machine technology. (FT) Transfer Credit: CSU and/or private coll/univ.

150 Introduction to Computer Numerical Control (CNC) and Electrical Discharge Machining (EDM)
3 hours lecture, 3 hours lab, 4 units
Grade Only
Advisory: English 51 and 56; and Mathematics 95, each with a grade of "C" or better, or equivalent, or Assessment Skill Levels W5 and R5 and M40.
This course is a study of advanced machining techniques including numerically controlled mills and lathes and electro-discharging machining. Emphasis is placed on introducing the student to Computer Numerical Control (CNC) programming using "G" and "M" codes. This course is designed for students majoring in Machine Technology and with previous machine laboratory experience. (FT) Transfer Credit: CSU and/or private coll/univ.

160 Introduction to CAD/CAM
3 hours lecture, 3 hours lab, 4 units
Grade Only
This course provides an introduction to CAD/CAM theory and software applications. The emphasis of this course will be on the generation of CNC programs, at a basic level, for both CNC Mill, and CNC Lathe. (FT) Associate Degree Credit.

161 Applications of CAD/CAM I
6 hours lab, 2 units
Grade Only
This course includes exercises in CAD/CAM at an intermediate level to increase students' efficiency and quality of work on the generation of CNC programs, at an intermediate level, for both CNC Mill and CNC Lathe. (FT) Associate Degree Credit.

162 Applications of CAD/CAM II
6 hours lab, 2 units
Grade Only
This course includes exercises in CAD/CAM at an advanced level to increase students' efficiency and quality of work on the generation of CNC programs, at an advanced level, for both CNC Mill and CNC Lathe. (FT) Associate Degree Credit.

170 Introduction to CNC Controlled Vertical Machining & Electrical Discharge Machining (EDM)
3 hours lecture, 3 hours lab, 4 units
Grade Only
This course introduces the theory of CNC Vertical Machining techniques. An emphasis will be placed on basic operations of Vertical Machining, and EDM. (FT) Associate Degree Credit.

171 Application of CNC Controlled Vertical and Electrical Discharge Machining (EDM) I
6 hour lab, 2 units
Grade Only
This course includes exercises in CNC Vertical Machining techniques and EDM at an intermediate level. This course enables students to gain speed and efficiency in a hands on environment. (FT) Associate Degree Credit.

172 Application of CNC Controlled Vertical Machining & Electrical Discharge Machining (EDM) II
6 hour lab, 2 units
Grade Only
This course includes exercises in CNC Vertical Machining techniques and EDM at an advanced level. This course enables students to gain speed and efficiency in a hands on environment. (FT) Associate Degree Credit.
180 Advanced CAD/CAM
3 hours lecture, 3 hours lab, 4 units
Advanced CAD/CAM theory and software. The emphasis will be on the generation of CNC programs, at an advanced level, for both CNC Mill and CNC Lathe. (FT) Transfer Credit: CSU and/or private coll/univ.

181 Application in Advanced CAD/CAM I
6 hours lab, 2 units
Grade Only
This course includes exercises in CAD/CAM theory and software at an intermediate level. This course will emphasize the generation of CNC programs, at an intermediate level, for both CNC Mill and CNC Lathe. This course is designed to allow the student the opportunity to improve efficiency in the application of intermediate CAD/CAM. (FT) Associate Degree Credit.

182 Application in Advanced CAD/CAM II
6 hour lab, 2 units
Grade Only
This course will include exercises in CAD/CAM theory and software at an advanced level. This course will emphasize the generation of CNC programs, at an advanced level, for both CNC Mill, and CNC Lathe. This class is designed to allow the student the opportunity to improve efficiency in the application of advanced CAD/CAM. (FT) Associate Degree Credit.

290 Independent Study in Machine Technology
Hours by Arrangement, 1 - 3 units
Grade Only
Limitation on Enrollment: Must obtain an Add Code from instructor for registration.
For advanced students in machine technology who wish to pursue problems and projects relating to their particular subject area. The student meets with the instructor at specific intervals and is expected to do primary research, analyze problems and submit reports. This course may be taken four times with different content for a maximum of six units. (FT) Transfer Credit: CSU and/or private coll/univ.
This discipline may offer specialized instruction in one or more of the following areas: Supervised Tutoring (044), Special Topics (265), Independent Study (290), Individualized Instruction (296), Service Learning (277), Applied Applications and Software Skills (045L), or Work Experience (270).
Detailed course descriptions are listed on page 94. Please refer to the class schedule and/or see the dean or department chair for availability.

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**Manufacturing Technology**

**Description**
Manufacturing Technology is the accepted terminology for education programs designed to prepare industrial technicians. It is a technological field which requires the application of technical skills in support of today's modern manufacturing technology. The education of technologists tends to be less theoretical and less mathematical than that of engineers, but is more hardware and application oriented. Technologists usually deal with the various components of a system designed and developed by engineers. Students in the Manufacturing Technology program will benefit by having access to a state-of-the-art manufacturing technology center that is at the cutting edge of modern technologies, thereby enhancing their career choices.

**Faculty Office Telephone**
Farnaz Khoromi A-107B (619) 388-3527

**Career Options**
Manufacturing technician, production systems technician, logistics technician.

**Academic Programs**
The Manufacturing Technology, Automated Equipment Technology Certificate of Achievement, requires completion of the courses listed below.

**Certificate of Achievement: Manufacturing Technology**

**Automated Equipment Technology Option**

<table>
<thead>
<tr>
<th>Courses Required for the Major</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>MAFG 102, Print Reading &amp; Symbology</td>
<td>3</td>
</tr>
<tr>
<td>MAFG 106, Manufacturing Processes</td>
<td>4</td>
</tr>
<tr>
<td>MAFG 111, Industrial Programming Theory</td>
<td>3</td>
</tr>
<tr>
<td>MAFG 200, Industrial Electronics/Electricity</td>
<td>4</td>
</tr>
<tr>
<td>MAFG 205, Motion Control &amp; Servo Systems</td>
<td>4</td>
</tr>
<tr>
<td>MAFG 210, Fluid Power Technology</td>
<td>3</td>
</tr>
<tr>
<td>MAFG 215, Programmable Logic Controllers</td>
<td>3</td>
</tr>
<tr>
<td>MAFG 220, Industrial Machine Technology</td>
<td>3</td>
</tr>
<tr>
<td>MAFG 225, Flexible Manufacturing Systems/Robotics</td>
<td>4</td>
</tr>
<tr>
<td><strong>Total Units = 31</strong></td>
<td></td>
</tr>
</tbody>
</table>
Associate in Science Degree: Manufacturing Technology

Automated Equipment Technology Option

Complete the courses listed for the Certificate of Achievement, Manufacturing Technology, Automated Equipment Technology Option.

Additional general education and graduation requirements for the associate degree are listed in the catalog ACADEMIC REQUIREMENTS section. The associate degree requires a minimum of 60 units.

Recommended electives: Machine Technology 151; Manufacturing Technology 100, 115, 270, 290; courses in Chemistry, Mathematics and Physics.

Courses

Manufacturing Technology (MAFG)

100 Manufacturing Metrics and Calculations

3 hours, 3 units

Grade Only

This course covers basic applications of mathematical concepts required for effective performance as an automation technician or machine technologist in the machine tool industry. Problem examples will be taken from machines and equipment that are typically found in the modern industrial manufacturing facility. (FT) Associate Degree credit.

102 Print Reading and Symbology

3 hours, 3 units

Grade Only

Limitation on Enrollment: This course is not open to students with credit for Manufacturing Technology 265: Blueprint Reading for Technicians. This course involves the study of the types of symbols and engineering notations used for mechanical, electrical, electronic, hydraulic, and pneumatic drawings. Representative drawings will be used to demonstrate concepts and practice in interpreting the symbols and notations. Students will view and handle typical parts represented by the symbols. (FT) Associate Degree credit.

106 Manufacturing Processes

3 hours lecture, 3 hours lab, 4 units

Grade Only

Limitation on Enrollment: This course is not open to students with credit for Manufacturing Technology 265: Physics of Machines and Processes. This course is a survey of physical and chemical processes used to manufacture products. This course is designed to provide students who plan to pursue a career in automated manufacturing with the skills that will enable the student to test automated manufacturing processes and to encourage the further pursuit of training in physics and chemistry. The course will explore the principles of physics and chemistry that underlie technologies used to manufacture products in industry, such as machine technology, vacuum technology, heat treating technology, hydraulic and pneumatic technology and electro-chemical manufacturing processes. The student will employ formulas and the New Metric (S.I.) (mks) system of measurement to solve problems relating to industrial processes. (FT) Associate Degree Credit.

111 Industrial Programming Theory

3 hours, 3 units

Grade Only

This course covers the basic digital mathematical concepts required for effective performance as an automation technician or machine technologist in the computerized machine tool industry. This course will include examples taken from computers or microprocessor systems that are typically found in the modern industrial manufacturing facility, such as industrial computers, programmable logic controllers, and microprocessor based control systems. (FT) Associate Degree Credit.

115 Properties of Materials for Technicians

3 hours lecture, 3 units

Grade Only

Advisory: English 43 and English 42 and Mathematics 35, each with a grade of “C” or better, or equivalent or Assessment Skill Levels W4, R4, and M30.

This course provides instruction on the origin, properties, characteristics and uses of metallic industrial materials. The course emphasizes the processes and tests used with metallic industrial materials during the manufacturing cycle. This course is fundamental for manufacturing technology students and students participating in industrial apprenticeship programs. (FT) Associate Degree Credit.
200 Industrial Electronics/Electricity
2 hours lecture, 6 hours lab, 4 units
Grade Only
Through the use of hands-on experimentation and classroom lectures, the principles of operation of common electronic/electrical components are introduced. This course includes Ohm's law, component testing, and the use of test equipment. It also includes the theory of operation of various components such as switches, relays, transformers, motors, sensors, and diodes. (FT) Associate Degree Credit.

205 Motion Control/Servo Systems
2 hours lecture, 6 hours lab, 4 units
Grade Only
This course involves the study of the types of control circuits used to control industrial equipment, including motor, process, and hydraulic controls. In addition, this course includes the types of feedback systems employed in control systems and their theory of operation. An emphasis will be placed upon closed loop servo systems and their theory of operation. The students will experience hands-on interaction with these control systems through laboratory experiments. (FT) Associate Degree Credit.

210 Fluid Power Technology
2 hours lecture, 3 hours lab, 3 units
Grade Only
This course will investigate the basic principles of hydraulics and pneumatics through the use of hands-on experiments and classroom lectures. In addition, this course will explore various hydraulic and pneumatic systems, circuits, components, and applications. (FT) Associate Degree Credit.

215 Programmable Logic Controllers
2 hours lecture, 3 hours lab, 3 units
Grade Only
The study of concepts associated with the operation, construction, interfacing, and programming of programmable logic controllers. The student will explore the relationship between symbolic reasoning using Boolean concepts and the solution of control problems in modern industrial equipment. In addition, the student will conduct experiments with digital circuits to understand digital logic concepts. This course includes hands-on laboratory experiences in constructing, operating, configuring, and programming programmable logic controllers. (FT) Associate Degree Credit.

220 Industrial Machine Technology
2 hours lecture, 3 hours lab, 3 units
Grade Only
A survey course designed to provide the student with an overview of typical machine shop operations and an introduction to welding technology. (FT) Associate Degree Credit.

225 Flexible Manufacturing Systems/Robotics
2 hours lecture, 6 hours lab, 4 units
Grade Only
This course covers the design, installation, operation, maintenance, and record-keeping of a Flexible Manufacturing System. The role of robots in flexible manufacturing is included, along with the theory and programming of these robots. In the laboratory, the student will learn to assemble, interface, troubleshoot, and repair various automated equipment and robots during the construction of a flexible manufacturing cell. (FT) Associate Degree Credit.

290 Independent Study
Hours by Arrangement; 1-3 units
Grade Only
Limitation on Enrollment: Must obtain an Add Code from instructor for registration. For advanced students who wish to pursue special projects associated with Manufacturing Technology. The student meets with the instructor at specific intervals and is expected to do primary research, analyze problems and submit reports. This course may be taken four times with different content for a maximum of six units. (FT) Associate Degree Credit.

This discipline may offer specialized instruction in one or more of the following areas: Supervised Tutoring (044), Special Topics (265), Independent Study (290), Individualized Instruction (296), Service Learning (277), Applied Applications and Software Skills (045L), or Work Experience (270). Detailed course descriptions are listed on page 94. Please refer to the class schedule and/or see the dean or department chair for availability.
Mathematics

Description
Mathematics is the study of numbers, structures, and associated relationships using rigorously defined literal, numerical and operational symbols. Given certain conditions about systems of numbers or other structures mathematicians derive conclusions based on logical arguments. Basic mathematical skills enable a person to solve numerical problems encountered in daily life, and more advanced skills have numerous applications in the physical, social and life sciences.

Program Emphasis
The mathematics curriculum includes courses that range from basic skills through differential equations. The basic skills and associate degree level courses provide students with the mathematical preparation necessary for study in other disciplines, as well as for degree and transfer requirements. Successful completion of a mathematics degree will develop competence in mathematics through differential and integral calculus, providing an adequate background for employment in many technological and scientific areas. Furthermore, it provides a firm foundation for students planning to study mathematics, engineering, economics, computer science, physical, or life sciences.

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Debra Church M-107 (619) 388-3364
Theresa Gallo M-109 (619) 388-3350
Carlos de la Lama M-211 (619) 388-3362
David Kater M-106 (619) 388-3442
Miriam Keesey SDSU (619) 594-2696
Hoat Le M-110 (619) 388-3639
Kristen Lolls M-107 (619) 388-3251
James H. Long M-111 (619) 388-3352
Jim Mahler M-111 (619) 388-3640
Carl V. Miller M-109 (619) 388-3638
James D. Nulton M-108 (619) 388-3637
Manfred C. Smith M-208 (619) 388-3355
Yu-Hua A. Sun M-107 (619) 388-3646
Carolyn R. Thomas M-211 (619) 388-3363
John Witt C-225E (619) 388-3693
Mathematics Center T-208 (619) 388-3580

Career Options
Most of these occupations require education beyond the associate degree, and some may require a graduate degree. The following list is not intended as a comprehensive list of career options in mathematics: actuary, appraiser, assessor, auditor, biometrician, budget analyst, controller, computer analyst, computer programmer, demographer, econometrician, engineering analyst, epidemiologist, financial analyst, investment analyst, management scientist, operations researcher, research mathematician, statistician, surveyor, systems analyst, teacher, technical writer, and urban planner.

Academic Programs
The associate degree in Mathematics requires completion of the courses listed below. Additional general education and graduation requirements for the associate degree are listed in the catalog. The associate degree requires a minimum of 60 units.

Associate in Arts Degree: Mathematics

Courses Required for the Major: Units
MATH 150, Calculus & Analytical Geometry I ........... 5
MATH 151, Calculus & Analytical Geometry II .......... 4
MATH 245, Discrete Mathematics .................. 3
MATH 252, Calculus & Analytical Geometry III ....... 4
MATH 254, Introduction to Linear Algebra ............ 3

Select three-four units from:
MATH 107, 107L, Introduction to Scientific Programming and Lab,
MATH 119, Elementary Statistics
MATH 255, Differential Equations (for University of California transfer)
PHIL 101, Symbolic Logic .................................. 3-4

Total Units = 22-23


Courses offered in Support of Other Majors:
Mathematics 90, 91, 95, 96.

Associate in Arts Degree: Applied Mathematics

Courses Required for the Major: Units
MATH 107, 107L, Introduction to Scientific Programming & Lab ........................................... 3,1
MATH 108, 108L, Intermediate Scientific Programming & Lab ........................................... 3,1
MATH 150, Calculus & Analytical Geometry I............ 5
MATH 151, Calculus & Analytical Geometry II .......... 4
MATH 237, 237L, Machine & Assembly Language
   & Lab..................................................3,1
MATH 245, Discrete Mathematics .......................... 3
MATH 252, Calculus & Analytical Geometry III ........ 4
MATH 254, Introduction to Linear Algebra............... 3

Total Units = 31

Recommended electives: Mathematics 104, 116, 118,
                        119, 121, 122, 141, 150L, 210A,B, 255, 290, 296.

Transfer Information
Students planning to transfer to a four-year college or
university should complete courses required for the
university major and the general education pattern
required by that transfer institution. See catalog
TRANSFER INFORMATION section. Additional courses
may be required to meet university lower-division
requirements. Course requirements at the transfer
institution are subject to change and may be verified
by a counselor or by consulting the current university
catalog. Many Baccalaureate in Arts degrees
require third semester competency in a foreign
language. Consult the current catalog of the
transfer institution and consult with a counselor.

San Diego State University
Mathematics, B.A.: Mathematics 107, 107L, 150, 151,
   245, 252, 254. Recommended: Physics 195A, B, C.
   Third semester Foreign language competency.
Mathematics, Single Subject Teaching
   Credential, B.A.: Mathematics 107, 107L, 150,
   151, 245, 252, 254. Recommended: Physics 195A,
   B, C. Foreign language competency.

University of California, San Diego
Mathematics, B.A.: Mathematics 150, 151, 252, 254,
   255.
Mathematics, Computer Science, B.A.: Mathematics
   150, 151, 237, 237L, 252, 254, 255; Computer and
   Information Sciences 190.
Mathematics/Secondary Education B.A.: Mathematics
   150, 151, 252, 254, 255; Engineering 115 (Mesa)
   or Computer and Information Sciences 192 or
   Computer and Information Sciences 190.

Courses
Mathematics (MATH)

Basic Skills Courses
All courses at this level are offered for college credit.
Credit for these courses will not apply toward the
associate degree but will count toward the
determination of a student's workload and eligibility for
financial aid.

32 Fundamentals of Mathematics
   5 hours, 5 units
It is recommended that students take the Mathematics
Assessment Test prior to enrollment. This course
emphasizes fundamental concepts in arithmetic and
their applications. Topics will include: whole numbers,
prime numbers, fractions, decimals, and percents.
Credit for this course will not apply to the associate
degree.

35 Prealgebra
   3 hours, 3 units
Advisory: Mathematics 32 with a grade of “C” or better,
or equivalent, or Assessment Skill Level M20.
The concepts in arithmetic, measurement, geometry,
and introductory algebra needed to succeed in
Mathematics 95. The calculator will be used as a tool
for problem-solving. Credit for this course will not
apply to the associate degree.

Associate Degree Credit Courses

90 Fundamentals of Mathematics
   3 hours lecture, 3 units
Credit/No Credit Only

Limitation on Enrollment: This course is not open to
students with previous credit for Mathematics 54 or 95.
This course is intended for students who have not
passed the California State University Entry-Level
Mathematics Examination (ELM). This course reviews
arithmetic and geometric concepts, and covers topics in
elementary algebra including operations with
polynomials, factoring, rational expressions,
expressions involving radicals, solving non-linear
equations, graphing linear equations, and solving linear
systems of equations in two variables.
Associate Degree Credit
91 Algebra for Math Placement
3 hours lecture, 3 units
Credit/No Credit Only
Advisory: Mathematics 90 with a grade of "C" or better, or equivalent.
Limitation on Enrollment: The course is not open to students with previous credit for Mathematics 96 or Mathematics 100.
This course is a continuation of Mathematics 90 and is intended for those students who have not passed the California State University Entry-Level Mathematics Examination (ELM). This course is designed to prepare students for college algebra and consists of a review of intermediate algebra concepts. Topics for the class include set and function notation, simplifications and solutions to equations involving rational and radical expressions, quadratic equations and functions, complex numbers, exponential and logarithmic functions and applications. Associate Degree Credit

95 Elementary Algebra and Geometry
5 hours lecture, 5 units
Prerequisite: Mathematics 35 with a grade of "C" or better, or equivalent, or Assessment Skill Level M30.
Advisory: English 43 and English 42, each with a grade of "C" or better, or equivalent or Assessment Skill Levels W4 and R4.
Limitation on Enrollment: This course is not open to students with credit for Mathematics 54 or 54A & 54B.
Elementary algebra serves as the foundation for the other math courses and is the first of a two-semester integrated sequence in algebra and geometry. This course covers the real number system; the writing, simplifying, solving and graphing of linear equations and inequalities; operations with polynomial functions; and an introduction to rational expressions and the properties of lines, angles, and triangles. (FT) Associate Degree Credit

96 Intermediate Algebra and Geometry
5 hours lecture, 5 units
Prerequisite: Mathematics 95 with a grade of “C” or better, or equivalent, or Assessment Skill Level M40.
Advisory: English 43 and 56, each with a grade of “C” or better, or equivalent, or Assessment Skill Level W4 and R5.
This course replaces Mathematics 100 and will be offered starting with the spring 2000 term. Intermediate Algebra and Geometry serves as the foundation for the other math courses and is the second of a two-semester integrated sequence in algebra and geometry. This course covers rational, radicals, and quadratic equations; conic sections; systems of equations and inequalities; exponential and logarithmic functions; sequences and series; solid geometry; and an introduction to trigonometric functions. The course will also include application problems involving the topics covered. This course is the prerequisite for all transferable mathematics courses. (FT) Associate Degree Credit.

Transfer Level Courses

104 Trigonometry
3 hours, 3 units
Grade Only
Prerequisite: Mathematics 96 with a grade of "C" or better, or equivalent, or Assessment Skill Level M50.
This course is a study of the numerical, analytical, and geometric properties of right and oblique triangles, of trigonometric and inverse trigonometric functions, and their applications. The course content includes right angle trigonometry, radian measure, circular functions, graphs of circular functions and their inverses, trigonometric identities, equations involving trigonometric and inverse trigonometric functions, an introduction of the complex plane, vectors and their operations, and the trigonometric form of complex numbers. This course is designed as a preparation for calculus and it is intended for the transfer student planning to major in mathematics, engineering, economics, or disciplines included in the physical or life sciences. This course meets CSU general education requirements. (FT) Transfer Credit: CSU and/or private coll/univ. (CAN MATH 8)

106 Introduction to Boolean Algebra
1 hour, 1 unit
Prerequisite: Mathematics 96 with a grade of "C" or better, or equivalent, or Assessment Skill Level M50.
This course covers Boolean algebra as it applies in general to sets and logical propositions as well as an introduction to modern applications. This course is designed to give students in a broad variety of majors a classical background in mathematical logic including computer logic circuits. It is strongly recommended for math, engineering, and computer science majors (FT) Transfer Credit: CSU and/or private coll/univ.

107 Introduction to Scientific Programming
3 hours, 3 units
Prerequisite: Mathematics 96 with a grade of "C" or better, or equivalent, or Assessment Skill Level M50.
Corequisite: Mathematics 107L.
Advisory: English 56 with a grade of “C” or better, or equivalent, or Assessment Skill Level R5.
This course is an introduction to mathematical and scientific problem-solving on a computer; focusing on
designing algorithms of a high level programming language. Extensive programming is required. Students are expected to plan and write programming projects with documentation. This course is recommended for students transferring to majors in Computer Science and/or mathematics. (FT) Transfer Credit: CSU and/or private coll/univ. UC Transfer Credit: Mathematics 107 combined with Computer and Information Sciences 185: maximum credit, one course.

107L Introduction to Scientific Programming Lab

Corequisite: Mathematics 107.
This is a lab course to be taken concurrently with Mathematics 107. Extensive programming is required. Students are expected to plan and write programming projects with documentation. This course is recommended for students transferring to majors in Computer Science and/or mathematics. (FT) Transfer Credit: CSU and/or private coll/univ.

108 Intermediate Scientific Programming

Prerequisite: Mathematics 107 with a grade of "C" or better, or equivalent.
Advisory: Concurrent enrollment in Mathematics 108L. This course provides further training in program design and development, especially with regard to large projects. Advanced techniques in programming are studied along with basic data structures and algorithms. Problem-solving techniques in the fields of engineering, mathematics, and the sciences are covered. (FT) Transfer Credit: CSU and/or private coll/univ.; UC transfer limitations. See a counselor.

108L Intermediate Scientific Programming Lab

Corequisite: Mathematics 108.
This is a lab course open only to those concurrently enrolled in Mathematics 108. Extensive programming is required. (FT) Transfer Credit: CSU and/or private coll/univ.

116 College and Matrix Algebra

Prerequisite: Mathematics 96 with a grade of "C" or better, or equivalent, or Assessment Skill Level M50. Advisory: English 56 each with a grade of "C" or better, or equivalent, or Assessment Skill Levels W6 and R6. This course is designed to strengthen the algebra skills of students seeking Business or Natural Science degrees that are required to take an applied calculus course. Topics in the course include the theory of functions; graphing functions; exponential and logarithmic functions; solving equations involving algebraic, exponential and logarithmic functions; solving systems of linear equations, matrix algebra, linear programming, modeling, and applications problems. Analytical reading and problem solving are required for success in this course. (FT) Transfer Credit: CSU and/or private coll/univ. UC Transfer Credit: Mathematics (MATH) 116 and 141 combined: maximum credit, four units. (CAN MATH 10)

118 A Survey of Modern Mathematics

Prerequisite: Mathematics 96 with a grade of "C" or better, or equivalent, or Assessment Skill Level M50. Advisory: English 101 with a grade of "C" or better, or equivalent or Assessment Skill Levels W6 and R6. This course covers topics in probability, statistics, logical reasoning, quantitative literacy, the history of mathematics, and applications of mathematics to the real world. This is a general education course designed for students who do not intend to prepare for a career in science or business. Analytical reading and problem solving are required for success in this course. Transfer Credit: CSU and/or private coll/univ. (CAN MATH 2)

119 Elementary Statistics

Prerequisite: Mathematics 96 with a grade of "C" or better, or equivalent, or Assessment Skill Level M50. This course covers descriptive and inferential statistics. The descriptive portion analyzes data through graphs, measures of central tendency and spread. Other statistical practices utilize basic probability, binomial and normal distributions, estimation of population parameters, hypothesis testing, linear regression and correlation. Analytical reading and problem solving are required for success in this course. This course meets district G.E. requirements. (FT) Transfer Credit: CSU and/or private coll/univ. UC Transfer Credit: Mathematics (MATH) 119 combined with Biology 200 or Psychology 258: maximum credit, one course. (CAN STAT 2)

121 Basic Techniques of Applied Calculus I

Prerequisite: Mathematics 116 with a grade of "C" or better, or equivalent. This is a course designed for students intending to major in business, natural science or social science. It does not fulfill a mathematics requirement for students majoring in mathematics, chemistry, physics or engineering. This course combines the study of algebra, analytic geometry, and calculus using numerical,
graphical, and analytical methods to analyze calculus problems encountered in real world applications. Topics include limits, derivatives, and integrals of algebraic, exponential and logarithmic functions. Also covered are functions of several variables, partial derivatives, and optimization of multivariable functions. Applications of calculus include curve sketching, optimization, and areas under curves. Analytical reading and problem solving are required for success in this course. (FT)
Transfer Credit: CSU and/or private coll/univ. UC Transfer Credit: Mathematics (MATH) 121 and 150 combined: maximum credit, one course. (CAN MATH 30) (CAN MATH SEQ D = MATH 121 + 122)

122 Basic Techniques of Calculus II
3 hours, 3 units

Prerequisite: Mathematics 121 with a grade of “C” or better, or equivalent.
In this continuation of Mathematics 121, students intending to major in business, natural science, or social science learn about integration, multivariable functions, differential equations, series, and formatting trigonometric functions. This course does not fulfill a mathematics requirement for students intending to major in mathematics, chemistry, physics, or engineering. Transfer Credit: CSU and/or private coll/univ. UC Transfer Credit: Mathematics (MATH) 122 and 151 combined: maximum credit, one course. (CAN MATH 32). (CAN MATH SEQ D = MATH 121 + 122)

141 Precalculus
5 hours lecture, 5 units

Prerequisite: Mathematics 104 with a grade of “C” or better, or equivalent.
This course is a study of numerical, analytical, and graphical properties of functions. The course content includes polynomial, rational, irrational, exponential, logarithmic, and trigonometric functions. Additional topics include: inverse functions, complex numbers, polar coordinates, matrices, conic sections, sequences, series and the binomial theorem. This course is designed as a preparation for calculus and is intended for the transfer student planning to major in mathematics, engineering, economics, or disciplines included in the physical or life sciences. (FT) Transfer Credit: CSU and/or private coll/univ; UC Transfer Course List: Mathematics (MATH) 116 and 141 combined: maximum credit, one course. (CAN MATH 16)

150 Calculus with Analytic Geometry I
5 hours, 5 units

Prerequisite: Mathematics 141 with a grade of “C” or better, or equivalent.
This course is a primary introduction to university level calculus. The topics of study include analytic geometry, limits, differentiation and integration of algebraic and transcendental functions. Emphasis is placed on calculus applications. Analytical reading and problem solving are required for success in this course. This course is intended for the transfer student planning to major in mathematics, computer science, physics, chemistry, engineering, or economics. This course meets general education requirements, CSU, IGETC, and TAG requirements. Transfer Credit: CSU and/or private coll/univ. UC Transfer Credit: Mathematics 150 and Mathematics 121 combined: maximum credit, one course. See a counselor. (CAN MATH 18) (CAN MATH SEQ B = MATH 150 + 151) (CAN MATH SEQ C = MATH 150 + 151 + 252)

150L Calculus Laboratory
3 lab hours, 1 unit

Credit/No Credit Only
Corequisite: Mathematics 150.
Students will work collaboratively in small groups on enrichment material to enhance their understanding of the concepts presented in Mathematics 150. Associate Degree Credit.

151 Calculus with Analytic Geometry II
4 hours, 4 units

Prerequisite: Mathematics 150 with a grade of “C” or better, or equivalent.
This is a continuation of Mathematics 150. This course covers more advanced topics in analytic geometry, differentiation and integration of algebraic and transcendental functions, infinite series, Taylor series, and parametric equations. This course also covers a general introduction to the theory and applications of power series, techniques of integration, and functions in polar coordinates, at it serves as a basis for multivariable calculus and differential equations, as well as most upper division courses in mathematics and engineering. It is intended for the transfer student planning to major in mathematics, computer science, physics, chemistry, engineering and economics. This course meets general education requirements, CSU, IGETC, and TAG requirements. (FT) Transfer Credit: CSU and/or private coll/univ., UC. UC Transfer Credit: Mathematics 151 and Mathematics 122 combined: maximum credit, one course. See a counselor. (CAN MATH 20) (CAN MATH SEQ B = MATH 150 + 151) (CAN MATH SEQ C = MATH 150 + 151 + 252)
181 Mecomtronics College Algebra and Trigonometry I  
3 hours lecture, 3 units  
Grade Only  
Prerequisite: Mathematics 96 with a grade of "C" or better, or equivalent, or Assessment Skill Level M50.  
Advisory: This course is intended for students enrolled in the first semester Engineering Technology/Mecomtronics program.  
This course is the first semester of a four-semester sequence in applied college algebra and trigonometry, and applied technical calculus. Students are expected to apply the mathematical problem solving techniques developed in this course in the real world situations presented and discussed in the program's technology and science courses. Topics include the algebra of functions, graphing algebraic functions, exponential and logarithmic functions, linear systems of equations, matrices and matrix operations, trigonometric functions and their graphs, trigonometric identities, complex numbers, vector algebra, descriptive statistics, an introduction to series and summation notation, an introduction to Boolean algebra and symbolic logic, and the use of the graphing calculator to solve application problems. (FT) Transfer Credit: CSU and/or private coll/univ.

182 Mecomtronics College Algebra and Trigonometry II  
3 hours lecture, 3 units  
Grade Only  
Prerequisite: Mathematics 181 with a grade of "C" or better, or equivalent.  
Advisory: This course is intended for students enrolled in the second semester Engineering Technology/Mecomtronics program.  
This course is the second semester of a four-semester sequence in applied college algebra and trigonometry, and applied technical calculus. Students are expected to implement the mathematical problem solving techniques developed in this course in the real world situations presented and discussed in the Mecomtronics program's technology and science courses. Topics covered are a continuation of those introduced in Mathematics 181. Topics include applications of exponential and logarithmic functions, graphs of trigonometric functions, inverse trigonometric functions, Riemann sums, polynomial approximations of special transcendental functions, vector algebra, spherical and cylindrical coordinates, conic sections, the binomial theorem, an introduction to Boolean algebra and symbolic logic, and the use of the graphing calculator to solve application problems. (FT) Transfer Credit: CSU and/or private coll/univ.

183 Mecomtronics Calculus I  
3 hours lecture, 3 units  
Grade Only  
Prerequisite: Mathematics 182 with a grade of "C" or better, or equivalent.  
Advisory: This course is intended for students enrolled in the third semester Engineering Technology/Mecomtronics program.  
This course is the third semester of a four-semester sequence in applied college algebra and trigonometry, and applied technical calculus. Students are expected to implement the mathematical problem solving techniques developed in this course in the real world situations presented and discussed in the Engineering Technology/Mecomtronics program's technology and science courses. Topics include limits, continuity, differentiation of algebraic and transcendental functions, an introduction to multivariable functions and their partial derivatives, Riemann sums, integration by substitution and by parts, separable and linear first order differential equations, applications in technology and physics, and the use of the graphing calculator to solve application problems. (FT) Transfer Credit: CSU and/or private coll/univ.

184 Mecomtronics Calculus II  
3 hours lecture, 3 units  
Grade Only  
Prerequisite: Mathematics 183 with a grade of "C" or better, or equivalent.  
Advisory: This course is intended for students enrolled in the fourth semester Engineering Technology/Mecomtronics program.  
This course is the fourth semester of a four-semester sequence in applied college algebra and trigonometry, and applied technical calculus. Students are expected to apply analytical reading and mathematical problem solving techniques developed in this course in real world situations presented and discussed in the Engineering Technology/Mecomtronics program's technology and science courses. Topics include Taylor series, Fourier series, techniques of multivariable calculus including partial derivatives, multiple integrals, line and surface integrals, applications in physics and technology of vector calculus theorems, first and second order differential equations, variation of parameters, and Laplace transforms. A strong emphasis is placed on calculus applications in the engineering technology field. (FT) Transfer Credit: CSU and/or private coll/univ.
210A Concepts of Elementary School Mathematics I

3 hours, 3 units
Prerequisite: Mathematics 96 with a grade of "C" or better, or equivalent, or Assessment Skill Level M50.
Advisory: English 101 with a grade of "C" or better, or equivalent, or Assessment Skill Levels W6 and R6.
This course is a study of the mathematical concepts needed for teaching elementary school mathematics with emphasis on number, function, and geometry. This course promotes an appreciation of the importance of logical thinking and applications of mathematics in problem solving and critical thinking. It is designed especially for students preparing for credentials in elementary education. Analytical reading and problem solving are required for success in this course. Transfer Credit: CSU and/or private coll/univ.; UC Transfer Credit: Mathematics (MATH) 237: maximum credit, one course.

210B Concepts of Elementary School Mathematics II

3 hours, 3 units
Prerequisite: Mathematics 210A with a grade of "C" or better, or equivalent.
Advisory: English 101 with a grade of "C" or better, or equivalent, or Assessment Skill Levels W6 and R6.
This course is a study of the mathematical concepts needed for teaching elementary school mathematics with emphasis on measurement, logic and language, probability and statistics, discrete mathematics and real numbers. This course will also promote an appreciation of the importance of logical thinking and applications of mathematics in problem solving and critical thinking. It is designed especially for students preparing for credentials in elementary education. Analytical reading and problem solving are required for success in this course. (FT). Transfer Credit: CSU and/or private coll/univ.; UC transfer limitation: Math 210A and 210B combined: maximum credit, one course. (CAN MATH 4)

237 Machine and Assembly Language

3 hours, 3 units
Prerequisite: Mathematics 108 with a grade of "C" or better, or equivalent.
Corequisite: Mathematics 237L.
Limitation on Enrollment: This course is not open to students with credit for Mathematics 137L.
This course covers general concepts of machine and assembly languages, including data representation, looping and addressing techniques, subroutine linkage, and use of system and programmer-defined macros. Problem-solving techniques in the fields of engineering, mathematics, and the sciences are covered. This course is designed for computer science and mathematics majors who are intending to transfer to a four-year university. (FT) Transfer Credit: CSU and/or private coll/univ. UC Transfer Credit: Mathematics (MATH) 237: maximum credit, one course.

237L Assembly Language Lab

3 hours lab, 1 unit
Corequisite: Mathematics 237.
Limitation on Enrollment: This course is not open to students with credit for Mathematics 137L.
This is a lab course to be taken concurrently with Mathematics 237. Practice is provided in applying programming techniques and problem solving skills using assembly language. (FT) Transfer Credit: CSU and/or private coll/univ.

245 Discrete Mathematics

3 hours, 3 units
Prerequisite: Mathematics 122 or 151 with a grade of "C" or better, or equivalent.
Advisory: English 101 with a grade of "C" or better, or equivalent, or Assessment Skill Levels W6 and R6.
This course covers logic, methods of proof, set theory, Boolean algebra, number theory, equivalence and order relations, counting (combinations and permutations), solving recurrence relations. Transfer Credit: CSU and/or private coll/univ.; UC. (CAN CSCI 26)

252 Calculus with Analytic Geometry III

4 hours, 4 units
Prerequisite: Mathematics 151 with a grade of "C" or better, or equivalent.
The content of this course includes the algebra and geometry of 2- and 3-dimensional Euclidean vectors, limits, continuity, partial differentiation, extrema of vector-valued and multivariable functions, higher order derivatives, the chain rule, Lagrange's theorem, multiple integrals, integrals over paths and surfaces, and integral theorems of vector analysis. This course is intended as a general introduction to the theory and applications of multivariable calculus. It is essential for most upper division courses in mathematics and forms part of the foundation for engineering and physics. It is intended for the transfer student planning to major in mathematics, physics, engineering, computer science, physical chemistry, operational research, or economics. This course meets general education requirements, CSU, IGETC, and TAG requirements. (FT) Transfer Credit: CSU and/or private coll/univ.; UC. (CAN MATH 22) (CAN MATH SEQ C = MATH 150 + 151+ 252)
254 Introduction to Linear Algebra
3 hours, 3 units
Prerequisite: Mathematics 151 with a grade of “C” or better, or equivalent.
This course covers matrix algebra, Gauss elimination, determinants, vector spaces, linear transformations, orthogonality, eigenvalues and eigenvectors. Transfer Credit: CSU and/or private coll/univ.; UC. (CAN MATH 26)

255 Differential Equations
3 hours, 3 units
Grade Only
Prerequisite: Mathematics 252 and 254, each with a grade of “C” or better, or equivalent.
Limitation on Enrollment: This course is not open to students with credit for Mathematics 253.
This course covers first order and higher order equations and their applications. Topics include linear first order and higher order equations, homogeneous and nonhomogeneous equations with constant or variable coefficients, and systems of ordinary differential equations. Methods used to solve equations include substitution methods, integrating factors, reduction of order, variation of parameters, power series solutions, and Laplace Transforms. This course is intended as an introduction to the theory and applications of differential equations and is the basis for many upper division courses in engineering, physics, and mathematics. It is intended for the transfer student planning to major in mathematics, engineering, operational research, physics, or other physical science. This course meets CSU general education requirements. (FT) Transfer Credit: CSU and/or private coll/univ.; UC. (CAN MATH 24)

290 Independent Study
Hours by Arrangement; 1-3 units
Limitation on Enrollment: Must obtain an Add Code from instructor for registration.
This course is for advanced students who wish to pursue special investigations. This course may be taken four times with different content for a maximum of six units. Transfer Credit: CSU and/or private coll/univ.; UC transfer limitations. See a counselor.

This discipline may offer specialized instruction in one or more of the following areas: Supervised Tutoring (044), Special Topics (265), Independent Study (290), Individualized Instruction (296), Service Learning (277), Applied Applications and Software Skills (045L), or Work Experience (270). Detailed course descriptions are listed on page 94. Please refer to the class schedule and/or see the dean or department chair for availability.

Music
See “Visual and Performing Arts” on page 313.

Musical Theater
See “Visual and Performing Arts” on page 313.
Nursing Education

Description
Nursing is a profession which provides health care to individuals of all ages. Nursing encompasses many activities including health promotion, health maintenance, health care during illness and injury and rehabilitation. Nurses apply knowledge from the biological, physical, behavioral and nursing sciences to care for clients in varied settings. The purpose of the San Diego City College Nursing program is to provide an educational opportunity for qualified individuals interested in a career in nursing. Upon successful completion of program requirements, graduates are eligible to take the National Council Licensure Examination for Registered Nurses (NCLEX-RN). Admission to the program is by special application. Informational packets and applications for the program are available from the Nursing Admissions Advisor. Prospective students are responsible for obtaining these materials in order to acquaint themselves with the admission procedure. The San Diego City College Nursing Education program is fully accredited by the California Board of Registered Nursing (BRN) and the National League for Nursing Accrediting Commission (NLNAC). Inquiries regarding accreditation may be made by contacting the BRN at 400 R Street, Suite 4030, Sacramento, CA 94244, (916) 322-3350 or NLNAC at 61 Broadway, 33rd Floor, New York, NY 10006, (800) 669-1656.

Faculty/Staff
Nursing Admissions Advisor
Anthony Vargas
A-112 (619) 388-3471
Dean/Director
Jo-Ann L. Rossitto
T-322 (619) 388-3439
Department Clerk
Hilda Rodriguez
T-324 (619) 388-3441
Faculty
Laura Basile
T-323 (619) 388-3891
Deborah Berg
T-321 (619) 388-3885
Catherine Howell
T-320 (619) 388-3882
Patricia Lim
T-318 (619) 388-3340
Donna Lynch
T-320 (619) 388-3884
Linda Ocen-Odoge
T-321 (619) 388-3886
Catherine Peterson
T-325 (619) 388-3896
Shirley Skillen
T-325 (619) 388-3897

Career Options
Some careers in nursing require education beyond the associate degree. The registered nurse cares for clients of all ages in a variety of clinical areas. Registered nurses may be employed at the entry level in a variety of settings such as hospitals, skilled nursing facilities, clinics and home health agencies.

Academic Programs
The Associate in Science degree in Nursing requires completion of the courses listed below. Additional general education and graduation requirements for the associate degree are listed on page 62 in the catalog.

Associate in Science Degree: Nursing Education

Registered Nurse Program (Generic)

Program Prerequisites
Prerequisites in this program will be enforced. All program prerequisites must be completed with a grade of “C” or better. In addition, the combined grade-point average for Biology 205, 230 and 235 or equivalent must be 2.5 or higher.

Courses

<table>
<thead>
<tr>
<th>Courses</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>**Biol 205, General Microbiology</td>
<td>5</td>
</tr>
<tr>
<td>**Biol 230, Human Anatomy</td>
<td>4</td>
</tr>
<tr>
<td>**Biol 235, Human Physiology</td>
<td>4</td>
</tr>
</tbody>
</table>

**Must be completed within a seven-year period preceding qualifying date of eligibility. Eligibility refers to the date completed application materials including official transcripts are filed with the Nursing Admissions Advisor. Students may also be required to complete Biology 107 and Chemistry 100 and 100L. Refer to Biology course descriptions for specific information.

Curriculum Plan

Courses Required for the Major:

Semester I:

<table>
<thead>
<tr>
<th>Courses</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>NRSE 101, Interactions in Nursing</td>
<td>1</td>
</tr>
<tr>
<td>NRSE 102, Fundamental Nursing Concepts &amp;</td>
<td>4.5</td>
</tr>
<tr>
<td>Skills I</td>
<td></td>
</tr>
<tr>
<td>NRSE 103, Fundamental Nursing Concepts &amp;</td>
<td>4.5</td>
</tr>
<tr>
<td>Skills II</td>
<td></td>
</tr>
<tr>
<td>NRSE 104, Pharmacology for Nursing Practice</td>
<td>1</td>
</tr>
<tr>
<td>* ENGL 101, Reading &amp; Composition or equivalent</td>
<td>3</td>
</tr>
<tr>
<td>* Physical Education activity course</td>
<td>1</td>
</tr>
</tbody>
</table>
Curriculum Plan

Courses Required for the Major:

Summer Session (or when offered):
NRSE 201, Transition to Associate Degree Nursing ........................................ 2
*ENGL 101, Reading & Composition or equivalent ........................................ 3

Semester I:
NRSE 202, Adult Health Nursing III ................................................................. 4.5
NRSE 203, Psychosocial & Gerontological Nursing ........................................... 4.5
*PSYC 101, General Psychology ...................................................................... 3
*Humanities ......................................................................................................... 3

Semester II:
NRSE 204, Family Health Nursing ................................................................. 5
NRSE 205, Transition to the Registered Nurse Role ........................................... 4
*SPEE 103, Oral Communication OR
*SPEE 135, Interpersonal Communication ......................................................... 3
*PSOC 101, Principles of Sociology OR
*PSOC 110, Contemporary Social Problems or equivalent ................................ 3

Total Program Units = 72

*It is strongly recommended that part or all of the general education requirements be completed prior to admission to the nursing education program or during summer sessions.

Associate in Science Degree:
Nursing Education
Licensed Vocational Nurse to Registered Nurse (Advanced Placement)

Program Prerequisites
All program prerequisites must be completed with a grade of “C” or better. In addition, the combined grade-point average for Biology 205, Biology 230, and Biology 235 or equivalent must be 2.5 or higher. A copy of a current and active California Vocational Nursing License must also be submitted with application materials. Students may also be required to complete Biology 107 and Chemistry 100 and 100L. Refer to Biology course descriptions for specific information.

Courses

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<td>4</td>
</tr>
<tr>
<td>**BIOL 235, Human Physiology</td>
<td>4</td>
</tr>
</tbody>
</table>

**Must be completed within a seven-year period preceding the qualifying date of eligibility. Eligibility refers to the date completed application materials including official transcripts are filed with the Nursing Admissions Advisor.

Additional courses required for the associate degree:
*American Institutions ..................................................................................... 3
*Physical Education activity courses .............................................................. 2

Credit for previous Vocational Nursing Education is given as earned credit upon completion of Associate Degree requirements ................................................. 15

Total Program Units = 68

Recommended electives: Nursing Education 108, 206, 290, 296.

*It is strongly recommended that part or all general education requirements be completed prior to admission to the nursing education program.

Nursing Education
Registered Nurse Program,
LVN Thirty-Unit Option

Program Prerequisites
All program prerequisites must be completed with a grade of “C” or better. A copy of a current and active California Vocational Nursing License must also be submitted with application materials. Students may also be required to complete Biology 107 and Chemistry 100 and 100L. Refer to Biology course descriptions for specific information.

Courses

<table>
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<tbody>
<tr>
<td>BIOL 205, General Microbiology</td>
<td>5</td>
</tr>
<tr>
<td>BIOL 235, Human Physiology</td>
<td>4</td>
</tr>
</tbody>
</table>

Curriculum Plan

Summer Session (or when offered):
NRSE 201, Transition to Associate Degree Nursing ........................................ 2
Semester I:
NRSE 202, Adult Health Nursing III......................4.5
NRSE 203, Psychosocial & Gerontological Nursing...4.5

Semester II:
NRSE 204, Family Health Nursing ...................... 5
NRSE 205, Transition to the Registered Nurse Role ... 4

Total Units = 29

Note: Other states may not recognize the LVN Thirty-Unit Option as a method to satisfy the requirements for licensure as a Registered Nurse. Interested candidates are urged to contact the respective Boards of Nursing for additional information.

Transfer Information- Nursing Education
Students planning to transfer to a four-year college or university should complete courses required for the university major and the general education pattern required by that transfer institution. Course requirements for the Bachelor of Science in Nursing degree vary. Additional courses may be required to meet university lower-division requirements. Course requirements at the transfer institution are subject to change and may be verified by a counselor or by consulting the current university catalog. Many Baccalaureate in Arts degrees require third semester competency in a foreign language. Consult the current catalog of the transfer institution and consult with a counselor.

San Diego State University
For preparation for transfer into the Generic Nursing Program:

Nursing, B.S.: Must earn a “C” or better in each course except where otherwise specified. English 101 or 105, 205; Biology 105 and 106 (Miramar) or 107; Biology 205 and 230 (must earn a grade of “B” or higher); Chemistry 130, 130L; Mathematics 119 or Biology 200 or Psychology 258; Psychology 101, Psychology 230 (Mesa) or Child Development 101; Humanities 12 units. American Institutions 3 units. Sociology 101, Speech 103 and six lower division general education units. This does not require completion of an associate degree in nursing. Pre-nursing students and registered nurses with an Associate Degree in Nursing who wish to transfer to San Diego State University’s School of Nursing, must earn a grade of “B” or higher in Biology 230 and 235. National League for Nursing examination scores, transfer credits, and demonstration of clinical competency are criteria used to individualize the baccalaureate curriculum for associate degree applicants.

University of San Diego
Nursing, B.S.: Complete San Diego City College Associate in Science Degree in Nursing Education program. Select Sociology 101 and English 105 and add Anthropology 103, Psychology 121 and Mathematics 119 or Psychology 258. Note: Additional nursing prerequisites may be met through transfer credit, challenging exams or by completing courses at the University of San Diego with a grade of “C” or better. Associate degree graduates may transfer 30 units of clinical nursing course work. For specific program information call: University of San Diego, Office of Undergraduate Admissions (619) 260-4506.

Courses

Nursing Education (NRSE)

101 Interactions in Nursing
1 hour, 1 unit
Advisory: English 51 and 56, each with a grade of “C” or better, or equivalent, or Assessment Skill Levels W5 and R5.
This course assists the learner to develop and implement interpersonal communication skills within personal, professional and therapeutic relationships.
Transfer Credit: CSU and/or private coll/univ.

102 Fundamental Nursing Concepts and Skills I
5 hours lecture, 12 hours lab, 4.5 units
Prerequisite: Biology 230 and 235 and 205, each with a grade of “C” or better, or equivalent.
Corequisite: Completion of or concurrent enrollment in Nursing Education 101 with a grade of “C” or better, or equivalent.
Advisory: English 51 and 56, each with a grade of “C” or better, or equivalent, or Assessment Skill Levels W5 and R5.
This course introduces the learner to the philosophy and conceptual framework of the nursing program and roles of the associate degree nurse. Emphasis is on meeting the client's basic needs throughout the life cycle, utilizing the steps of the nursing process. Basic skills of client care are practiced in the college laboratory with supervised clinical experiences in acute care, long-term care, or community settings. (FT)
Transfer Credit: CSU and/or private coll/univ.

107 Adult Health Nursing II
5 hours lecture, 15 hours lab, 5 units
Grade Only

Prerequisite: Nursing Education 101 and 103 and 104, each with a grade of “C” or better, or equivalent.
Advisory: English 51 and 56, each with a grade of “C” or better, or equivalent, or Assessment Skill Levels W5 and R5.

This course focuses on the need for oxygenation, circulation and regulation in the adult client, utilizing the nursing process to achieve and maintain maximum functioning. Advanced nursing care skills are practiced in the college laboratory with supervised clinical experiences in acute care, long-term care or community settings. (FT) Transfer Credit: CSU and/or private coll/univ.

108 Nursing Skills Laboratory I
0.25-0.5 hour lecture, 0.75-1.5 hours lab, 0.5-1 unit
Credit/No Credit Only

Corequisite: Current enrollment in the Nursing Education program.
This course provides students an additional opportunity for practice and mastery of designated psychomotor skills. There will be a review of related theoretical concepts and supervised practice of basic client care skills that are concurrently presented in the regular program. Transfer Credit: CSU and/or private coll/univ.

201 Transition to Associate Degree Nursing
9 hours lecture, 9 hours lab, 2 units
Grade Only

Prerequisite: Biology 230 and 235 and 205, each with a grade of “C” or better, or equivalent.
Advisory: English 51 and 56, each with a grade of “C” or better, or equivalent, or Assessment Skill Levels W5 and R5.

This course facilitates the transition of advanced placement students (Licensed Vocational Nurses) into the associate degree nursing program. Concepts related to program philosophy, conceptual framework, cultural sensitivity, growth and development, nursing process, and role expectations are emphasized. Advanced assessment skills are practiced in the college laboratory. Transfer Credit: CSU and/or private coll/univ.
202 Adult Health Nursing III
4 hours lecture, 15 hours lab, 4.5 units
Grade Only
Prerequisite: Nursing Education 105 and 107 or Nursing Education 201, each with a grade of “C” or better, or equivalent.
Advisory: English 51 and 56, each with a grade of “C” or better, or equivalent, or Assessment Skill Levels W5 and R5.
This course focuses on the need for oxygenation, circulation, regulation and safety in the adult client, utilizing the nursing process to achieve and maintain maximum functioning. Clinical experiences may include acute care, long-term care or community settings. (FT) Transfer Credit: CSU and/or private coll/univ.

203 Psychosocial and Gerontological Nursing
4 hours lecture, 15 hours lab, 4.5 units
Grade Only
Prerequisite: Nursing Education 105 and 107 or Nursing Education 201, each with a grade of “C” or better, or equivalent.
Advisory: English 51 and 56, each with a grade of “C” or better, or equivalent, or Assessment Skill Levels W5 and R5.
This course has two distinct components. The psychosocial component focuses on the effect of psychophysiologic problems on the client’s ability to meet the need for love, belonging and self-esteem. The gerontological component focuses on the physiological and psychosocial changes of the older adult. The nursing process is utilized to achieve and maintain maximum functioning of the client throughout the life cycle. Clinical experiences may include acute care, chronic care, long-term care or community settings. (FT) Transfer Credit: CSU and/or private coll/univ.

204 Family Health Nursing
4 hours lecture, 18 hours lab, 5 units
Grade Only
Prerequisite: Nursing Education 202 and 203, each with a grade of “C” or better, or equivalent.
Advisory: English 51 and 56, each with a grade of “C” or better, or equivalent, or Assessment Skill Levels W5 and R5.
This course focuses on the needs of the childbearing family and the well/fail child, utilizing the nursing process to assist the family to achieve and maintain maximum functioning. Clinical experiences may include acute care, long-term care or community settings. (FT) Transfer Credit: CSU and/or private coll/univ.

205 Transition to the Registered Nurse Role
3 hours lecture, 15 hours lab, 4 units
Grade Only
Prerequisite: Nursing Education 202 and 203, each with a grade of “C” or better, or equivalent.
Advisory: English 51 and 56, each with a grade of “C” or better, or equivalent, or Assessment Skill Levels W5 and R5.
This course focuses on the transition from student to staff nurse, emphasizing the responsibilities of planning, organizing, directing, and coordinating client care. The course includes the principles of leadership, delegation, time management, decision-making, collegial communication, group dynamics, conflict resolution and change. The clinical preceptorship experience requires the application of all previously learned concepts and skills. Acute care, long-term care or community settings will be utilized. (FT) Transfer Credit: CSU and/or private coll/univ.

206 Nursing Skills Laboratory II
0.25-0.5 hour lecture, 0.75-1.5 hours lab, 0.5-1 unit
Credit/No Credit Only
Corequisite: Current enrollment in the Nursing Education program.
This course provides students an additional opportunity for practice and mastery of designated psychomotor skills. There will be a review of related theoretical concepts and supervised practice of advanced client care skills that are concurrently presented in the regular program. Transfer Credit: CSU and/or private coll/univ.

290 Independent Study
1-3 Units
Credit/No Credit Only
Limitation on Enrollment: Must obtain an Add Code from Program Director for registration.
This course provides students with an opportunity for additional research and academic or clinical experience in a particular area of nursing. This course may be taken four times with different content for a maximum of six units. (FT) Transfer Credit: CSU and/or private coll/univ.

This discipline may offer specialized instruction in one or more of the following areas: Supervised Tutoring (044), Special Topics (265), Independent Study (290), Individualized Instruction (296), Service Learning (277), Applied Applications and Software Skills (045L), or Work Experience (270). Detailed course descriptions are listed on page 94.
Please refer to the class schedule and/or see the dean or department chair for availability.

Office Information Systems
See “Computer Business Technology” on page 176.

Personal Growth

Description
The Personal Growth program is designed for the first-time student at San Diego City College. The primary focus of the program is to help students develop critical thinking skills in relation to career, academic and life-planning goals.

Program Emphasis
Students are exposed to a variety of career assessment instruments which lead to greater self-understanding in relation to the decision making process in career and educational planning. Students become well versed in learning styles and theories, multicultural issues, and academic, community and campus resources.

Consult a counselor in Room A-110.

Courses

Personal Growth (PERG)

25 Student Government
1 hour lecture, 3 hours lab, 2 units
Limitation on Enrollment: This course is not open to students with credit for Speech Communications 126A, B, or C.
The fundamentals of Student Government with emphasis on technique or democratic action among groups. Actual practice in various phases of Student Government will be provided. (FT) Associate Degree Credit.

30 Career Planning
1-3 hours, 1-3 units
This course is designed to assist students in making career choices. Topics include self-concept, values, interests, skills assessment, understanding the data/people/things orientation of work, job satisfiers, exploration of career information, and the decision-making process. (FT) Associate Degree Credit.
32 Academic and Financial Planning
0.44-0.5 hours, 0 unit
Credit/No Credit Only

Limitation on Enrollment: This course is open only to students who have completed the Mathematics and English Assessment Skill Level tests.
This course is designed to familiarize students with financial aid resources available to help them meet educational expenses. These resources include college and financial aid satisfactory academic progress policies; federal/state regulations for determining and maintaining eligibility for financial aid; student rights and responsibilities in receiving aid; strategies on becoming responsible consumers; money management; and accessing outside student aid resources. Emphasis is placed on effective use of all available on-campus resources and the development and implementation of a Student Educational Plan to meet educational objectives. (FT)

127 College Success Skills
3 hours, 3 units
Advisory: English 51 and 56, each with a grade of "C" or better, or equivalent, or Assessment Skill Levels W5 and R5; or concurrent enrollment in English 51 and/or 56.
This course examines the techniques used to enhance academic skills in order to achieve subject matter mastery and develop strategies for success in a diverse society. Critical thinking skills are interwoven throughout the course by exploring areas such as motivation and attitudes, stress management, creativity, interpersonal communication, and personal health. Topics from developmental psychology, learning theory and personality theory are presented as a foundation for this course. The course is designed for new or re-entry students and others who can benefit. (FT) Transfer Credit: CSU and/or private coll/univ.

140 Life Skills and Personal Adjustment
1-3 hours lecture, 1-3 units
Advisory: English 51 and 56, each with a grade of "C" or better, or equivalent, or Assessment Skill Levels W5 and R5.
Students learn and apply personal achievement principles, coping strategies, and life skills that develop each area of emotional, social, educational, and professional life. Emphasis is on gaining mastery in self-esteem and compassion, self-discipline, self-responsibility, self-assertion, and living a consciously balanced life in pursuit of defined educational, career, and life goals. (FT) Transfer Credit: CSU and/or private coll/univ.

This discipline may offer specialized instruction in one or more of the following areas: Supervised Tutoring (044), Special Topics (265), Independent Study (290), Individualized Instruction (296), Service Learning (277), Applied Applications and Software Skills (045L), or Work Experience (270). Detailed course descriptions are listed on page 94. Please refer to the class schedule and/or see the dean or department chair for availability.
Description
The first objective of the philosophy program is to teach students how to think critically emphasizing analytic reasoning. In addition, students are prepared for university-level philosophy courses. The study of philosophy acquaints students with the nature of philosophical activity and helps them increase critical thinking skills about fundamental philosophic concerns such as the nature of correct reasoning, the scope and limits of human knowledge, characteristics of reality and questions of value and obligation. Philosophy relates to many other academic disciplines and stresses systematic and abstract thought.

Program Emphasis
The Philosophy curriculum meets general education Humanities requirements for both the associate degree and universities and prepares for transfer to university majors.

Faculty Office Telephone
Catherine Harlow C-216 (619) 388-3013
William Stewart C-202 (619) 388-3602

Career Options
Most careers in this list require education beyond the associate degree. A sample list of careers in which background knowledge of philosophy is appropriate include: education, human service vocations, law, management, medicine, publishing, scientific research, teaching, and theology.

Academic Programs
The associate degree in philosophy requires completion of the courses listed for the degree. Additional general education and graduation requirements for the associate degree are listed in the catalog. The associate degree requires a minimum of 60 units.

Associate in Arts Degree: Philosophy

<table>
<thead>
<tr>
<th>Courses Required for the Major</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>PHIL 100, Logic and Critical Thinking</td>
<td>3</td>
</tr>
<tr>
<td>PHIL 101, Symbolic Logic</td>
<td>3</td>
</tr>
</tbody>
</table>

Select one of the two-semester sequences:
- PHIL 102A & 102B, Introduction to Philosophy, Reality & Knowledge & Values
- PHIL 104A (Mesa) & 104B (Mesa), History of Western Philosophy

Select six units from:
- Philosophy 102A, 102B, 104A, 104B, 106, 107, 110, 111, 125, 290, 296

Total Units = 18

Recommended electives: Humanities 106, Philosophy 205.

Transfer Information
Students planning to transfer to a four-year college or university should complete courses required for the university major and the general education pattern required by that transfer institution. See catalog TRANSFER INFORMATION section. Additional courses may be required to meet university lower-division requirements. Course requirements at the transfer institution are subject to change and may be verified by a counselor or by consulting the current university catalog. Many Baccalaureate in Arts degrees require third semester competency in a foreign language. Consult the current catalog of the transfer institution and consult with a counselor.

- San Diego State University
  Philosophy, B.A.: Philosophy 205 and one course from Philosophy 102A, 102B, 103 (Mesa), 104A, 104B. Foreign language competency.

- University of California, San Diego
  Philosophy, B.A.: Lower division preparation for the major is not available.
Courses

Philosophy (PHIL)

100 Logic and Critical Thinking  3 hours, 3 units
Advisory: English 101 or 105 with a grade of "C" or better, or equivalent, or Assessment Skill Levels W6 and R6.
This course explores the relationship of communications and critical thinking with a focus on good reasoning and the impediments to its mastery. This course emphasizes the development of skills in logical processes including familiarity with the more common fallacies. This course is designed for students learning to apply principles of critical thinking to the practical problems of everyday life. (FT) Transfer Credit: CSU and/or private coll/univ.; UC. (CAN PHIL 6)

101 Symbolic Logic  3 hours, 3 units
Prerequisite: Mathematics 96 with a grade of "C" or better, or equivalent, or Assessment Skill Level M50 and Philosophy 100 with a grade of "C" or better, or equivalent.
Advisory: English 101 or 105 with a grade of "C" or better, or equivalent, or Assessment Skill Levels W6 and R6.
This course studies the elements of symbolic logic, sentential calculus and quantification theory, identity, definite descriptions, natural deduction and structure of language. This course may be of interest to students pursuing studies in computer science. Transfer Credit: CSU and/or private coll/univ.; UC. (CAN PHIL 6)

102A Introduction to Philosophy: Reality and Knowledge  3 hours, 3 units
Advisory: English 101 or 105 with a grade of "C" or better, or equivalent, or Assessment Skill Levels W6 and R6.
This course provides an introductory study of the aims, methods, and problems of philosophy and philosophical inquiry. Discussions and readings relating to the nature of reality and problems of knowledge are emphasized. Materials for this survey of philosophical activity, orientations and views of philosophers may be drawn from classical and contemporary thinkers. Students are encouraged to articulate, analyze and evaluate their own beliefs/positions in the context of meaningful philosophical inquiry. (FT) Transfer Credit: CSU and/or private coll/univ.; UC. (CAN PHIL 2)

102B Introduction to Philosophy: Values  3 hours, 3 units
Advisory: English 101 or 105 with a grade of "C" or better, or equivalent, or Assessment Skill Levels W6 and R6.
This course provides an introductory study of the aims, methods, types and problems of philosophy and philosophical inquiry focusing on values and their place in an individual's daily life. Materials for this survey of philosophical activity, orientations and views of philosophers may be drawn from classical and contemporary thinkers. Students are encouraged to articulate, analyze and evaluate their own beliefs/positions in the context of meaningful philosophical inquiry regarding value theory. (FT) Transfer Credit: CSU and/or private coll/univ.; UC. (CAN PHIL 4)

104A History of Western Philosophy  3 hours, 3 units
Advisory: English 101 or 105 with a grade of "C" or better, or equivalent, or Assessment Skill Levels W6 and R6.
This course explores the issues and problems associated with philosophy and philosophical activity as they are illustrated in the history of Western philosophy. Studies in this course focus on representative thinkers of the Classical and/or Medieval periods, their cultural milieu, and their attempts to resolve perennial philosophical issues and problems. This course may be of interest to students pursuing studies in History and Humanities. (FT) Transfer Credit: CSU and/or private coll/univ.; UC. (CAN PHIL 8) (CAN PHIL SEQ A = PHIL 104A + 104B)

104B History of Western Philosophy  3 hours, 3 units
Advisory: English 101 or 105 with a grade of "C" or better, or equivalent, or Assessment Skill Levels W6 and R6.
This course explores the problems associated with philosophy and philosophical activity as they are illustrated in the history of Western philosophy from the Renaissance period through the 19th Century. Studies in this course focus on representative thinkers of the Renaissance and/or Modern periods, their cultural milieu, and their attempts to resolve perennial philosophical issues and problems. This course may be of interest to students pursuing studies in History and Humanities. (FT) Transfer Credit: CSU and/or private coll/univ.; UC. (CAN PHIL 10) (CAN PHIL SEQ A = PHIL 104A + 104B)
106 Asian Philosophy

Prerequisite: English 51 and 56, each with a grade of "C" or better, or equivalent, or Assessment Skill Levels W5 and R5.
Advisory: English 101 or 105 with a grade of "C" or better, or equivalent or Assessment Skill Levels W6 and R6.

This course explores the aims, methods, issues and problems exemplified in Asian philosophy and philosophical activity. Studies in this course survey significant inquiries, orientations and perspectives exemplified in Asian philosophy as well as Asian perspectives on perennial questions relating to the nature of the universe, the status and meaning of mankind, and the qualities characterizing the good life. Students are encouraged to engage in independent research, analysis and formulation. This course may be of special interest to students pursuing studies in behavioral, social or political science. (FT) Transfer Credit: CSU and/or private coll/univ.; UC.

107 Reflections on Human Nature

Advisory: English 101 or 105 with a grade of "C" or better, or equivalent, or Assessment Skill Levels W6 and R6.

This course explores the issues and problems exemplified in process of meaningful philosophical activity relating to the topic of human nature. Studies in this course survey representative theories and philosophical reflections relating to the notions of human nature, the individual person, and human characteristics in general. Material for this survey may be drawn from classical and contemporary thinkers, scientific and religious orientations. Students are encouraged to engage in independent research, analysis and formulation. This course may interest students pursuing studies in behavioral and/or social sciences. (FT) Transfer Credit: CSU and/or private coll/univ.; UC.

111 Philosophy in Literature

Advisory: English 101 or 105 with a grade of "C" or better, or equivalent, or Assessment Skill Levels W6 and R6.

This course is designed to provide an introduction to the aims, methods, issues and problems associated with philosophy and philosophical activity. In this course students read and analyze selected classical and/or contemporary literature which portrays or dramatizes perennial philosophical questions, issues and themes relating to such topics as the nature of reality, the notion of the self, the issue of choice and determinism, the problem of good and evil, and characteristics of the good life. This offering may be of interest to students pursuing studies in literature or in the behavioral and/or social sciences. (FT) Transfer Credit: CSU and/or private coll/univ.; UC.

125 Philosophy of Women in World Cultures

Prerequisite: English 51 and 56, each with a grade of "C" or better, or equivalent, or Assessment Skill Levels W5 and R5.

This is an introduction and exploration of the concepts of womanhood and feminism in the mythic, classic, medieval, and major modern philosophical traditions. The images, roles, and beliefs about women found in the humanities will be explored with respect to their impact and contemporary relevance. (FT) Transfer Credit: CSU and/or private coll/univ.; UC.

205 Critical Thinking and Writing in Philosophy

Prerequisite: English 101 or 105 with a grade of "C" or better, or equivalent, or Assessment Skill Levels W6 and R6.

This critical thinking and writing seminar in Philosophy is designed to enhance the student's critical thinking, writing, and research skills in preparation for upper division academic activity. Issues addressed in this class may involve various areas of human experience and aspiration: metaphysical, cosmological, scientific, political, ethical, aesthetic, and religious. Together with the application of basic principles of deduction and induction, special attention is given to identifying and avoiding fallacies in reasoning and to techniques
and aids to research, reasoning, and writing. (FT)
Transfer Credit: CSU and/or private coll/ univ.; UC.

290 Independent Study

Hours by Arrangement: 1-3 units
Advisory: English 51 and 56, each with a grade of “C” or better, or equivalent, or Assessment Skill Levels W5 and R5.
Limitation on Enrollment: Must obtain an Add Code from instructor for registration.

For students who wish to study special problems. This course may be taken four times with different content for a maximum of six units. Transfer Credit: CSU and/or private coll/univ.; UC transfer limitations. See a counselor.

296 Individual Instruction in Philosophy

1.5 - 6 hours lab, 0.5 - 2 units
Credit/No Credit Only
Advisory: English 51 and 56, each with a grade of “C” or better, or equivalent, or Assessment Skill Levels W5 and R5.
Limitation on Enrollment: Enrollment in an approved related course; Must obtain an Add Code from instructor for registration.

This course employs self-paced multimedia systems to assist students to reach specific learning objectives, and is intended to be supplementary to designated courses. Transfer Credit: CSU and/or private coll/univ.

This discipline may offer specialized instruction in one or more of the following areas: Supervised Tutoring (044), Special Topics (265), Independent Study (290), Individualized Instruction (296), Service Learning (277), Applied Applications and Software Skills (045L), or Work Experience (270). Detailed course descriptions are listed on page 94. Please refer to the class schedule and/or see the dean or department chair for availability.

Photography

See “Visual and Performing Arts” on page 313.
Description
Earth and physical sciences, including astronomy, chemistry, geography, geology, and physics are disciplines classified as natural sciences. They generally involve nonliving materials and the principles of fundamental relationships and laws in the universe.

Program Emphasis
These programs are designed to prepare students with basic concepts in astronomy, chemistry, geography, geology and physics which provide the foundation for upper division study in a baccalaureate institution and also satisfy general education requirements.

Faculty Office Telephone
Nancy Crispen              M-207 (619) 388-3612
Ram Gurumurthy           M-207 (619) 388-3641
Herald R. Kane M-208 (619) 388-3642
Poovan Murugesan M-210 (619) 388-3360
Gerardo Scappaticci M-209 (619) 388-3356

Career Options
Most careers in earth and physical sciences fields require education beyond the associate degree and many require a graduate degree. A brief list of career options in the physical sciences includes: astronomer, biophysicist, biochemist, chemist, earth scientist, environmentalist, geographer, geologist, geophysicist, meteorologist, oceanographer, paleontologist, physicist and physical science instructor.

Academic Programs
The associate degrees in Physical and Earth Sciences, Astronomy, Chemistry, Geography, Geology and Physics, require completion of the courses listed for each degree. Additional general education and graduation requirements for the associate degree are listed in the catalog. The associate degree requires a minimum of 60 units.

Transfer Information
(See section following associate degree requirements for all Physical and Earth Sciences majors). Students planning to transfer to a four-year college or university should complete courses required for the university major and the general education pattern required by that transfer institution. See catalog TRANSFER INFORMATION section. Additional courses may be required to meet university lower-division requirements. Course requirements at the transfer institution are subject to change and may be verified by a counselor or by consulting the current university catalog. Many Baccalaureate in Arts degrees require third semester competency in a foreign language. Consult the current catalog of the transfer institution and consult with a counselor.

Associate in Science Degree: Physical and Earth Sciences

Astronomy

Courses Required for the Major: Units
ASTR 101, 109 Descriptive Astronomy AND Practice in Observing ....................................3,1
MATH 150, Calculus I ........................................ 5
MATH 151, Calculus II ........................................ 4
MATH 252, Calculus III ........................................ 4
PHYS 195A, Mechanics, AND PHYS 196A, Problems in Mechanics ...................................4,1
PHYS 195B, Electricity & Magnetism AND PHYS 195B, Problems in Electricity & Magnetism ...4,1
PHYS 195C, Waves, Light & Modern Physics AND PHYS 196C Problems in Light & Modern Physics ....4,1

Total Units = 32

Recommended electives: Chemistry 200, 200L

San Diego State University
Astronomy, B.A.: Astronomy 101; Mathematics 150, 151 and 252; Physics 195A, 195B, 195C.
Recommend Chemistry 200, Mathematics 107 or Engineering 115 (Mesa). Third semester foreign language competency.

Associate in Science Degree: Physical and Earth Sciences

Chemistry

Courses Required for the Major: Units
CHEM 200, 200L, General Chemistry I, Lecture & Laboratory ........................................ 3,2
CHEM 201, 201L, General Chemistry II, Lecture & Laboratory ........................................ 3,2
CHEM 231, 231L, 232L, Organic Chemistry & Laboratory ........................................ 3,1,1
CHEM 251, Analytical Chemistry ..................................... 5

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MATH 150, Calculus I........................................... 5  
MATH 151, Calculus II.......................................... 4  
MATH 252, Calculus III ........................................ 4  
PHYS 195A, Mechanics, AND  
PHYS 196A, Problems in Mechanics.................4,1  
PHYS 195B, Electricity & Magnetism AND  
PHYS 196B, Problems in Electricity & Magnetism....4,1  
PHYS 195C, Waves, Light & Modern Physics AND........  
PHYS 196C Problems in Light & Modern Physics .....4,1  
**Total Units = 48**  

**Recommended electives:** Chemistry 233, 233L, 234L, 290, 296; Physics 124A, 124B.  

**Transfer Information:** Chemistry  
- **San Diego State University**  
  Chemistry, Certificate of the American Chemical Society, B.A., B.S; Chemical Physics, B.S.; Chemistry, B.A., B.S; Environmental Chemistry, B.A.; Biology, Chemistry, Earth Sciences, B.S.; Mathematics 150, 151, 252; Physics 195A,B,C, and 196A,B,C.  
- **University of California, San Diego**  
  **Chemical Education, B.S.**: Same as Chemistry/Biochemistry and add Biology 210A.  

**Associate in Science Degree: Physical and Earth Sciences**  

**Geography**  
**Courses Required for the Major:**  
- GEOG 101 & 101L, Physical Geography & Laboratory .................................................3,1  
- GEOG 102, Cultural Geography........................................... 3  
- ECON 120, Principles of Economics I ....................................... 3  
- ECON 121, Principles of Economics II ...................................... 3  
**Select eight units from:**  
- BIOL 107; CHEM 100, 100L, 200, 200L; MATH 107, 107L, 119, 121, 150; POLI 102; PSYC 258 ........ 8  
**Total Units = 21**  

**Recommended electives:** Geography 290, 296; Physical Science 100, 101.  

**Transfer Information:** Geography  
- **San Diego State University**  

**Associate in Science Degree: Physical and Earth Sciences**  

**Geology**  
**Courses Required for the Major:**  
- GEOL 100, 101, General Geology, Lecture & Laboratory......................................................... 3,1  
- BIOL 105 & 106 or 107, Biology Lecture & Laboratory......................................................... 3,1 or 4  
- CHEM 100, 200L, General Chemistry I & Laboratory.................................................................3,2  
- CHEM 201, 211L, General Chemistry II & Laboratory.................................................................3,2  
- MATH 150, Calculus I......................................................... 5  
- PHYS 120A, 120B, 121A, 121B, 125A & 125B General Physics I, II, Lab & Problem Solving for General Physics, OR  
- PHYS 195A, Mechanics, AND  
- PHYS 196A, Problems in Mechanics AND  
- PHYS 195B, Electricity & Magnetism AND  
- PHYS 196B, Problems in Electricity & Magnetism AND  
- PHYS 195C, Waves, Light & Modern Physics AND  
- PHYS 196C Problems in Light & Modern Physics .........................................................10 or 15  
**Total Units = 33 - 38**  

**Recommended electives:** Geology 290; Mathematics 107, 107L, 151, 252; a foreign language; and a course in mechanical drawing.  

**Transfer Information:** Geology  
- **San Diego State University**  
  Geological Sciences, Geology, B.S.: Biology 105,106 (Miramar) or 107 (City, Mesa); Mathematics 150; Physics 120A, 120B, 121A, 121B or 124A and 124B; Chemistry 200, 200L, 201, 201L; Mathematics 119 or Biology 200 or Psychology 258.  

**Associate in Science Degree: Physical and Earth Sciences**  

**Physics**  
**Courses Required for the Major:**  
- CHEM 200, 200L, General Chemistry I, Lecture & Laboratory......................................................... 3,2  
- CHEM 201, 211L, General Chemistry II, Lecture & Laboratory......................................................... 3,2  
- MATH 150, Calculus I......................................................... 5  
- MATH 151, Calculus II......................................................... 4  
- MATH 252, Calculus III......................................................... 4  
- PHYS 195A, Mechanics, AND  
- PHYS 196A, Problems in Mechanics.........................................................4,1
PHYS 195B, Electricity & Magnetism AND
PHYS 196B, Problems in Electricity & Magnetism ... 4, 1
PHYS 195C, Waves, Light & Modern Physics AND
PHYS 196C Problems in Light & Modern Physics ... 4, 1
Total Units = 38

Astronomy 101 and 109.

Transfer Information: Physics

San Diego State University
Physical Science, Single Subject Teaching Credential, B.S.: Astronomy 101, 109; Biology 210B or 215 and 250; Black Studies 106 or Speech 103; Chemistry 200, 200L and 201, 201L; Engineering 115 (Mesa) or Computer Information Systems 192; English 101 or 105 and 205; Geology 100, 101; Mathematics 150, 151, 252; Physics 195A, B, C and 196A, B, C; Social and Behavioral Science - 6 units; Humanities - 9 units; American Institutions - 6 units. See a counselor.

Physics, B.A., B.S.: Chemistry 200, 200L, 201, 201L; Engineering 115 (Mesa) or Computer and Information Systems 192; Mathematics 150, 151, 252; Physics 195A, B, C and 196A, B, C. For B.A.: Foreign Language third semester competency.

University of California, San Diego


Physics, General Physics, Secondary Education, B.A.: Chemistry 200, 200L, 201, 201L; Mathematics 150, 151, 252, 254 and 255; Physics 195A, B, C, and 196A, B, C.

Physics, B.S.: Physics 195A, B, C; Chemistry 200 and Computer and Information Systems 192 or Engineering 115 (Mesa); Mathematics 150, 151, 252, 254 and 255.

Courses

Astronomy (ASTR)

101 Descriptive Astronomy 3 hours lecture, 3 units
This course is an introductory survey of contemporary astronomy. Topics covered include the solar system, stars and stellar evolution, the Milky Way galaxy and cosmology. This course is designed for students planning to take advanced courses in the Physical and Earth Sciences and for transfer students planning to major in astronomy. (FT) Transfer Credit: CSU and/or private coll/univ.; UC.

109 Practice in Observing 3 hours lab, 1 unit
Corequisite: Completion of or concurrent enrollment in Astronomy 101.
Includes constellation study, use of astronomical coordinates and descriptive observations of celestial objects with telescope. Field trips will be required. (FT) Transfer Credit: CSU and/or private coll/univ. UC Transfer Credit: Astronomy (ASTR) 109 and 111 combined: maximum credit, one course.

This discipline may offer specialized instruction in one or more of the following areas: Supervised Tutoring (044), Special Topics (265), Independent Study (290), Individualized Instruction (296), Service Learning (277), Applied Applications and Software Skills (045L), or Work Experience (270). Detailed course descriptions are listed on page 94. Please refer to the class schedule and/or see the dean or department chair for availability.

Chemistry (CHEM)

100 Fundamentals of Chemistry 3 hours, 3 units
Corequisite: Chemistry 100L
Advisory: Mathematics 95 with a grade of “C” or better, or equivalent, or Assessment Skill Level M40; and English 51 and 56, each with a grade of “C” or better, or equivalent, or Assessment Skill Levels W5 and R5. Limitation on Enrollment: This course is not open to students with credit for or concurrent enrollment in Chemistry 200.
A beginning course to acquaint the student with the language and tools of chemistry. Includes elementary principles of inorganic and physical chemistry. Valuable as a foundation course for further work in chemistry. Students planning to transfer this course to a four-year institution must also complete Chemistry 100L. Concurrent enrollment in Chemistry 100L is required except with approval of the department. Transfer Credit: CSU and/or private coll/univ. UC Transfer Credit: Chemistry (CHEM) 100, 100L and 151 combined: maximum credit, four units. No credit for 100, 100L or 151 if taken after 200. (CAN CHEM 6 when taken with Chemistry 100L). (CAN CHEM SEQ B = CHEM 100+100L+130+130L).
100L Fundamentals of Chemistry Laboratory
3 hours lab, 1 unit
Corequisite: Chemistry 100.
Advisory: Mathematics 95 with a grade of “C” or better, or equivalent, or Assessment Skill Level M40; and English 51 and 56, each with a grade of “C” or better, or equivalent, or Assessment Skill Levels W5 and R5.
A laboratory course designed to illustrate the principles presented in Chemistry 100. Acquaints the student with common laboratory equipment and data collection. Transfer Credit: CSU and/or private coll/univ. UC Transfer Credit: Chemistry (CHEM) 100, 100L and 151 combined: maximum credit, four units. No credit for 100, 100L or 151 if taken after 200. (CAN CHEM 6 when taken with Chemistry 100) (CAN CHEM SEQ B = CHEM 100+100L +130+130L).

130 Introduction to Organic and Biological Chemistry
3 hours, 3 units
Prerequisite: Chemistry 100 and 100L, each with a grade of “C” or better, or equivalent.
Corequisite: Chemistry 130L.
A continuation of Chemistry 100 with emphasis on organic chemistry. Pre-nursing and home economics students intending to go into the baccalaureate program must complete Chemistry 100, 100L, 130 and 130L. Transfer Credit: CSU and/or private coll/univ. UC Transfer Credit: Chemistry (CHEM) 130, 130L and 231 and 231L combined: maximum credit, one course (with lab). (CAN CHEM B when taken with Chemistry 130L). (CAN CHEM SEQ B = CHEM 100+100L +130+130L).

130L Introduction to Organic and Biological Chemistry Laboratory
3 hours lab, 1 unit
Prerequisite: Chemistry 100 and 100L, each with a grade of "C" or better, or equivalent.
Corequisite: Chemistry 130.
This is a one-semester laboratory course that illustrates the principles presented in Chemistry 130. Students are introduced to common organic chemistry laboratory equipment, fundamental organic and biochemical reactions, tests and techniques. Techniques covered include chromatography, recrystalization, and distillation. Tests and reactions of common organic functional groups, carbohydrates, fats, and amino acids are covered. Synthesis of a medicinal compound such as aspirin or a nitrogen-based analgesic is also covered. (FT) Transfer Credit: CSU and/or private coll/univ. UC Transfer Course List: Chemistry (CHEM) 130, 130L and 231, 231L combined: maximum credit, one course (with lab). (CAN CHEM 8 when taken with Chemistry 130) (CAN CHEM SEQ B = CHEM 100+100L+130+130L).

152 Introduction to General Chemistry
3 hours lecture, 3 units
Corequisite: Chemistry 152L.
Advisory: Mathematics 96 with a grade of "C" or better, or equivalent, or Assessment Skill Level M50; and English 51 and 56; each with a grade of "C" or better, or equivalent, or Assessment Skill Levels W5 and R5.
Limitation on Enrollment: This course is not open to students with credit for Chemistry 151.
This is a one semester preparatory course in chemistry consisting of an intensive study of some of the principles of inorganic and physical chemistry that are needed before taking Chemistry 200. Topics include but are not limited to atomic structure, chemical nomenclature, periodicity, chemical equations, stoichiometry, solutions, intermolecular forces, and gas laws. The course emphasizes problem solving and chemical calculations. It is intended for those students majoring in one of the natural sciences, engineering, or related curricula who do not meet the entrance requirements of Chemistry 200. (FT) Transfer Credit: CSU and/or private coll/univ.; UC Transfer Credit: Chemistry (CHEM) 152 and 152L and 100, 100L combined. Maximum credit, four units.

152L Introduction to General Chemistry Laboratory
3 hours lab, 1 unit
Corequisite: Chemistry 152.
Advisory: Mathematics 96 with a grade of "C" or better, or equivalent, or Assessment Skill Level M50; and English 51 and 56; each with a grade of "C" or better, or equivalent, or Assessment Skill Levels W5 and R5.
Limitation on Enrollment: This course is not open to students with credit for Chemistry 151.
This is a one-semester laboratory course intended as the companion course for Chemistry 152. Topics include chemical measurement, significant figures, laboratory safety, and stoichiometry. An emphasis is placed on problem solving, data analysis and chemical calculations. It is intended for those students majoring in one of the natural sciences, engineering or related curricula, who do not meet the entrance requirements of Chemistry 200. (FT) Transfer Credit: CSU and/or private coll/univ.; UC Transfer Credit: Chemistry (CHEM) 152, 152L and 100, 100L combined. Maximum credit, four units.
160 Introductory Biochemistry

3 hours, 3 units
Grade Only

Prerequisite: Chemistry 130 with a grade of "C" or better, or equivalent.

The basic principles of the chemistry of biological processes are studied. This course is intended for majors in home economics, nursing, and allied health professions or academic majors in the chemical or life sciences. Topics include acid/base chemistry, thermodynamics, cell biology, amino acids and proteins, enzymes, lipids, membranes and transport, carbohydrates, metabolism, nucleic acids and information transfer. (FT) Transfer Credit: CSU and/or private coll/univ.

200 General Chemistry I - Lecture

3 hours, 3 units

Prerequisite: Chemistry 151 or 152 and 152L (formerly Chemistry 151), each with a grade of "C" or better, or equivalent; and Mathematics 96 with a grade of "C" or better, or equivalent, or Assessment Skill Level M50. Corequisite: Chemistry 200L.

This is the first course in a two-course sequence in general chemistry and is intended for students majoring in science or satisfying prerequisites for professional schools. The course covers the principles and laws of inorganic chemistry with emphasis on quantitative mathematical problem solving. Topics include chemical equations, stoichiometry, atomic theory and its relationship to periodicity of the elements, bonding theories, molecular geometry, solution chemistry, liquids, solids, and the gas laws. Transfer Credit: CSU and/or private coll/univ.; UC. (CAN CHEM 2 when taken with Chemistry 200L) (CAN CHEM SEQ A = CHEM 200+200L+201+201L)

200L General Chemistry I - Laboratory

6 hours lab, 2 units

Corequisite: Chemistry 200.

This is the first semester laboratory course in a two-course sequence in general chemistry and is intended for students majoring in science or satisfying prerequisites for professional schools. The course illustrates the fundamental principles of physical and inorganic chemistry with some organic chemistry in terms of laboratory experiments. Topics include techniques of data analysis, chemical kinetics, chemical equilibrium, acids, bases, and salts, thermochemistry, electrochemistry, coordination chemistry and organic chemistry. Wherever appropriate and whenever possible, computer skills are introduced and applied to data analysis, laboratory simulations, and computer interfacing with laboratory equipment. Transfer Credit: CSU and/or private coll/univ.; UC. (CAN CHEM 4 when taken with Chemistry 201) (CAN CHEM SEQ A = CHEM 200+200L+201+201L)

201 General Chemistry II Lecture

3 hours, 3 units

Prerequisite: Chemistry 200 and 200L, each with a grade of "C" or better, or equivalent. Corequisite: Chemistry 201L.

This is the first course in a two-course sequence in general chemistry and is intended for students majoring in science or satisfying prerequisites for professional schools. The course covers the principles and laws of physical and inorganic chemistry with emphasis on quantitative, mathematical problem solving. Topics include chemical kinetics, chemical equilibrium, acid-base theory, thermochemistry, thermodynamics, electrochemistry, coordination chemistry, and nuclear chemistry. The course also includes an introduction to organic and biochemistry. Transfer Credit: CSU and/or private coll/univ.; UC. (CAN CHEM 4 when taken with Chemistry 201L) (CAN CHEM SEQ A = CHEM 200+200L+201+201L)

201L General Chemistry II Laboratory

6 hours lab, 2 units

Corequisite: Chemistry 201.

This is the second semester laboratory course in a two-course sequence in general chemistry and is intended for students majoring in science or satisfying prerequisites for professional schools. The course illustrates the fundamental principles of physical and inorganic chemistry with some organic chemistry in terms of laboratory experiments. Topics include techniques of data analysis, chemical kinetics, chemical equilibrium, acids, bases, and salts, thermochemistry, electrochemistry, coordination chemistry and organic chemistry. Wherever appropriate and whenever possible, computer skills are introduced and applied to data analysis, laboratory simulations, and computer interfacing with laboratory equipment. Transfer Credit: CSU and/or private coll/univ.; UC. (CAN CHEM 4 when taken with Chemistry 201) (CAN CHEM SEQ A = CHEM 200+200L+201+201L)

231 Organic Chemistry I - Lecture

3 hours, 3 units

Prerequisite: Chemistry 201 and 201L, each with a grade of "C" or better, or equivalent. Corequisite: Chemistry 231L and 232L. Advisory: English 101 or 105 with a grade of "C" or better, or equivalent, or Assessment Skill Levels W6 and R6.
Stresses aliphatic compounds and includes an introduction to aromatic compounds. Discusses molecular structure and stereochemistry of organic compounds; structure and reactivity, reaction mechanisms, organic synthesis, and special topics. Transfer Credit: CSU and/or private coll/univ. UC Transfer Credit: Chemistry (CHEM) 130, 130L and 231 and 231L combined: maximum credit, one course (with Lab).

231L Organic Chemistry I - Laboratory
3 hours lab, 1 unit
Prerequisite: Chemistry 201 and 201L, each with a grade of “C” or better, or equivalent.
Corequisite: Chemistry 231.
Advisory: English 101 or 105 with a grade of “C” or better, or equivalent, or Assessment Skill Levels W6 and R6.
An introduction to organic chemistry laboratory techniques, including melting points, boiling points, distillation, gas chromatography, column chromatography and recrystallization. Transfer Credit: CSU and/or private coll/univ. UC Transfer Credit: Chemistry (CHEM) 130, 130L and 231 and 231L combined: maximum credit, one course (with Lab).

232L Organic Chemistry I - Laboratory Continued
3 hours lab, 1 unit
Prerequisite: Chemistry 201 and 201L, each with a grade of “C” or better, or equivalent.
Corequisite: Chemistry 231.
A continuation of organic chemistry laboratory techniques, including synthesis of organic compounds and the use of spectrophotometric techniques in qualitative organic analysis. Transfer Credit: CSU and/or private coll/univ.; UC.

233 Organic Chemistry II - Lecture
3 hours, 3 units
Prerequisite: Chemistry 231 with a grade of “C” or better, or equivalent.
This course includes nomenclature, preparation and reactions of classes of aromatic and aliphatic organic compounds including alcohols, carbonyl compounds, esters, and amines. Transfer Credit: CSU and/or private coll/univ.; UC.

233L Organic Chemistry II - Laboratory
3 hours lab, 1 unit
Prerequisite: Chemistry 231 with a grade of “C” or better, or equivalent.
Corequisite: Chemistry 233.
This course includes nomenclature, preparation and reactions of classes of aromatic and aliphatic organic compounds including alcohols, carbonyl compounds, esters, and amines. Transfer Credit: CSU and/or private coll/univ.; UC.

234L Organic Chemistry II - Laboratory Continued
3 hours lab, 1 unit
Prerequisite: Chemistry 231 with a grade of “C” or better, or equivalent.
Corequisite: Chemistry 233.
This course is a continuation of organic chemistry laboratory with emphasis on multi-step synthesis and qualitative organic analysis. Transfer Credit: CSU and/or private coll/univ.; UC.

251 Analytical Chemistry
3 hours lecture, 3 units
6 hours lab, 2 units
Prerequisite: Chemistry 201 and 201L and Mathematics 150, each with a grade of “C” or better, or equivalent.
Advisory: English 101 or 105 with a grade of “C” or better, or equivalent, or Assessment Skill Levels W6 and R6.
Theory and practice of gravimetric and volumetric methods of chemical analysis and introduction to instrumental methods of analysis. It is recommended that students who plan to enroll in this course do so the semester following completion of Chemistry 201. (FT) Transfer Credit: CSU and/or private coll/univ.; UC. (CAN CHEM 12)
This discipline may offer specialized instruction in one or more of the following areas: Supervised Tutoring (044), Special Topics (265), Independent Study (290), Individualized Instruction (296), Service Learning (277), Applied Applications and Software Skills (045L), or Work Experience (270). Detailed course descriptions are listed on page 94. Please refer to the class schedule and/or see the dean or department chair for availability.

Geography (GEOG)

101 Physical Geography
3 hours, 3 units
Advisory: English 51 and 56, each with a grade of “C” or better, or equivalent, or Assessment Skill Levels W5 and R5.
Geography 101 may not be used toward a social science major if used to satisfy science requirements. The major world patterns of physical environment. Fundamental
information and processes dealing with the earth’s landforms, atmosphere, climate, natural vegetation, water, and soils with appropriate use of maps and charts. (FT) Transfer Credit: CSU and/or private coll/univ.; UC. (CAN GEOG 2)(CAN GEOG 6 when taken with GEOG 101L)

101L Physical Geography Laboratory  
3 hours, 1 unit  
Corequisite: Completion of or concurrent enrollment in Geography 101.  
Advisory: Mathematics 32 with a grade of “C” or better, or equivalent, or Assessment Skill Level M20; and English 51 and 56, each with a grade of “C” or better, or equivalent, or Assessment Skill Levels W5 and R5. Practical observations and applications of the geographic grid atlases and topographical maps, weather and climate, natural vegetation and soils, and landforms. Exercises designed to supplement Physical Geography 101. (FT) Transfer Credit: CSU and/or private coll/univ.; UC. (CAN GEOG 6 when taken with GEOG 101)

102 Cultural Geography  
3 hours, 3 units  
Advisory: English 101 or 105 with a grade of “C” or better, or equivalent, or Assessment Skill Levels W6 and R6. This course is an introduction to thematic cultural geography. The elements covered include population, race, language, religion, settlement patterns, political organization, economic activities, industry, and the regional distribution of these elements. (FT) Transfer Credit: CSU and/or private coll/univ.; UC. (CAN GEOG 4)

104 World Regional Geography  
3 hours lecture, 3 units  
Advisory: English 101 or English 105 with a grade of “C” or better, or equivalent, or Assessment Skill Levels W6 and R6. This course provides a critical survey of the physical, political, and economic characteristics of the major geographical regions of the world. The regions examined are Europe, North America, Latin American, Africa, Asia, Australia, and the Pacific Rim. Analysis of concepts such as spatial distribution of particular phenomena, factors that change regions, and human and environment interactions are explored. This course is designed to serve as an elective in the social sciences as part of a general education requirement for transfer students. (FT) Transfer Credit: CSU and/or private coll/univ; UC. (CAN GEOL 2 when taken with Geology 101)

This discipline may offer specialized instruction in one or more of the following areas: Supervised Tutoring (044), Special Topics (265), Independent Study (290), Individualized Instruction (296), Service Learning (277), Applied Applications and Software Skills (045L), or Work Experience (270). Detailed course descriptions are listed on page 94. Please refer to the class schedule and/or see the dean or department chair for availability.

Geology (GEOL)

100 General Geology  
3 hours lecture, 3 units  
Advisory: English 56 with a grade of “C” or better, or equivalent, or Assessment Skill Level R5. This course investigates the physical characteristics of the earth as a whole, and the past, present, and future evolutionary processes affecting it. Primary topics include earth materials, geologic time, uniformitarianism, the fossil record, and plate tectonics. The course is designed for those students with a general interest in geology or earth science. (FT) Transfer Credit: CSU and/or private coll/univ; UC. (CAN GEOL 6) (CAN GEOL 2 when taken with Geology 101)

101 General Geology Laboratory  
3 hours lab, 1 unit  
Advisory: English 56 with a grade of “C” or better, or equivalent, or Assessment Skill Level R5; and completion of or concurrent enrollment in Geology 100. This laboratory course covers mineral and rock identification, landforms, topographic/geologic map interpretation, and geologic structures. The course is designed to supplement Geology 100 with laboratory experience. (FT) Transfer Credit: CSU and/or private coll/univ; UC. (CAN GEOL 2 when taken with Geology 100)

290 Independent Study  
Hours by Arrangement; 1-3 units  
Advisory: Geology 100 and Geology 101, each with a grade of “C” or better, or equivalent; and English 56 with a grade of “C” or better, or equivalent, or Assessment Skill Level R5. Limitation on Enrollment: Must obtain an Add Code from instructor for registration. For students who wish to study special problems. This course may be taken four times with different content for a maximum of six units. Transfer Credit: CSU and/or private coll/univ.; UC transfer limitations. See a counselor.
This discipline may offer specialized instruction in one or more of the following areas: Supervised Tutoring (044), Special Topics (265), Independent Study (290), Individualized Instruction (296), Service Learning (277), Applied Applications and Software Skills (045L), or Work Experience (270). Detailed course descriptions are listed on page 94. Please refer to the class schedule and/or see the dean or department chair for availability.

### Physical Science (PHYN)

#### 100 Survey of Physical Science

| 3 hours, 3 units |

**Advisory:** Concurrent enrollment in Physical Science 101.  
**Advisory:** English 42 with a grade of “C” or better, or equivalent, or Assessment Skill Level R4; and Mathematics 32, with a grade of “C” or better, or equivalent, or Assessment Skill Level M20.  
This course is an introductory survey of the fundamental concepts of astronomy, geology, chemistry and physics and the interrelationships among these disciplines. Emphasis is placed on the ways in which the physical sciences affect life on the planet and the role discipline plays in addressing issues and problems related to energy, ecology and environmental sustainability. This course is recommended for students planning to major in geography and/or planning to transfer to a four-year institution. Transfer Credit: CSU and/or private coll/univ.; UC Transfer Credit: Physics (PHYS) 120A,B, 121A,B and 124A,B and 195A,B,C combined: maximum credit, one series (per catalog) deduct credit for duplication of topics. (CAN PHYS 2 when taken with Physics 121A) (CAN PHYS SEQ A = PHYS 120A+121A+120B+121B)

#### 101 Survey of Physical Science Laboratory

| 3 hours lab, 1 unit |

**Corequisite:** Physics 125A and completion of or concurrent enrollment in Mathematics 121 with a grade of “C” or better, or equivalent.  
**Limitation on Enrollment:** This course is not open to students who have taken a college course in Chemistry or Physical Science.  
This course is an introductory survey of the concepts and principles of physics. Emphasis is placed on developing an understanding of the properties of matter, mechanics, heat and sound in order to make calculations and solve fundamental physics problems.  
(FT) Transfer credit: CSU and/or private coll/univ.; UC Transfer Credit: Physics (PHYS) 120A,B, 121A,B and 124A,B and 195A,B,C combined: maximum credit, one series (per catalog) deduct credit for duplication of topics. (CAN PHYS 4 when taken with Physics 121B) (CAN PHYS SEQ A = PHYS 120A+121A+120B+121B)

#### 120A General Physics I

| 3 hours lecture, 3 units |

**Corequisite:** Physics 125A and completion of or concurrent enrollment in Mathematics 121 with a grade of “C” or better, or equivalent.  
**Limitation on Enrollment:** This course is not open to students with previous credit for or concurrent enrollment in Physics 124A.  
This course is an introductory survey of the concepts and principles of physics. Emphasis is placed on developing an understanding of the properties of electricity, magnetism, light and modern physics in order to make calculations and solve fundamental physics problems.  
(FT) Transfer credit: CSU and/or private coll/univ.; UC Transfer Credit: Physics (PHYS) 120A,B, 121A,B and 124A,B and 195A,B,C combined: maximum credit, one series (per catalog) deduct credit for duplication of topics. (CAN PHYS 4 when taken with Physics 121B) (CAN PHYS SEQ A = PHYS 120A+121A+120B+121B)

#### 120B General Physics II

| 3 hours lecture, 3.0 units |

**Prerequisite:** Physics 120A with a grade of “C” or better, or equivalent.  
**Corequisite:** Physics 125B.  
**Limitation on Enrollment:** This course is not open to students with previous credit for or concurrent enrollment in Physics 124B.  
This course is an introductory survey of the concepts and principles of physics. Emphasis is placed on developing an understanding of the properties of electricity, magnetism, light and modern physics in order to make calculations and solve fundamental physics problems.  
(FT) Transfer credit: CSU and/or private coll/univ.; UC Transfer Credit: Physics (PHYS) 120A,B, 121A,B and 124A,B and 195A,B,C combined: maximum credit, one series (per catalog) deduct credit for duplication of topics. (CAN PHYS 4 when taken with Physics 121B) (CAN PHYS SEQ A = PHYS 120A+121A+120B+121B)

#### 121A General Physics Lab

| 3 hours lab, 1 unit |

**Corequisite:** Physics 120A and 125A.  
This is a laboratory course to accompany Physics 120A; Physics 121A covers properties of matter, mechanics, heat, wave motion and sound. Transfer Credit: CSU and/or private coll/univ.; UC Transfer Credit: Physics (PHYS) 120AB+121AB and 124AB and 195ABC combined: maximum credit, one series (per catalog) Deduct credit for duplication of topics. (CAN PHYS 2 when taken with...
121B General Physics Lab  
3 hours lab, 1 unit  
**Prerequisite:** Physics 120A with a grade of "C" or better, or equivalent.  
**Corequisite:** Physics 120B and 125B.  
This is a laboratory course to accompany Physics 120B; Physics 121B covers electricity, magnetism, optics and modern physics. Transfer Credit: CSU and/or private coll/uni.; UC Transfer Credit: Physics (PHYS) 120AB\121AB and 124AB and 195ABC combined: maximum credit, one series (per catalog) Deduct credit for duplication of topics. (CAN PHYS 4 when taken with Physics 120B). 
(CAN PHYS SEQ A = PHYS 102A+121A+120B +121B)

124A General Physics  
3 hours lecture, 3 hours lab, 4 units  
**Prerequisite:** Mathematics 96 with a grade of "C" or better, or equivalent, or Assessment Skill Level M50.  
**Corequisite:** Physics 125A.  
**Limitation on Enrollment:** This course is not open to students with previous credit for Physics 120A and Physics 120B.  
This course is an introductory survey of the concepts and principles of physics. Emphasis is placed on developing an understanding of the properties of matter, mechanics, heat and sound. This course is intended for students taking liberal arts and/or pre-professional courses that do not require Physics with calculus. (FT) Transfer Credit: CSU and/or private coll/uni.; UC Transfer Course List: Physics (PHYS) 120A,B, 121A,B and 124A,B and 195A,B,C combined: maximum credit, one series (per catalog) Deduct credit for duplication of topics.

124B General Physics  
3 hours lecture, 3 hours lab, 4 units  
**Prerequisite:** Physics 124A with a grade of "C" or better, or equivalent.  
**Corequisite:** Physics 125B.  
**Limitation on Enrollment:** This course is not open to students with previous credit for Physics 120B or 121B.  
This course is the second in a two-part, introductory survey of the concepts and principles of physics. Major topics are electricity, magnetism, light and modern physics. This course is intended for students taking liberal arts and/or pre-professional courses that do not require Physics with calculus. (FT) Transfer Credit: CSU and/or private coll/uni.; UC Transfer Course List: Physics (PHYS) 120A,B, 121A,B and 124A,B and 195A,B,C combined: maximum credit, one series (per catalog) Deduct credit for duplication of topics.

195B Electricity and Magnetism  
3 hours lecture, 3 hours lab, 4 units  
**Grade Only**  
**Prerequisite:** Physics 195A with a grade of "C" or better, or equivalent.  
**Corequisite:** Physics 196B.  
This is the second of a three-semester calculus-based general physics sequence, intended to satisfy the transfer requirements of students planning to major in the physical sciences and in engineering. The topics of study include the basic principles and applications of electrostatics, magnetostatics, time-varying electric and magnetic phenomena, direct and alternating current circuits, elementary electronics and...
electromagnetic waves. Emphasis is placed on the mathematical analysis of physical problems. Transfer Credit: CSU and/or private coll/univ. UC transfer limitations; See a counselor. (CAN PHYS 12) (CAN PHYS SEQ B = 195A+195B+195C)

195C Waves, Light, and Modern Physics
3 hours lecture, 3 hours lab, 4 units
Prerequisite: Physics 195A with a grade of “C” or better. Corequisite: Physics 196C.
The fundamental principles of physics in the areas of waves, the behavior of light, and an introduction to quantum physics and the atomic and nuclear properties of matter. Physics 195B and 195C may be taken concurrently only if Physics 195A was completed with a grade of “B” or better or with approval of department. Transfer Credit: CSU and/or private coll/univ.; UC Transfer Credit: Physics (PHYS) 120AB/121AB and 124AB and 195ABC combined: maximum credit, one series (per catalog) Deduct credit for duplication of topics. (CAN PHYS 14) (CAN SEQ B = PHYS 195A+195B+195C)

196A Problems in Mechanics
1 hour, 1 unit
Corequisite: Physics 195A.
Advisory: Mathematics 150 with a grade of “C” or better, or equivalent; and English 51 and 56, each with a grade of “C” or better, or equivalent, or Assessment Skill Levels W5 and R5.
Small group discussions of problem-solving methods in physics. Transfer Credit: CSU and/or private coll/univ.

196B Problems in Electricity and Magnetism
1 hour, 1 unit
Prerequisite: Physics 195A with a grade of “C” or better, or equivalent.
Corequisite: Physics 195B.
Small group discussions of problem-solving methods in physics. Transfer Credit: CSU and/or private coll/univ.

196C Problems in Light and Modern Physics
1 hour, 1 unit
Corequisite: Physics 195C.
Small group discussions of problem-solving methods in physics. Transfer Credit: CSU and/or private coll/univ.

This discipline may offer specialized instruction in one or more of the following areas: Supervised Tutoring (044), Special Topics (265), Independent Study (290), Individualized Instruction (296), Service Learning (277), Applied Applications and Software Skills (045L), or Work Experience (270). Detailed course descriptions are listed on page 94. Please refer to the class schedule and/or see the dean or department chair for availability.
Physical Education

Description
Physical Education is a discipline which focuses on the process through which individuals develop optimal physical, mental and social skills through regular physical activity. Exposure to varieties of movement experiences nurtures the development of active lifestyles necessary to achieve wellness objectives which improve the quality of life.

Program Emphasis
The Physical Education department offers a diverse curriculum which includes lower division theory courses designed for those who want to complete their Associate in Arts degree in Physical Education and transfer to an institution of higher learning. An additional component includes a basic instruction program which provides students a wide variety of movement experiences for the development of physical activity skills and knowledge necessary for lifetime wellness. A third program focuses on an adapted activities curriculum for students with disabilities. Finally, an intercollegiate program, offers performance-oriented students opportunities for competition.

Faculty

<table>
<thead>
<tr>
<th>Faculty</th>
<th>Office</th>
<th>Telephone</th>
</tr>
</thead>
<tbody>
<tr>
<td>Elizabeth Andersen</td>
<td>P-12</td>
<td>(619) 388-3703</td>
</tr>
<tr>
<td>Dede Bodnar</td>
<td>P-4B</td>
<td>(619) 388-3544</td>
</tr>
<tr>
<td>Christopher Brown</td>
<td>P-56</td>
<td>(619) 388-3705</td>
</tr>
<tr>
<td>James Colbert</td>
<td>P-5C</td>
<td>(619) 388-3706</td>
</tr>
<tr>
<td>Paulette Hopkins</td>
<td>P-4A</td>
<td>(619) 388-3140</td>
</tr>
<tr>
<td>Cassandra Macias</td>
<td>P-6</td>
<td>(619) 388-3969</td>
</tr>
<tr>
<td>Kathy McGinnis</td>
<td>P-202</td>
<td>(619) 388-3128</td>
</tr>
<tr>
<td>Jake Molina</td>
<td>P-7</td>
<td>(619) 388-3970</td>
</tr>
<tr>
<td>Ellen Turkel</td>
<td>P-202</td>
<td>(619) 388-3127</td>
</tr>
</tbody>
</table>

Career Options
Most career options directly related to physical education require baccalaureate degrees and some may require graduate degrees. Some of the career options in physical education include: athletic administrator; athletic trainer; coach; health/sport club manager; health and safety director; public, private or nonprofit organization recreation director; resort activities director; sports journalist and teacher. Students earning the Associate in Arts degree in Physical Education may find employment at assistant level positions in the K-12 school system, the fitness industry or recreational settings.

Academic Program

Associate in Arts Degree: Physical Education

Transfer Option

Courses Required for the Major: Units

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>PHYE 166, Weight Training</td>
<td>1</td>
</tr>
<tr>
<td>PHYE 241, Introduction to Exercise Science/Physical Education</td>
<td>2</td>
</tr>
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</table>

Select four units from:

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical Education 103-167 (See catalog for course titles and descriptions)</td>
<td>4</td>
</tr>
<tr>
<td>BIOL 107, General Biology, Lecture &amp; Lab</td>
<td>4</td>
</tr>
<tr>
<td>BIOL 230, Human Anatomy</td>
<td>4</td>
</tr>
<tr>
<td>SOCO 101, Principles of Sociology</td>
<td>3</td>
</tr>
</tbody>
</table>

Total Units = 18

Recommended electives: Physical Education 240, 243 or any activity course; Psychology 101, 258.

Transfer Information

Students planning to transfer to a four-year college or university should complete courses required for the university major and the degree general education pattern required by that transfer institution. See catalog TRANSFER INFORMATION section. Additional courses may be required to meet university lower-division requirements. Course requirements are subject to change at the transfer institution and may be verified by a counselor or by consulting the current university catalog. Many Baccalaureate in Arts degrees require third semester competency in a foreign language. Consult the current catalog of the transfer institution and consult with a counselor.

San Diego State University

Health Science, Emphasis in Community Health Education, B.S.: Biology 205, 230; Chemistry 100, 100L or 130, 130L; Health Education 101; Nutrition 150 (Mesa); Psychology 101, 258; Sociology 101; Speech 103.

Kinesiology, Pre-Physical Therapy, B.S.: Biology 210A and 230; Chemistry 200, 200L; Biology 200 or Mathematics 119 or Psychology 258; Physical Education 166, 241, 242; Physics 120A, 121A and...
Fitness Specialist

Certificate Program Description
Students in this program will be trained to be group exercise leaders and personal trainers. Students will learn the principles of exercise and physical conditioning, techniques of leading individual and group exercise classes, appropriate methods to establishing healthy behavior and the designing of personalized exercise prescriptions. They will be able to develop safe, effective exercise plans for a variety of clients.

Program Emphasis
The Fitness Specialist certificate program trains students for positions, entry-level or higher, in the growing fitness industry.

Career Options
Graduates will be qualified to be exercise testing technicians, fitness instructors, strength training instructors, aerobic instructors, and personal fitness trainers.

The fitness industry continued to experience growth and has an ongoing need for trained instructors and trainers in health clubs, fitness centers, and sports medicine clinics.

Please note that students enrolled in an occupational program must earn a grade of “C” or better in courses required for the major.

Certificate of Achievement:
Physical Education
Fitness Specialist

Courses Required for the Major: Units

PHYE 242, Care and Prevention of Injuries ............... 2
PHYE 280, Applied Exercise Physiology ...................... 2
PHYE 281, Applied Kinesiology .................................. 2
PHYE 282, Techniques of Weight Training ............... 2
PHYE 283, Exercise and Fitness Assessment .............. 2
PHYE 284, Fitness and Sports Nutrition ................ 2
PHYE 285, Exercise for Special Populations ............. 2
PHYE 286, Techniques of Exercise Leadership .......... 2
PHYE 287, Fitness Specialist Internship .................. 2

Total Units = 18

This program prepares candidates for American College of Sports Medicine (ACSM) or American Council of Exercise (ACE) certification exams.

Physical Education Classes/Intercollegiate Sports Disclaimer
Participation in all sports and physical education activities involves certain inherent risks.
Risks may include, but are not limited to, neck and spinal injuries that may result in paralysis or brain injury, injury to bones, joints, ligaments, muscles, tendons and other aspects of the muscular skeleton system, and serious injury, or impairment, to other aspects of the body and general health, including death. The San Diego Community College District, its officers, agents and employees are not responsible for the inherent risks associated with participation in physical education classes/intercollegiate sports.

Students are strongly advised to consult a physician prior to participating in any physical education activity.

Courses

Health Education (HEAL)

101 Health and Life-Style 3 hours, 3 units

Advisory: English 51 and 56, each with a grade of “C” or better, or equivalent, or Assessment Skill Levels W5 and R5.

This course studies aspects of mental, emotional, and physical health. Emphasis is placed on knowledge for development of attitude, understanding, and practice of a preventive lifestyle for healthy living and optimal wellness. Specific instructional areas include chronic diseases, physical activity, nutrition, weight management, birth control methods, human sexuality, alcohol, tobacco, and illicit chemical use, stress, and factors that contribute to wellness and longevity. Experience in personal health assessment and the changing of health behaviors is stressed. Satisfies State of California Health Education requirement for teaching credential. (FT) Transfer Credit: CSU and/or private coll/univ.; UC.

This discipline may offer specialized instruction in one or more of the following areas: Supervised Tutoring (044), Special Topics (265), Independent Study (290), Individualized Instruction (296), Service Learning (277), Applied Applications and Software Skills (045L), or Work Experience (270). Detailed course descriptions are listed on page 94. Please refer to the class schedule and/or see the dean or department chair for availability.
Physical Education (PHYE)

Physical Education classes are offered at the beginning, intermediate and advanced levels.

Aquatic Activities
A program which offers the student a choice from a variety of courses. Instruction and conditioning in all aspects of aquatics to provide a carry-over value for leisure life.

155 Swimming 2 - 3 hours lab, 0.5 - 1 unit
This course emphasizes instruction and practice in the fundamental to advanced swimming strokes including water safety skills. Stroke analysis, conditioning and endurance are stressed in the progression of classes. Beginning and intermediate levels are available. This course may be taken four times for credit. (FT) Transfer Credit: CSU and/or private coll/univ.; UC transfer limitations. See a counselor.

156 Water Exercise 2 hours lab, 0.5 unit or 3 hours lab, 1 unit
Instruction in the development of the fundamental elements of fitness through the application of water resistance and buoyancy. Progressive instruction includes the development of increasingly more strenuous exercises for cardiorespiratory fitness, muscular strength, endurance and flexibility. Transfer Credit: CSU and/or private coll/univ.; UC.

Individual Activities
A basic program which offers the student a choice of vigorous, competitive activity in individual sports and activities designed to provide carry-over value for leisure life. Instruction is in fundamental skills knowledge of rules and strategy, with emphasis on physical fitness.

047 Physical Activities for Youth 3 hours lab, 1 unit
Credit/No Credit Only
This course is the physical activity component for youth participating in the National Youth Sports Program. Students are introduced to a variety of physical activities, which provide the student with skills necessary to practice an active lifestyle. This course offers opportunities to engage in physical activities for health benefits, to study simple physical skill mechanics for efficiency of movement, to learn about the rules and regulations of physical activities for safety and participation strategies, and to recognize the health implications of an active lifestyle. Credit does not apply to the associate degree.

103 Aerobic Dance 2 - 3 hours lab, 0.5 - 1 unit
Aerobic Dance is a rigorous exercise course designed to increase both the fitness level of participating students and their understanding of what constitutes a safe and effective exercise program. Instruction includes a balanced exercise program of aerobics, toning, stretching, and relaxation along with discussion of related health topics. This course may be taken four times for credit. (FT) Transfer Credit: CSU and/or private coll/univ.; UC transfer limitations. See a counselor.

108 Badminton 2 hours lab, 0.5 unit or 3 hours lab, 1 unit
Instruction and practice in the fundamentals of the grip, strokes, footwork, court coverage and rules of play. Singles and doubles strategy, offensive and defensive positioning and tournament play will be progressively incorporated at intermediate and advanced levels. This course may be taken four times for credit. Transfer Credit: CSU and/or private coll/univ.; UC transfer limitations. See a counselor.

115 Bowling 2 - 3 hours lab, 0.5 - 1 unit
This course is designed to develop skills necessary to improve student performance of the fundamentals of the stance, point of origin, approach, back swing, release and follow through, rules, scoring and etiquette in the game of bowling. Progressive instruction emphasizes individual skill development, spot bowling and participation in a league bowling situation. This course may be taken four times for credit. Transfer Credit: CSU and/or private coll/univ.; UC transfer limitations. See a counselor.

123 Fitness Activities 2 - 3 hours lab, 0.5 - 1 unit
This course includes instruction in the skills necessary to improve aerobic fitness and cardiovascular health. Through fitness topics covered, students will develop an individual fitness program. Aerobic exercise focuses primarily on jogging, progressing to running for the development of comprehensive fitness. This course may be taken four times for credit. Transfer Credit: CSU and/or private coll/univ.; UC transfer limitations. See a counselor.
132 Individual Conditioning  
2 hours lab, 0.5 unit or 3 hours lab, 1 unit  
Individually programmed instruction in the fundamental skills of weight training and aerobic activity.  
Progressive instruction involves more advanced levels of weight training and comprehensive aerobic development. This course may be taken four times for credit. Transfer Credit: CSU and/or private coll/univ.; UC transfer limitations. See a counselor.

142 Racquetball  
2 hours lab, 0.5 unit or 3 hours lab, 1 unit  
Instruction and practice in the fundamental skills of grip, strokes, footwork, court coverage and rules of play. Singles and doubles strategy, offensive and defensive positioning and tournament play will be progressively incorporated at the intermediate and advanced levels. This course may be taken four times for credit. Transfer Credit: CSU and/or private coll/univ.; UC transfer limitations. See a counselor.

150 Lifelong Fitness Behaviors  
1 hour, 1 unit  
Grade Only  
This is a lecture course designed for students with limited knowledge or experience with physical fitness. Weekly lecture sessions will address the relationship between exercise and wellness. Lecture topics will include the value of exercise, health related physical fitness, nutrition, weight control, stress management, behavior modification, and hypokinetic disease prevention. Students will learn how to self-manage fitness behavior modifications. This class must be taken concurrently with Physical Education 153. Transfer Credit: CSU and/or private coll/univ.

153 Lifelong Fitness Lab  
2 - 3 hours lab, 0.5 - 1 unit  
Credit/No Credit Only  
This is an open enrollment laboratory physical fitness course designed to develop and encourage positive attitudes and habits with regard to cardiovascular efficiency, body composition, muscular strength and endurance, and flexibility. Each student will be assessed in the areas of body composition, cardiovascular efficiency, muscular strength and endurance and flexibility. An individual fitness profile will then be established. From this profile an individual fitness prescription will be developed. Fitness activity will primarily utilize exercise equipment organized into an aerobic super circuit. Additional assessment at the conclusion of the semester will provide data necessary to evaluate the accomplishment of stated goals. This course may be taken four times for credit. Transfer Credit: CSU and/or private coll/univ.

159 Tennis  
2 hours lab, 0.5 unit or 3 hours lab, 1 unit  
Instruction in the fundamental skills of the service, forehand and backhand strokes; court positioning, rules of the game and scoring. Progressive instruction includes the volley, overhead, singles and doubles strategy and tournament play. Instruction covering tennis scoring, court position, strategy, and strokes, including the forehand, backhand, serve, volley, and overhead. This course may be taken four times for credit. Transfer Credit: CSU and/or private coll/univ.; UC transfer limitations. See a counselor.

166 Weight Training  
2 hours lab, 0.5 unit or 3 hours lab, 1 unit  
This course is an introduction to progressive resistance training. It is designed for the student interested in developing strength, muscle endurance, and muscle tone. Instruction includes learning proper methods of weight training, various types of weight training programs, and safety factors. This course may be taken four times for credit. Transfer Credit: CSU and/or private coll/univ.; UC transfer limitations. See a counselor.

181A Adapted Swimming  
3 hours lab, 1 unit  
Limitation on Enrollment: A physician's medical release form is required. This course is not open to students with credit for Physical Education 181, 181C, or 181D. This course is designed for students with disabilities to learn how to swim through modified swimming strokes based on their abilities. Emphasis is placed on practice in the fundamental swimming strokes, including water safety skills. Stroke analysis, conditioning and endurance is stressed in the progression of the class. This course meets the SDCCD graduation requirements. This course may be taken four times for credit. Transfer Credit: CSU and/or private coll/univ.; UC transfer limitations. See a counselor.

182 Adapted Weight Training  
3 hours lab, 1 unit  
Limitation on Enrollment: A physician's medical release form is required. This course is designed for students with disabilities as an introduction to progressive resistance training. Emphasis is placed on developing cardiorespiratory and muscle endurance, muscle strength and flexibility and a healthy body composition through individualized safe and beneficial exercise programming. The course includes exercises that focus on relaxation, joint
mobility, body maintenance, and activities for daily living. This course may be taken four times for credit. Transfer Credit: CSU and/or private coll/univ.; UC transfer limitations. See a counselor.

184 Adapted Physical Fitness

2-3 hours lab, 0.5-1 unit

Limitation on enrollment: A physician's medical release form is required.

This course is designed for students with disabilities to provide opportunities for exercise and activities to improve cardiorespiratory endurance, flexibility, muscular endurance, strength, stress management and coordination. Activities can include walking, dance, rhythm activities, wheelchair pushing, jogging, relaxation training and exercises for joint mobility. This course may be repeated three times. (FT) Transfer Credit: CSU and/or private coll/univ.; UC transfer limitations. See a counselor.

232 Martial Arts

3 hours lab, 1 unit

Grade Only

This course is designed for students with an interest in martial arts. It is geared toward the International Okawan Goju-Ryu Karate-Do Federation (IOGKF) and the Tae Kwon Do Federation, with phrases and terms from other styles for general informational usage. Emphasis is placed on the fundamentals of martial arts including martial arts safety skills and etiquette, punches, blocks, strikes, kicks, stances, vital points, tournament terminology, numbers and Kata and Forms. Kick/strike analysis, flexibility, conditioning and endurance are stressed in the progression of the class. This course may be taken four times for credit. (FT) Transfer Credit: CSU and/or private coll/univ.

233 Kickboxing

2-3 hours lab, 0.5-1 unit

Grade Only

This course is designed for students to learn kickboxing. It includes solo training, partner training, equipment training, and controlled sparring as practiced by the Kali/Jeet Kune Do family, including JKD kickboxing, the arts of Muay Thai training, Savate, and Panantukan styles of kickboxing. Emphasis is placed on practice in the fundamentals of kickboxing including kickboxing safety skills and etiquette. Kick/strike analysis, balance flexibility, conditioning, muscular strength and endurance are stressed in the progression of the class. This course meets the SDCCD graduation requirements. This course may be taken four times for credit. (FT) Transfer Credit: CSU and/or private coll/univ.
This course may be taken four times for credit. (FT)
Transfer Credit: CSU and/or private coll/univ., UC.

206 Intercollegiate Cross-Country I
Fall, 10 hours, 2 units
Intercollegiate varsity cross-country competition.
Transfer Credit: CSU and/or private coll/univ.; UC
transfer limitations. See a counselor.

207 Intercollegiate Cross-Country II
10 hours, 2 units
Intercollegiate varsity cross-country competition.
Second season of competition. Transfer Credit: CSU
and/or private coll/univ.; UC transfer limitations. See a
counselor.

214 Intercollegiate Soccer I
10 hours, 2 units
Advisory: PHYE 149 with a grade of "C" or better, or
equivalent and/or previous competitive soccer experience.
This is the first course of intercollegiate soccer competition.
This course is offered separately for men and women. This course may be taken two times for credit. (FT)
Transfer Credit: CSU and/or private coll/univ.; UC transfer limitations. See a counselor.

215 Intercollegiate Soccer II
Fall, 10 hours, 2 units
Advisory: PHYE 149 with a grade of "C" or better, or equivalent and/or previous competitive soccer experience; and Concurrent enrollment in PHYE 257B is highly recommended.
This is the second course of intercollegiate soccer competition. This course is offered separately for men and women in the fall semester. This course may be taken two times for credit. (FT) Transfer Credit: CSU and/or private coll/univ.; UC transfer limitations. See a counselor.

216 Intercollegiate Softball I
Spring 10 hours, 2 units
This is a course in which students competing in their first intercollegiate softball season learn and practice the techniques and strategies necessary for successful participation. Those topics covered are fundamental through advanced skills and offensive and defensive strategies. This course is offered in the spring semester and may be taken two times for credit. (FT) Transfer Credit: CSU and/or private coll/univ.; UC transfer limitations. See a counselor.

217 Intercollegiate Softball II
Spring, 10 hours, 2 units
This is a course in which students competing in their second intercollegiate softball competition learn and practice the techniques and strategies necessary for successful participation. Those topics covered are fundamental through advanced softball skills and offensive and defensive strategies. This course is offered in the spring semester and may be taken two times for credit. (FT) Transfer Credit: CSU and/or private coll/univ.; UC transfer limitations. See a counselor.

220 Intercollegiate Tennis I
Spring, 10 hours lab, 2 units
This is a course for students competing in their first intercollegiate tennis season. This course is offered in the spring semester for men and women and may be taken two times for credit. (FT) Transfer Credit: CSU and/or private coll/univ.; UC transfer limitations. See a counselor.

221 Intercollegiate Tennis II
Spring, 10 hours lab, 2 units
This is a course for students competing in their second semester of intercollegiate tennis season. This course is offered in the spring semester for men and women and may be taken two times for credit. (FT) Transfer Credit: CSU and/or private coll/univ.; UC transfer limitations. See a counselor.

222 Intercollegiate Track and Field I
Spring, 10 hours, 2 units
Intercollegiate varsity track and field competition.
Transfer Credit: CSU and/or private coll/univ.; UC
transfer limitations. See a counselor.

223 Intercollegiate Track and Field II
Spring, 10 hours, 2 units
Intercollegiate varsity track and field competition.
Second season of competition. Transfer Credit: CSU
and/or private coll/univ.; UC transfer limitations. See a
counselor.

224 Intercollegiate Volleyball I
Fall, Spring, 10 hours lab, 2 units
Advisory: PHYE 161 with a grade of "C" or better, or equivalent and/or previous competitive volleyball experience.
This is the first course in intercollegiate volleyball competition. This course is offered in the fall semester for women and the spring semester for men and may be taken two times for credit. (FT) Transfer Credit: CSU
and/or private coll/univ.; UC transfer limitations. See a counselor.

225 Intercollegiate Volleyball II
Fall, Spring, 10 hours lab, 2 units
Advisory: PHYE 224 with a grade of "C" or better, or equivalent.
This is the second course in intercollegiate volleyball competition. This course is offered in the fall semester for women and the spring semester for men and may be taken two times for credit. (FT) Transfer Credit: CSU and/or private coll/univ.; UC transfer limitations. See a counselor.

Team Sports

111 Baseball
2 hours lab, 0.5 unit or 3 hours lab, 1 unit
Instruction to develop the fundamental skills of throwing, catching, running, hitting, rules of play and strategy. Intermediate and advanced levels emphasize both individual and team skill development and strategies involved in competitive game situations. This course may be taken four times for credit. Transfer Credit: CSU and/or private coll/univ.; UC transfer limitations. See a counselor.

112 Basketball
2 hours lab, 0.5 unit or 3 hours lab, 1 unit
This course offers basic instruction in the fundamental skills of basketball and team offense and defense. Instruction includes terminology, rules and strategy of the game. This course may be taken four times for credit. Transfer Credit: CSU and/or private coll/univ.; UC transfer limitations. See a counselor.

149 Soccer
2 hours lab, 0.5 unit or 3 hours lab, 1 unit
This course emphasizes progressive instruction and practice of basic fundamentals through advanced soccer skills. The topics covered include soccer techniques and skills, offensive and defensive strategies, rules, and officiating. This course may be taken four times for credit. (FT) Transfer Credit: CSU and/or private coll/univ.; UC transfer limitations. See a counselor.

151 Softball
2 - 3 hours lab, 0.5 - 1 unit
This course provides instruction in the fundamental skills of throwing, catching, running, hitting, and rules of play of softball as well as individual and team skill development and strategies involved in competitive game situations. This course may be taken four times for credit. (FT) Transfer Credit: CSU and/or private coll/univ.; UC transfer limitations. See a counselor.

161 Volleyball
2 hours lab, 0.5 unit or 3 hours lab, 1 unit
This course provides instruction and on-court experience in the skills, strategies, rules and behaviors necessary to play volleyball at the recreation level. This course may be taken four times for credit. Transfer Credit: CSU and/or private coll/univ.; UC transfer limitations. See a counselor.

Physical Education Theory Classes

240 Physical Education in the Elementary Schools
3 hours lecture, 1 hour lab, 3 units
Advisory: Completion of or concurrent enrollment in English 51 and 56, each with a grade of "C" or better, or equivalent, or W5 and R5.
This course includes a brief study of the growth, development and characteristics of the elementary school child. The elements of written lesson plans, units, evaluations and various forms of testing are covered. The teaching of fundamental skills, rhythms, dance and games based on sound physiological principles for this age group is emphasized. The positive impact of physical education on health and wellness in addition to academic achievement is explored. Actual teaching situations are experienced in the lab sessions. This course is designed to fulfill lower division preparation for the major for students interested in elementary education. (FT) Transfer Credit: CSU and/or private coll/univ.

241 Introduction to Exercise Science/Physical Education
2 hours, 2 units
Advisory: English 51 and 56 with grades of "C" or better, or equivalent, or Assessment Skill Levels W5, R5.
This course is the introductory course for students majoring in Physical Education and is required for the Associate in Arts degree in Physical Education. It provides the student an opportunity to study the history, basic philosophy, basic principles, and professional career options of exercise science. (FT) Transfer Credit: CSU and/or private coll/univ.; UC. (CAN KINE/PE 2)

242 Care and Prevention of Injuries
Fall, Spring, 2 hours lecture, 1 hour lab, 2 units
Advisory: English 51 and 56, each with a grade of "C" or better, or equivalent, or Assessment Skill Levels W5 and R5.
Prevention and care of common athletic injuries is discussed. This course covers the theory and practice of emergency field care and basic athletic first aid. Bandaging and/or taping techniques are included. (FT) Transfer Credit: CSU and/or private coll/uni.; UC. (CAN KINE/PE 4)

243 Fitness for Life Concepts
2 hours lecture, 2 hours lab, 3 units
This course will provide students with the necessary knowledge to make educated decisions about lifetime fitness and wellness activities. Students will learn concepts in cardiovascular fitness, strength training, flexibility, weight control and dietary habits. Through lecture/laboratory presentations, and Health Services directed sessions, students will apply learned concepts to the design of individualized fitness and nutritional programs. For optimal benefits, it is recommended that students register concurrently with a physical education activity class to implement their personal fitness plan. Transfer Credit: CSU and/or private coll/uni.

251A Professional Activities/Basketball I
Fall, 1.5 hours lecture, 1.5 hours lab, 2 units
This lecture/lab course includes discussion of rules, game strategies, history, and game preparation. The physiological requirements for the intercollegiate athlete and importance of nutritional components for optimal performance are emphasized. This course benefits students who are enrolled in PHYE 204, Intercollegiate Basketball I. (FT) Transfer Credit: CSU and/or private coll/uni.; UC.

251B Professional Activities/Basketball II
Fall, 1.5 hours lecture, 1.5 hours lab, 2 units
This lecture/lab course includes activities and discussion of advanced team strategies, efficient basketball conditioning techniques, goals for game preparation and leadership qualities for basketball. Concepts for team building and social skills necessary for success at the intercollegiate level are also emphasized. This course benefits students who are enrolled in PHYE 205, Intercollegiate Basketball II. (FT) Transfer Credit: CSU and/or private coll/uni.; UC transfer limitations. See a counselor.

252A Professional Activities/Baseball I
1.5 hours lecture, 1.5 hours lab, 2 units
Competency development with emphasis on skills, strategy, tactics, rules, officiating, facilities film review, and organizational procedures as it relates to school or college baseball. (FT) Transfer Credit: CSU and/or private coll/uni.; UC transfer limitations. See a counselor.

252B Professional Activities/Baseball II
1.5 hours lecture, 1.5 hours lab, 2 units
Sophomore athletic eligibility status required. A continuation of Physical Education 252A with emphasis on advanced skills, strategy, tactics, rules officiating, and organizational procedures in baseball. (FT) Transfer Credit: CSU and/or private coll/uni.; UC transfer limitations. See a counselor.

296 Individual Instruction in Physical Education
1.5 - 6 hours lab, 0.5 - 2 units
Credit/No Credit Only
Limitation on Enrollment: Enrollment in an approved related course. Concurrent enrollment in an approved course of the same discipline is required. This course provides supplemental instruction to reinforce achievement of the learning objectives of a course in the same discipline under the supervision of the instructor of the designated course. Learning activities may employ a variety of self-paced multimedia learning systems, language labs, print and electronic resources, laboratory, or field research arrangements, to assist student in reaching specific learning objectives. This open entry/open exit course is offered concurrently with designated courses. Transfer Credit: CSU and/or private coll/uni.

Fitness Specialist Courses

280 Applied Exercise Physiology
2 hours, 2 units
Grade Only
Advisory: Mathematics 95 with a grade of “C” or better, or equivalent, or Assessment Skill Level M40.
This course is part of the Fitness Specialist Certification. This course is designed for the student in the Fitness Specialist Certificate Program to study how the body functions under conditions of exercise stress and how fitness behaviors affect health and wellness. Emphasis is placed on muscular, cardiorespiratory, and other physiological processes that occur as a result of exercise conditioning, and the effect of disease. (FT) Associate Degree Credit.
281 Applied Kinesiology  
2 hours, 2 units  
Grade only  
This course is designed for the student in the Fitness Specialist Certificate Program to study movement as it relates to exercise under both normal and injury conditions. Students learn the practical implications of bones, joints, nerves, and muscle actions. Emphasis is placed on applying body alignment, range of motion, stabilization, and acceleration principles to the development of exercise programs. (FT) Associate Degree Credit.

282 Techniques of Weight Training  
2 hours, 2 units  
Grade Only  
This course, part of the Fitness Specialist Certification Program, is designed to provide a thorough review for those intending to teach weight training. The course studies anatomy and physiology, training sequences, available equipment, and safety factors, including contraindications. Associate Degree Credit.

283 Exercise and Fitness Assessment  
1.75 hour lecture, 0.75 hour lab, 2 units  
Grade Only  
This course is designed for the student in the Fitness Specialist Certificate Program to learn how to assess cardiorespiratory endurance, muscular strength and endurance, flexibility, body fat, pulmonary function, and blood pressure and evaluate the results. Emphasis is placed on determining the appropriate test, conducting the test, evaluating the results, and creating an exercise program. (FT). Associate Degree Credit.

284 Fitness and Sports Nutrition  
2 hours, 2 units  
Grade Only  
Advisory: English 51 and 56, each with a grade of “C” or better, or equivalent, or Assessment Skill Levels W5 and R5.  
This course is part of the Fitness Specialist Certification Program. Students will study the basic principles of nutrition and the ramifications of nutrition on sports activities. Associate Degree Credit.

285 Exercise for Special Populations  
2 hours, 2 units  
Grade Only  
This course is designed for the student in the Fitness Specialist Certificate to study the exercise implications for special populations related to age, medical condition and level of fitness. Emphasis is placed on cardiac conditions, diabetes, physical disabilities, HIV and AIDS, asthma, sensory impairments, seniors, children, athletes, mentally impaired and pregnant and post partum women and the issues and barriers to exercise. (FT) Associate Degree Credit.

286 Techniques of Exercise Leadership  
1.75 hours lecture, 0.75 hour lab, 2 units  
Grade Only  
This course is designed for the student in the Fitness Specialist Certificate Program to study the principles and techniques involved in teaching group exercise and developing a personal trainer/client relationship. Emphasis is placed on client assessment, communication skills, program design, exercise adherence, teaching strategies, and professional responsibility and liability. (FT). Associate Degree Credit.

287 Fitness Specialist Internship  
1 hour lecture, 6 hours lab, 2 units  
Grade Only  
Prerequisite: Physical Education 280 and 281 and 283, each with a grade of “C” or better, or equivalent.  
This course is designed to provide students in the Fitness Specialist Certificate Program with practical experience in the field of exercise and fitness. Emphasis is placed on participant screening, evaluation, and exercise program design, self marketing, fitness specialist/client relationships and professional responsibility in a fitness setting. (FT) Associate Degree Credit.

This discipline may offer specialized instruction in one or more of the following areas: Supervised Tutoring (044), Special Topics (265), Independent Study (290), Individualized Instruction (296), Service Learning (277), Applied Applications and Software Skills (045L), or Work Experience (270). Detailed course descriptions are listed on page 94. Please refer to the class schedule and/or see the dean or department chair for availability.

Physics  
See “Physical and Earth Sciences” on page 289.

Physical Science  
See “Physical and Earth Sciences” on page 289.
Description
The primary objectives of the Political Science program are to meet general education requirements for American Institutions and Social Sciences for the associate degree and to complete general education requirements for baccalaureate degrees. Political science is the study of human behavior as it relates to political situations. It involves the examination of institutions, processes, people, ideas and policies. The study of political science develops cultural literacy, critical thinking and other useful skills.

Program Emphasis
San Diego City College offers four courses in Political Science: Political Science 101, 102, 103 and 140. Completion of Political Science 101, 102 and 103 provides the student with lower division preparation for a baccalaureate degree in Political Science at San Diego State University.

Faculty
Ken A. Clark A-1(O) (619) 388-3611
Myles L. Clowers A-1(Q) (619) 388-3287
Donald H. Estes A-1(P) (619) 388-3651
Ternot MacRenato A-1(M) (619) 388-3634

Career Options
Most careers in political science require education beyond the associate degree and some require a graduate degree. This is not a comprehensive list but some of the most common career options with political science preparation include: public administrator, budget analyst, city planner, diplomatic corps member, elected official, legislative aide, journalist, lawyer, lobbyist, political scientist, public opinion surveyor, teacher and writer.

Academic Programs
The associate degree in Political Science requires completion of courses listed below. Additional general education and graduation requirements for the associate degree are listed in the catalog. The associate degree requires a minimum of 60 units.

Associate in Arts Degree: Political Science

Courses Required for the Major: Units
HIST 100 & 101, World History, I & II (Mesa) OR
HIST 105, 106, Introduction to Western Civilization, I & II ................................. 3,3
POLI 101, Introduction to Political Science ............. 3
POLI 102, The American Political System ............. 3
POLI 103, Comparative Politics.......................... 3
MATH 119, Elementary Statistics OR
PSYC 258, Behavioral Science Statistics ............... 3
Total Units = 18

Recommended electives: Political Science 140, 148 (Mesa), 172 (Mesa), 290, 296.

Transfer Information - Political Science
Students planning to transfer to a four-year college or university should complete courses required for the university major and the general education pattern required by that transfer institution. See catalog TRANSFER INFORMATION section. Additional courses may be required to meet university lower-division requirements. Course requirements are subject to change at the transfer institution and may be verified by a counselor or by consulting the current university catalog. Many Baccalaureate in Arts degrees require third semester competency in a foreign language. Consult the current catalog of the transfer institution and consult with a counselor.

- California State University, San Marcos
  Political Science, B.A.: Political Science 102 and Mathematics 119 or Psychology 258.

- San Diego State University
  Political Science, B.A.: Political Science 101, 102, 103; Biology 200 or Mathematics 119 or Psychology 258.
  Third semester foreign language competency required.
  Political Science, Emphasis in Legal Studies, B.A.: See a counselor for SDCCD courses that prepare for this major.

- University of California, San Diego
  Political Science, B.A.: Political Science 102, 103, 140.
Courses

Political Science (POLI)

101 Introduction to Political Science  
3 hours, 3 units  
Advisory: English 51 and 56, each with a grade of "C" or better, or equivalent, or Assessment Skill Levels W5 and R5.  
A survey course designed to acquaint the student with selected concepts, theories, and methods of the political process, their history and application. NOTE: Completion of Political Science 101 will fulfill the SDCC District's three-unit social science GE requirement. Political Science 101 is required for completion of the major in political science and is highly recommended for those students transferring to four-year institutions. (FT) Transfer Credit: CSU and/or private coll/univ.; UC.

102 The American Political System  
3 hours, 3 units  
Advisory: English 51 and 56, each with a grade of "C" or better, or equivalent, or Assessment Skill Levels W5 and R5.  
This comprehensive survey course, designed for students intending to transfer to a four-year college or university, provides an in depth study of the American political system. Both national and California experiences are studied from the perspective of constitutional frameworks, institutions, issues, and policies. NOTE: If used to satisfy the American Institutions requirement, Political Science 102 may not be used to satisfy the SDCC District's three-unit social science requirement. Political Science 102 is required for completion of the major in political science. Political Science 102 may be offered in a self-paced format. The completion of the Political Science 101 and 102 sequence fulfills both the SDCC District's American Institutions requirement and the SDCC District's three-unit social science GE requirement. (FT) Transfer Credit: CSU and/or private coll/univ.; UC. (CAN GOVT 2)

103 Comparative Politics  
3 hours, 3 units  
Advisory: English 51 and 56, each with a grade of "C" or better, or equivalent, or Assessment Skill Levels W5 and R5.  
A general study of selected governments, their development, organization, administration, and politics. Transfer Credit: CSU and/or private coll/univ.; UC.

140 Contemporary International Politics  
3 hours lecture, 3 units  
Advisory: English 51 and English 56 each with a grade of "C" or better, or equivalent, or Assessment Skill Levels W5 and R5.  
This course is a study of world politics including the various approaches to international relations and international political economy. Emphasis is placed on the roles of nationalism, nation-states, transnationalism and international organizations in the making of contemporary world politics as well as on issues of national security, power and diplomacy, economic competition, international law and the environment. (FT) Transfer Credit: CSU and/or private coll/univ.; UC. (CAN GOVT 2)

Psychology  
See “Behavioral Sciences” on page 101.

Radio and Television  
See “Communications” on page 162.

Real Estate  
See “Business Studies” on page 125.

Russian  
See “Languages” on page 252.
Selected Studies

Designed for students who are interested in a program of studies that will allow them to attain educational or career goals that are not satisfied by associate degrees offered in Programs of Instructions listed in this catalog.

Associate in Arts Degree Requirements

Courses Required for the Major:
The student must earn a minimum of 18 required semester units in a single discipline or related disciplines. The approved course of study represents a cohesive and rigorous program of instruction related to a specific goal not met by other Programs of Instruction as found in this catalog. The student and a counselor will develop a Selected Studies program to be submitted to an academic standards committee for review and approval. The student is encouraged to meet with the counselor early in his or her educational career to review the student's statement of justification for the Associate in Arts Degree: Selected Studies and to develop an education plan.

Only one course from the approved pattern for the Selected Studies major may be used to satisfy SDCCD general education requirements. Students must fulfill additional requirements for the Associate Degree as listed in this catalog.

For graduation requirements see Requirements for the Associate Degree on page 62.

Electives as needed to meet minimum of 60 units required for the degree:
Recommended Electives: Electives are particularly important in this program. They may be used by the student to strengthen the major, explore new fields of interest, and satisfy graduation requirements at a four-year institute.

The student who plans carefully may fulfill the requirements for the A.A. Degree and also complete most lower division requirements at the four-year institution of his/her choice in the major area and in general education. See generalized guide for transfer student located in this catalog.

Social Work

See “Behavioral Sciences” on page 101.

Sociology

See “Behavioral Sciences” on page 101.

Spanish

See “Languages” on page 252.

Speech

See “Communications” on page 162.

Theater

See “Visual and Performing Arts” on page 313.
Transfer Studies

The Transfer Studies Associate Degree is designed to enable students to complete the requirements for an Associate in Arts Degree and transfer to the University of California or to the California State University with lower-division general education requirements met. Determining lower-division major preparation for a given campus and major can be complex, and requirements change frequently. It is strongly advised that students meet with a counselor to assist them with this process.

Caution: Because admission and major preparation requirements vary at each UC, CSU, and private institution, it is strongly advised that students meet with a counselor to determine the specific admissions and major preparation requirements of the selected transfer institution. Some receiving institutions, such as San Diego State University, require that the student complete all courses offered in the preparation for the major, the general education pattern, and 60 transferable units before transferring. Completion of the Transfer Studies Degree does not guarantee acceptance into a four-year institution nor into a major.

CSU Transfer Pattern

The District accepts completion of a CSU General Education Pattern as fulfilling all college general education and graduation requirements.

To meet the requirements for this program, students must:

1. Complete a California State University (CSU) General Education pattern (a minimum of 39 units) (see “Certification of CSU General Education Breadth Requirements” on page 73 for course offerings meeting requirements in each of the following areas):
   - Area A: Communications in the English Language & Critical Thinking—minimum of 9 semester units
   - Area B: Physical Universe & Its Life Forms; Mathematics/Quantitative Reasoning—minimum of 9 semester units
   - Area C: Arts, Literature, Philosophy & Foreign Languages—minimum of 9 semester units
   - Area D: Social, Political & Economic Institutions and Behavior; Historical Background—minimum of 9 semester units
   - Area E: Lifelong Understanding & Self-Development—minimum of 3 semester units

2. Complete the required courses in the transfer major and other transferable courses necessary to fulfill the 60 semester units required for the Associate in Arts degree. (Sixty semester units must be transferable.)

3. Demonstrate competence in reading, written expression and mathematics.

4. Meet the SDCCD’s 12-unit residence requirement.

IGETC Transfer Curriculum

The District accepts completion of the Intersegmental General Education Transfer Curriculum as fulfilling all college general education and graduation requirements.

To meet the requirements for this program, students must:

1. Complete the Intersegmental General Education Transfer Curriculum (IGETC) for transfer to the University of California or California State University system (37-40 semester units) (see page 82 for course offerings meeting requirements in each of the following areas):
   - Area A: Communications in the English Language & Critical Thinking—minimum of 9 semester units
   - Area B: Physical Universe & Its Life Forms; Mathematics/Quantitative Reasoning—minimum of 9 semester units
   - Area C: Arts, Literature, Philosophy & Foreign Languages—minimum of 9 semester units
   - Area D: Social, Political & Economic Institutions and Behavior; Historical Background—minimum of 9 semester units
   - Area E: Lifelong Understanding & Self-Development—minimum of 3 semester units
   - Area F: U.S. History and Government
   - Area G: Science (Physics, Chemistry, or Biology)

2. Complete the required courses in the transfer major and other transferable courses necessary to fulfill the 60 semester units required for the Associate in Arts degree. (Sixty semester units must be transferable.)

3. Demonstrate competence in reading, written expression and mathematics.

4. Meet the SDCCD’s 12-unit residence requirement.

Associate in Arts Degree

<table>
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<th>Transfer Studies</th>
<th>Units</th>
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<tr>
<td>CSU Transfer Pattern</td>
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<tr>
<td>Intersegmental General Education Transfer Curriculum (IGETC)</td>
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<td>UC Transfer Admission Guarantee (TAG)</td>
<td>34-38*</td>
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<tr>
<td>Other Institutions Transfer Pattern</td>
<td>18 Minimum*</td>
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*and courses as needed to meet minimum of 60 units required for the degree.
Area 1: English Communication-6-9 semester units
Area 2: Mathematical Concepts & Quantitative Reasoning-3 semester units
Area 3: Arts & Humanities-9 semester units
Area 4: Social & Behavioral Sciences-9 semester units
Area 5: Physical & Biological Sciences-7-9 semester units and Languages Other Than English (UC requirement)

2. Complete the required courses in the transfer major and other transferable courses necessary to fulfill the 60 semester units required for the Associate in Arts degree. (Sixty semester units must be transferable.)

3. Demonstrate competence in reading, written expression and mathematics.

4. Meet the SDCCD’s 12-unit residence requirement.

UC Transfer Admission Guarantee (TAG)
(UCSD or Other UC TAG)

The District accepts completion of a UC Transfer or Admission Guarantee as fulfilling all college general education and graduation requirements.

To meet the requirements for this program, students must:
1. Complete the UC Transfer Admission Guarantee (TAG) core requirements (34-38 semester units) (see page 80 for course offerings meeting requirements in each area):
   A. Writing-2-course sequence
   B. Humanities-2-course sequence
   C. Foreign Language-2-course sequence
   D. Social Science-2-course sequence
   E. Calculus or Natural Science-2-course sequence

   NOTE: Students who elect to take the Calculus course sequence in Area E must complete an approved Natural Science course within their program to meet district general education graduation requirements for the Transfer Studies AA degree.

2. Completion of all TAG contract requirements.

3. Complete the required courses in the transfer major and other transferable courses necessary to fulfill the 60 semester units required for the Associate in Arts degree. (Sixty semester units must be transferable.)

4. Demonstrate competence in reading, written expression and mathematics.

5. Meet the SDCCD’s 12-unit residence requirement.

Other Institutions Transfer Pattern

The District accepts completion of the Other Institutions Transfer Pattern for private, independent or out-of-state institutions, as fulfilling college general education and graduation requirements for the Associate degree provided that a student has completed a minimum of 18 semester units in General Education and a minimum of 18 semester units in a major or courses in a discipline or related disciplines. Students must also demonstrate competence in reading, written expression and mathematics.

To meet the requirements for this program, students must:
1. Declare a specific accredited transfer institution and a specific transfer major.

2. Complete an educational plan with a counselor to include all GE requirements (minimum of 18 semester units) and preparation for the major for the Associate Degree. Educational plan must be on file in the Counseling Office.

Minimum general education requirements:

A. Natural Sciences - 3 semester units
B. Social and Behavioral Sciences - 3 semester units
C. Humanities - 3 semester units
D. Language and Rationality
   1. English Composition - 3 semester units
   2. Communication and Analytical Thinking - 3 semester units

Remaining 3-unit requirement must be selected from among the above four divisions of learning.

3. Complete the required courses in the transfer major and other transferable courses necessary to
Two- and Three-Dimensional Art
See “Visual and Performing Arts” on page 313.

Visual and Performing Arts

Art: Graphic Design

Description
Living in an information-seeking society, we are surrounded by words and pictures. It is the task of the graphic designer to research, analyze, organize and make artistic order out of chaos. Graphic design students must learn to speak a global visual language and develop an awareness of the meanings and power of symbols and words. The products and services they design and promote will make a social and ecological impact.

Program Emphasis
Early emphasis is on the design process, form, color and typography. The elements and principles of design are applied to projects which include packaging, magazine production, and design and production of posters, logos and brochures. Guided by instructors who are working design professionals, students learn to design for the real world. They make decisions about issues of concept, format, imagery, type, printing and methodology. Computer and traditional methods are used to solve graphic problems. The program culminates in a professional portfolio which can be used to continue studies to a four-year university or obtain employment. The portfolio is critiqued by practicing design advisors and alumni.

Faculty Office Telephone
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Andrea Singer C-225F (619) 388-3933 asinger@sdccd.net

Career Options
Some careers in graphic design-related work require education beyond the associate degree. This list is not all-inclusive: advertising designer, art director, environmental graphic designer, graphic designer, type designer, illustrator, and magazine/editorial designer, multimedia designer, web page designer.
Academic Programs
Major requirements for an emphasis in graphic design for the certificate and associate degree require completion of the courses listed below. Additional general education and graduation requirements for the associate degree are listed in the catalog. The associate degree requires a minimum of 60 units.

Certificate of Achievement: Visual and Performing Arts Graphic Design
Students are provided with skills for entry-level employment in the graphic design field while also developing a portfolio in graphic design for jobs and/or specific university admission requirements.

Courses Required for the Major: Units
ARTF 150A, Design I ............................................ 3
ARTG 106, Typography ......................................... 3
ARTG 118, Graphic Design History.......................... 3
ARTG 120, Illustration ......................................... 3
ARTG 124, Intermediate Graphic Design I (Page Layout) ............................................... 3
ARTG 125, Digital Media....................................... 3
ARTG 124, Intermediate Graphic Design II (Identity Systems) ........................................ 3
ARTG 133, Intermediate Graphic Design II (Identity Systems) ........................................ 3
PHOT 100, Basic Black & White Photography OR PHOT 105, Introduction to Photography ............... 3
Total Units = 27

Associate in Arts Degree: Visual and Performing Arts Graphic Design
The associate degree program offers employment skills, development of a portfolio in graphic design and offers courses for preparation for university transfer.

Courses Required for the Major: Units
ARTF 110, Art History: Prehistoric to Gothic .............. 3
ARTF 111, Art History: Renaissance to Modern .............. 3
ARTF 150A, Design I ............................................ 3
ARTG 106, Typography ......................................... 3
ARTG 118, Graphic Design History.......................... 3
ARTG 120, Illustration ......................................... 3
ARTG 125, Digital Media....................................... 3
ARTG 148A, Portfolio A ........................................ 3
ARTG 148B, Portfolio B ........................................ 3
ARTG 124, Intermediate Graphic Design I (Page Layout) ............................................... 3
ARTG 133, Intermediate Graphic Design II (Identity Systems) ........................................ 3
ARTG 148A, Portfolio A ........................................ 3
ARTG 148B, Portfolio B ........................................ 3
PHOT 100, Basic Black & White Photography OR PHOT 105, Introduction to Photography ............... 3
Total Units = 36

Recommended electives: Fine Arts 150B, 155A, 210A; Art Graphic Design 144, 149, 270, 290; Photography 180, 181.

Transfer Information
Students planning to transfer to a four-year college or university should complete courses required for the university major and the degree general education pattern required by that transfer institution. See catalog TRANSFER INFORMATION section. Additional courses may be required to meet university lower-division requirements. Course requirements at the transfer institution are subject to change and may be verified by a counselor or by consulting the current university catalog. Many Baccalaureate in Arts degrees require third semester competency in a foreign language. Consult the current catalog of the transfer institution and consult with a counselor.

- San Diego State University

- California Polytechnic State University, San Luis Obispo
  Graphic Design, B.S.: Fine Arts 100, 110, 111, 151, 155A; Photography 135. See a counselor.

- California State University, Long Beach

For preparation for the institutions listed below which offer a baccalaureate degree and are recommended by the faculty, consult a current catalog or see a counselor.

- Art Center, College of Design, Pasadena
- California College of Arts & Crafts, San Francisco
106 Typography  
1.5 hours lecture, 4.5 hours lab, 3 units  
Grade Only

Limitation on Enrollment: This course is not open to students with credit for ARTG 265A, Typography. This beginning course covers the selection, styles, terminology, classifications, spacing, layout, and history of typography. Emphasis is placed on problem solving skills and analyzing concepts to solve typographic problems. Traditional hand rendering skills and computer software are used to develop effective typographic design. This course meets the requirements for the certificate of achievement and associate degree in graphic design. (FT) Transfer Credit: CSU and/or private coll/univ.

118 Graphic Design History  
3 hours, 3 units  
Grade Only

This course examines graphic design as a vital component of each culture and period in human history. Great minds in design, breakthrough technologies and important design movements are covered in their historical context. This course is designed for the student in graphic design as preparation for the major. (FT) Transfer Credit: CSU and/or private coll/univ.

120 Illustration  
1.5 hours lecture, 4.5 hours lab, 3 units  
Grade Only

Advisory: English 51 and 56, each with a grade of "C" or better, or equivalent, or Assessment Skill Levels W5 and R5; and Art-Fine Arts 150A and 155B, each with a grade of "C" or better, or equivalent. This course addresses illustration methods, materials, and tools as related to the discipline of graphic design. Emphasis is placed on developing effective visual concepts and solutions through specific illustration assignments. Students explore a variety of media techniques utilizing both black and white and color. (FT) Transfer Credit: CSU and/or private coll/univ.

124 Intermediate Graphic Design I (Page Layout)  
1.5 hours lecture, 4.5 hours lab, 3 units  
Grade Only

Advisory: Art-Graphic Design 125 and Art-Fine Arts 150A, 150B, and 185 with a grade of "C" or better, or equivalent, or Assessment Skill Levels W5 and R5. Limitation on Enrollment: This course is not open to students who have completed Art-Commercial Art 120 or 124. This intermediate course covers the design and layout of multiple page documents such as annual reports, brochures, newsletters, and stationery packages. The primary tool is the computer, utilizing layout software, but traditional design media is also used. Emphasis is placed on the application of grids and principles and procedures of effective layout. This course is designed for the student in graphic design as preparation for the major. (FT) Transfer Credit: CSU and/or private coll/univ.

125 Digital Media  
1.5 hours lecture, 4.5 hours lab, 3 units  
Grade Only

Advisory: English 51 and 56, each with a grade of "C" or better, or equivalent. Limitation on Enrollment: This course is not open to students with credit for Art-Commercial Art 125. This course is an introduction to the principles of digital media utilized for visual communication. Instruction incorporates the current hardware and software utilized in the graphic design industry. The specific hardware and software is announced for each course section. The course is tailored to the student in graphic design. (FT) CSU and/or private coll/univ.

126 Intermediate Digital Media  
1.5 hours lecture, 4.5 hours lab, 3 units  
Grade Only

Advisory: Art-Graphic Design 125; and English 51 and English 56, each with a grade of "C" or better, or equivalent, or Assessment Skill Levels W5 and R5. This course is an intermediate level survey course which explores the principles of digital media utilized for visual communication. Instruction will incorporate the primary hardware and software utilized in the digital media industry today. Each section of this course may utilize different hardware and software and may therefore be taken three times for credit. (FT) Transfer Credit: CSU and/or private coll/univ.
133 Intermediate Graphic Design II (Identity Systems)  
1.5 hours lecture, 4.5 hours lab, 3 units  
Grade Only

Advisory: Art-Graphic Design 125 and Art-Fine Arts 150A, 150B, and 185 with a grade of "C" or better, or equivalent.  
限行规定：此课程不开放给学生，有艺术-商营设计 110 或 133。  
此中级课程涵盖了设计原则在标志和标志的制作中的应用。学生学习如何使用当下的标志，创造设计简要，和使用品牌在开发包装设计中。传统的和计算机的方法被覆盖。此课程被设计为学生为平面设计专业做准备。 (FT)  
转移学分：CSU 和/或私人学院/大学。

144 Web Page Graphic Design  
0.5 hour lecture, 4.5 hours lab, 2 units  
Grade Only

Advisory: English 51 and 56, each with a grade of "C" or better, or equivalent or Assessment Skill Levels W5 and R5; Art-Graphic Design 124, and 125, each with a grade of "C" or better, or equivalent.  
限行规定：此课程不开放给学生，有艺术-平面设计 265B, Web Page Design/Graphic Art。  
此中级课程探索了网页设计的图形元素。强调放在内容，外观和感觉和导航性的问题上。指导物包括当前的硬件和软件在电子行业。具体的硬件和软件将被通知每学期。此课程被设计为适合于学生在平面设计。 (FT)  
转移学分：CSU 和/或私人学院/大学。

148A Portfolio A  
1.5 hours lecture, 4.5 hours lab, 3 units  
Grade Only

限行规定：(1) 此课程不开放给学生，有艺术-平面设计 155。(2) 学生必须提交平面设计作品集以获得加加分。  
此高级课程涵盖了个人身份到信函，简历，封面信，和自我促销的版面设计。此课程被设计为为平面设计专业做准备。 (FT)  
转移学分：CSU 和/或私人学院/大学。

148B Portfolio B  
1.5 hours lecture, 4.5 hours lab, 3 units  
Grade Only

限行规定：(1) 此课程不开放给学生，有艺术-平面设计 147。 (2) 学生必须提交平面设计作品集以获得加加分。  
此高级课程应用了在 ARTG 148A 中发展的作品集策略来创建完整的专业作品集。学生必须正式地展示他们的作品集以供审阅和批评分析由部门的教授和顾问。此课程被设计为为平面设计专业做准备。 (FT)  
转移学分：CSU 和/或私人学院/大学。

149 Studio Practices  
1.5 hours lecture, 4.5 hours lab, 3 units  
Grade Only

限行规定：学生必须提交平面设计作品集以获得加加分。  
此高级课程被设计为为专业平面设计提供机会。当可能时，学生将在非营利组织和圣地亚哥城市学院打真实的工。与客户的协商，发展设计简要和解决平面设计问题将导致印刷作品集。此课程被设计为为平面设计专业做准备。 (FT)  
转移学分：CSU 和/或私人学院/大学。

206 Advanced Typography  
1.5 hours lecture, 4.5 hours lab, 3 units  
Grade Only

Advisory: Art-Graphic Design 106; and English 51 and 56, each with a grade of "C" or better, or equivalent, or Assessment Skill Levels W5 and R5.  
此高级课程涵盖了技术，和概念策略来解决更复杂的问题。学生将增加他们对历史和当代的字体的了解，并探索排版的表达性潜能来创造意义。 (FT)  
转移学分：CSU 和/或私人学院/大学。

270 Work Experience in Graphic Design  
Hours by Arrangement, 1-4 units  
Grade Only

限行规定：必须获得工作经验协调员的加加分以登记。要接收
credit a student must complete a minimum of seven units during the semester, including work experience. A program of on-the-job learning experiences for students employed in a job related to their major. The combined maximum credit for all work experience courses from all disciplines may not exceed 16 units. (FT) Associate Degree Credit.

290 Independent Study in Graphic Design
Hours by Arrangement, 1-3 Units
Limitation on Enrollment: Must obtain an Add Code from instructor for registration.
Open to advanced students interested in working on special problems in Graphic Design. (FT) This course may be taken four times with different content for a maximum of six units. Transfer Credit: CSU and/or private coll/univ.

This discipline may offer specialized instruction in one or more of the following areas: Supervised Tutoring (044), Special Topics (265), Independent Study (290), Individualized Instruction (296), Service Learning (277), Applied Applications and Software Skills (045L), or Work Experience (270). Detailed course descriptions are listed on page 94. Please refer to the class schedule and/or see the dean or department chair for availability.

Certificate of Completion: Visual and Performing Arts
Dance
This certificate prepares the dance student with a solid foundation of kinesthetic training in one or more idioms, principles of choreography, movement education, along with the process of performance. Graduates will be qualified to work in regional dance theater; as a professional dancer in industrial work in areas such as Los Angeles, and as a certified dance instructor or independent choreographer.

Courses:
Units
DANC 181, Introduction to Dance ......................... 3
DANC 111, Ethnic Dance Forms............................... 2
DANC 253, Choreography..................................... 2
Select ten units from:
DANC 110, 120, 130, 135, 140, 177, 178, 179, 183,
261, 271 .........................................................10
Total Units = 17

Certificate of Completion: Visual and Performing Arts
Musical Theater Dance
The Musical Theater Dance Certificate prepares students to develop and understand the skills and expectations required of professional musical theatre performers. Graduates will be qualified to perform in regional theatres, national tours, cruise ships, theme parks and on Broadway.

Courses:
Units
DRAM 173 Musical Theater Workshop .................... 2
DRAM 251 Musical Comedy Rehearsal, Production and
Performance..................................................... 3
Select eight units from:
DANC 110, 130, 135, 140, 177, 261 ......................... 8
Total Units = 13
Courses

Dance (DANC)

110 Ballet
2 - 3 hours lab, 0.5 - 1 unit
Ballet is a course in traditional ballet technique focusing on correct body alignment and placement through repetition and centre work. The class analyzes, discusses, and critiques the line, design, ballet technique, choreography and dynamics of ballet movements. Ballet fulfills lower division requirements for Dance majors. This course, in combination with Physical Education 110, may be taken four times for credit. (FT) Transfer Credit: CSU and/or private coll/univ.

111 Ethnic Dance Forms
1 hour lecture, 3 hours lab, 2 units
Advisory: English 51 and 56, each with a grade of "C" or better, or equivalent, or Assessment Skill Levels W5 and R5.
This course is an introduction to village and country dance traditions within selected cultures. Each tradition is examined in terms of its particular set of techniques, styles and rhythms. Special emphasis is placed on the exploration of movement characteristic of each cultural dance form. This course is not limited to dance majors and minors but majors are encouraged to expose themselves to a variety of cultural dance forms and are expected to learn both parts of partner dances. (FT) Transfer Credit: CSU and/or private coll/univ.

120 American Street Dance
2-3 hours lab, 0.5 - 1 unit
Advisory: English 51 and 56, each with a grade of "C" or better, or equivalent, or Assessment Skill Levels W5 and R5.
American Street Dance is an introductory course in a variety of established and emerging dance forms including Hip Hop, Funk, Pop, Lock and Fly. Street dance movements, rhythms and styles are explored through dance combinations. This course may be taken four times for credit. (FT) Transfer Credit: CSU and/or private coll/univ.; UC.

130 Dance Repertoire
2-3 hours lab, 0.5 - 1 unit
Advisory: Dance 110, 135, or 140 or Physical Education 110, 135, or 140 with a grade of "C" or better, or equivalent.
Dance Repertoire is designed to introduce the dancer to the choreography of renowned choreographers. This course provides the opportunity for students to learn and perform selected choreography in ballet, modern, jazz, tap and musical theater. This course, in combination with Physical Education 130, may be taken four times for credit. Transfer Credit: CSU and/or private coll/univ.; UC.

135 Jazz Dance
2-3 hours lab, 0.5 - 1 unit
Jazz Dance is a course which explores a variety of jazz dance techniques focusing on the development of coordination, flexibility, balance, strength, correct body alignment and rhythmic perception. Dance combinations are performed to demonstrate technical ability at all skill levels. Jazz Dance fulfills lower division requirements for dance majors. This course, in combination with Physical Education 135, may be taken four times for credit. (FT) Transfer Credit: CSU and/or private coll/univ.

140 Modern Dance
2 - 3 hours lab, 0.5 - 1 unit
Modern Dance is a course that explores the fundamental concepts and techniques of modern dance including floor stretch, center work, locomotor sequences and dance combinations. The student demonstrates, defines and performs flexibility, coordination, rhythmic and dynamic perception, control and strength. The class critiques, discusses and analyzes line, design, technique, choreography and dynamic qualities through lectures, videotapes and concert critiques. Modern Dance fulfills lower division requirements for dance majors. This course, in combination with Physical Education 140, may be taken four times for credit. (FT) Transfer Credit: CSU and/or private coll/univ.

177 Dance Improvisation
2-3 hours lab, 0.5 - 1 unit
Advisory: Physical Education 110 or 135 or 140 or Dance 110 or 135 or 140 with a grade of "C" or better, or equivalent.
This course is designed to give students the opportunity to learn beginning and intermediate improvisational dance skills through the use of space, time, dynamics, and motion of body parts. Emphasis is placed on performance ability and technique. The student is involved in a structured dance performance in various situations and progresses to spontaneous movement in group and individual works. This course fulfills lower division requirements for dance majors. This course, in combination with Physical Education...
177, may be taken four times for credit. Transfer Credit: CSU and/or private coll/univ.

178 Advanced Contemporary Dance
3 hours lab, 1 unit
Advisory: Physical Education 135 or Dance 135 with a grade of "C" or better, or equivalent.
This course focuses on the movement principles of American dance masters Jack Cole, Bob Fosse, Luigi and Matt Mattox. Instruction includes student performance of various contemporary dance styles for videotaped analysis of technical proficiency. This course, in combination with Physical Education 178, may be taken four times for credit. (FT) Transfer Credit: CSU and/or private coll/univ.

179 Advanced Classical Dance
3 hours lab, 1 unit
Advisory: Physical Education 110 or Dance 110 with a grade of "C" or better, or equivalent.
This course focuses on correct advanced body alignment, coordination, flexibility and strength. The class compares, discusses and analyzes the movement principles of the Royal, French, Cecchetti and Russian methods. This course, in combination with Physical Education 179, may be taken four times for credit. (FT) Transfer Credit: CSU and/or private coll/univ.

181 Introduction to Dance
3 hours lecture, 3 units
Advisory: English 51 and 56, each with a grade of "C" or better, or equivalent, or Assessment Skill Levels W5 and R5.
Limitation on Enrollment: This course is not open to students with credit for Physical Education 260.
Introduction to Dance is designed to give students the opportunity to appreciate the aesthetic foundations of dance as interpreted within Western traditions. The course covers basic techniques of Western dance traditions that foster an awareness of dance as therapy and fitness as well as art and dance in film, video, and live performance. Additionally, students are introduced to dance as the expression of social discourse distinct to historical periods within Western history. Finally, students study the techniques of selected canonical or well known dancers, choreographers and their craft. This course is introductory but prepares both potential performers and scholars with an interest in performance for intermediate studies in dance. (FT) Transfer Credit: CSU and/or private coll/univ.

183 Music for Dance
2 hours lecture, 2 units Grade Only
Advisory: Dance 253 or Physical Education 116 with a grade of "C" or better, or equivalent and English 51 and 56, each with a grade of "C" or better, or equivalent, or Assessment Skill Levels W5 and R5.
Music for Dance introduces the fundamentals of music through the study of terminology, notation, elements and form as they relate to movement. The course explores the interrelationship of music and dance and provides students the opportunity to compose and perform rhythmic and movement projects. This course fulfills lower division requirements for dance majors. (FT) Transfer Credit: CSU and/or private coll/univ.; UC.

253 Choreography
1.5 hours lecture, 1.5 hours lab, 2 units
Advisory: Physical Education 110 or 135 or 140 or Dance 110 or 135 or 140 with a grade of "C" or better, or equivalent
Limitation on Enrollment: This course is not open to students with credit for Physical Education 116.
Choreography is a course that explores the theories and elements utilized in the creative process of dance composition. Emphasis is placed on student application of choreographic concepts through the development of movement compositions. This course fulfills lower division requirements for dance majors. (FT) Transfer Credit: CSU and/or private coll/univ.

261 Dance Performance
6 hours lab, 2 units
Advisory: Physical Education 110 or 135 or 140 or Dance 110 or 135 or 140 with a grade of "C" or better, or equivalent.
Dance Performance provides the opportunity for students to apply intermediate and advanced skills in ballet, jazz and modern dance in preparation for public performance. Emphasis is placed on student application of dance, staging, and performance techniques in a theatrical environment. This course fulfills lower division requirements for dance majors. This course, in combination with Physical Education 129, may be taken four times for credit. (FT) Transfer Credit: CSU and/or private coll/univ.

271 Dance Production
3-6 hours lab, 1-2 units
Dance Production explores the technical and management aspects of producing a dance concert. Emphasis is placed on student application of design and construction of costumes, lighting design, makeup application, stage and house management, and
publicity. This course fulfills lower division requirements for dance majors. This course, in combination with Physical Education 118, may be taken four times for credit. (FT) Transfer Credit: CSU and/or private coll/univ.

This discipline may offer specialized instruction in one or more of the following areas: Supervised Tutoring (044), Special Topics (265), Independent Study (290), Individualized Instruction (296), Service Learning (277), Applied Applications and Software Skills (045L), or Work Experience (270). Detailed course descriptions are listed on page 94. Please refer to the class schedule and/or see the dean or department chair for availability.

Visual and Performing Arts Electronic Music

Program Emphasis
The Electronic Music program provides an opportunity for students to gain specific hands-on skills in each of the technologies currently used in the music industry. Students will also gain practical experience for professional and community musical performance and preparation for continued higher education. Students will participate in various facets of music production for a variety of uses in the commercial marketplace which will allow them to develop practical skills and talents while earning college credit for transfer to universities or entry into the workplace.

Faculty
Jerry Fenwick
Office: C-106
Telephone: (619) 388-3337

Career Options
Examples of employment options available in entry level electronic music after successful completion of the associate degree program include: composition and/or production of music for music CD’s, film, video, music videos, jingles or commercials, radio and TV station ID packages, and multimedia projects. Additional careers include digital audio technician, recording studio engineer, sound re-enforcement engineer, and synthesizer programmer. Some of these careers require education beyond the associate degree.

Academic Programs
The associate degree in Electronic Music requires completion of the courses listed below. Additional general education and graduation requirements for the associate degree are listed in the catalog. The associate degree requires a minimum of 60 units.

San Diego State University

Music B.A.: Music 100, 115 A-B, 158 A-B (Mesa); four units from: Music 130 A-D, 212 A-D (Mesa), 214 A-D, 250 A-D (Mesa), 252, 253 A-D. See a counselor.

University of California, San Diego

Music, Interdisciplinary Computing in the Arts, B.A.: Music 100, 150A, 268A, 268B (Mesa); Computer Science 190; Mathematics 150 and 151 or 121 and 122.
**Courses**

**Music (MUSI)**

**100 Introduction to Music**
3 hours, 3 units
Advisory: English 51 and 56, each with a grade of "C" or better, or equivalent, or Assessment Skill Levels W5 and R5.
This is a survey course designed to develop listening perception through lectures, recordings, films and concerts. The conceptual and stylistic differences in music from various periods and cultures will be examined through discussion of the elements of music as well as through discussions of ethnic, jazz, vocal instrumental and 20th century music. This course is designed to support students in all majors who are interested in satisfying the general education requirements for Arts and Humanities. (FT) Transfer Credit: CSU and/or private coll/univ.; UC.

**108 The World of Commercial Music**
3 hours, 3 units
Advisory: English 101 with a grade of "C" or better, or equivalent, or Assessment Skill Level R6.
This course is a comprehensive survey of the music business. Course content emphasizes the various areas of the music business, the functions of each area and the relationships between the areas. Topics covered include songwriting; music publishing; copyright; music licensing; unions and guilds; agents and managers; artists and management; the record industry; artists’ recording contracts; studios and engineers; and music in radio, television and advertising. (FT) Transfer Credit: CSU and/or private coll/univ.

**109 World Music**
3 hours, 3 units
Advisory: English 51 and 56, each with a grade of "C" or better, or equivalent, or Assessment Skill Levels W5 and R5.
This music survey course explores the music cultures of Asia, the Middle East, Africa, Central and South America, the Caribbean and other areas with resident populations in San Diego. Musical practices and perspectives from several music cultures are studied with an emphasis on understanding and appreciation from non-ethnocentric viewpoints. Listening perception is developed through lectures and multimedia presentations. The course is intended to satisfy general education requirements for Arts and Humanities and satisfies the San Diego Community College District’s Multicultural Course Studies requirement. (FT) Transfer Credit: CSU and/or private coll/univ.; UC.

**110 Music for Elementary School Teachers**
2.5 hours lecture, 1.5 hours lab, 3 units
Advisory: English 51 and English 56, each with a grade of "C" or better, or equivalent, or Assessment Skill Levels W5 and R5.
This course prepares students to teach music as part of the curriculum in the elementary school classroom, the preschool, or day-care program. Students develop an understanding of musical concepts primarily by singing and/or playing an instrument and create lesson plans for teaching these concepts to children. (FT) Transfer Credit: CSU and/or private coll/univ.

**111 Jazz History and Development**
3 hours, 3 units
Advisory: English 51 and 56, each with a grade of "C" or better, or equivalent, or Assessment Skill Levels W5 and R5.
An introduction to jazz; its historical background and its development in the United States. (FT) Transfer Credit: CSU and/or private coll/univ.

**115A Class Piano I**
0.5 hours lecture, 1.5 hours lab, 1 unit
Prerequisite: Music 115A with a grade of "C" or better, or equivalent.
This course introduces basic skills to music majors whose theoretical and practical keyboard skills are deficient, and to non-music majors who have had little or no experience at the piano. This course focuses on developing repertoire, sight reading, transposition, harmonization, creative composition, and modulation techniques. (FT) Transfer credits: CSU and/or private coll/univ.; UC. (CAN MUS 22)

**115B Class Piano II**
0.5 hours lecture, 1.5 hours lab, 1 unit
Prerequisite: Music 115A with a grade of "C" or better, or equivalent.
This course is a continuation of Music 115A, with an emphasis on moderately difficult techniques in developing repertoire, keyboard techniques, sight-reading, transposition, harmonization, creative composition, improvisation, ensemble playing, and modulation techniques. This course is appropriate for music majors whose theoretical and practical keyboard skills are deficient as well as for non-music majors. (FT) Transfer credit: CSU and/or private coll/univ.; UC. (CAN MUS 24)
115C Intermediate Piano
0.5 hour lecture, 1.5 hours lab, 1 unit
Advisory: Music 115B with a grade of “C” or better, or equivalent.
Study of practical and theoretical keyboard techniques for music majors, credential applications, and non- music majors with comparable skills. Course focuses on advanced skill development of repertoire, sight reading, transposition, harmonization, creative composition and modulation techniques. Transfer Credit: CSU and/or private coll/univ.; UC.

120A Beginning Voice Class
1 hour lecture, 2 hours lab, 1.5 units
For beginners in voice. Deals with the development of proper voice production. Includes the problems of breath control, resonance, articulation and vowel formation. Instruction in the development of the individual voice. Solo performances of simple songs in class. Transfer Credit: CSU and/or private coll/univ.; UC.

120B Intermediate Voice Class
1 hour lecture, 2 hours lab, 1.5 units
For intermediates in voice. Deals with the development of proper voice production. Includes the problems of breath control, resonance, articulation and vowel formation, with emphasis on interpretation and repertoire. Instruction in the development of the individual voice. A study and performance of the song cycle is included. Transfer Credit: CSU and/or private coll/univ.; UC.

130A College Chorus I
1 hour lecture, 2 hours lab, 1.5 units
Study and performance of a wide range of choral music from the Renaissance period to the present day. Some previous choral experience and music reading skills are highly recommended. Attendance at rehearsals and performances is required. (FT) Transfer Credit: CSU and/or private coll/univ.; UC.

130B College Chorus II
1 hour lecture, 2 hours lab, 1.5 units
Continuation of Music 130A. Study and performance of a wide range of choral music from the Renaissance period to the present day. Some previous choral experience and music reading skills are highly recommended. Attendance at rehearsals and performances is required. (FT) Transfer Credit: CSU and/or private coll/univ.; UC.

130C College Chorus III
1 hour lecture, 2 hours lab, 1.5 units
Continuation of Music 130B. Study and performance of a wide range of choral music from the Renaissance period to the present day. Some previous choral experience and music reading skills are highly recommended. Attendance at rehearsals and performance is required. (FT) Transfer Credit: CSU and/or private coll/univ.; UC.

130D College Chorus IV
1 hour lecture, 2 hours lab, 1.5 units
Continuation of Music 130C. Study and performance of a wide range of choral music from the Renaissance period to the present day. Some previous choral experience and music reading skills are highly recommended. Attendance at rehearsals and performance is required. (FT) Transfer Credit: CSU and/or private coll/univ.; UC.

150A Basic Musicianship
3 hours, 3 units
This course is designed for music majors as well as non-music majors. It enables the student to develop perceptions in sight and sound as related to the symbols of rhythmic, melodic, and harmonic notation. It will also enable the student to develop skill in writing, major, minor, and chromatic scales, chord construction and intervals; and to identify terms used to indicate tempo and dynamics. (FT) Transfer Credit: CSU and/or private coll/univ.; UC. (CAN MUS 2)

190 The Electronic Music Studio
2.5 hours lecture, 1.5 hours lab, 3 units
Advisory: English 51 and 56, each with a grade of “C” or better, or equivalent, or Assessment Skill Levels W5 and R5. Completion of or concurrent enrollment in Music 150A.
This course is a study of recording and electronic music equipment. It is a prerequisite to future work in the electronic music studio and also prepares students for a major in music. The course demonstrates basic techniques using microphones, tape recorders, the mixing board, synthesizers, samplers and music applications such as sequencing on computers. Emphasis is on students' acquisition of basic skills needed for practical application and on acquiring knowledge of simple electronic and acoustic theory, including Musical Instrument Digital Interface (MIDI). Students design and create special projects using this equipment and proper protocol during lab hours and present their projects in class. (FT) Transfer Credit: CSU and/or private coll/univ.
201 Recording Arts
2.5 hours lecture, 1.5 hours lab, 3 units
Prerequisite: Music 190 with a grade of “C” or better, or equivalent.
Advisory: English 51 and 56, each with a grade of “C” or better, or equivalent, or Assessment Skill Levels W5 and R5; completion of or concurrent enrollment in Music 150A.
This course is a study of advanced acoustics and electronic theory as applied to recording, mixing, and sound processing. The course will demonstrate various applications of advanced tape recording, microphone use, and mixing, such as tape editing, effects processing, music concrete composition, and other techniques for music composition. (FT) Transfer Credit: CSU.

215A Class Piano III
0.5 hours lecture, 1.5 hours lab, 1 unit
Prerequisite: Music 115B with a grade of “C” or better, or equivalent.
This course is an intermediate level of study of practical and theoretical keyboard techniques for music majors, credential applicants, and non-music majors with comparable skills. The course focuses on intermediate skill development of repertoire, keyboard technique, sight-reading, transposition, harmonization, creative composition, improvisation, ensemble playing, and modulation techniques. (FT) Transfer credit: CSU and/or private coll/univ.; UC.

215B Class Piano IV
0.5 hours lecture, 1.5 hours lab, 1 unit
Prerequisite: Music 215A with a grade of “C” or better, or equivalent.
This course is an advanced level of study of practical and theoretical keyboard techniques for music majors, credential applicants, and non-music majors with comparable skills. The course focuses on advanced skill development of repertoire, keyboard technique, sight-reading, transposition, harmonization, creative composition, improvisation, ensemble playing, and modulation techniques. (FT) Transfer credit: CSU and/or private coll/univ.; UC.

230A-B Jazz Improvisation
3 hours lab, each course: 1 unit
A comprehensive study of the techniques and literature of improvisation with an emphasis of jazz improvisation and interpretation. Analysis and practical application of chord progressions used in jazz. (FT) Transfer Credit: CSU and/or private coll/univ.; UC.

290 Independent Study
Hours by Arrangement; 1-3 units
Limitation on Enrollment: Must obtain an Add Code from instructor for registration.
Course is designed to meet individual needs or interests of students who wish to work on special projects in music. Special projects include all aspects of music and may involve topics which are broad in scope along with those that are narrow in scope. Special projects may include an unlimited number of diversified phases of the music curricula. This course may be taken four times with different content for a maximum of six units. (FT) Transfer Credit: CSU and/or private coll/univ.; UC transfer limitations. See a counselor.

296 Individual Instruction in Music
1.5 - 6 hours lab, 0.5 - 2 units
Credit/No Credit Only
Limitation on Enrollment: Enrollment in an approved related course; Must obtain an Add Code from instructor for registration.
Individual instruction in music which employs self-paced audio and visual multimedia systems designed to assist students in reaching specific learning objectives related to other instructional course areas; hence, it is designed to supplement related courses as specified above. Transfer Credit: CSU and/or private coll/univ.

This discipline may offer specialized instruction in one or more of the following areas: Supervised Tutoring (044), Special Topics (265), Independent Study (290), Individualized Instruction (296), Service Learning (277), Applied Applications and Software Skills (045L), or Work Experience (270). Detailed course descriptions are listed on page 94. Please refer to the class schedule and/or see the dean or department chair for availability.

Visual and Performing Arts
Musical Theater

Program Emphasis
This program provides some of the preparation for transfer to programs in dance, voice, acting, movement and provides basic training in musical theater and theater.

Faculty
Jerry Fenwick C-106 (619) 388-3337
Duane Gardella C-107 (619) 388-3594
June Richards C-110 (619) 388-3617
Alicia Rincon C-103 (619) 388-3563
Career Options
Some career options listed require a baccalaureate degree: musical theater stage performer, actor, television actor/performer, choreographer, stage chorus actor, show dancer, stage movement instructor, high school and elementary movement and dance instructor, creative dramatics instructor.

Academic Programs
The associate degree in Musical Theater requires completion of the courses listed below. Additional general education and graduation requirements for the associate degree are listed in the catalog. The associate degree requires a minimum of 60 units.

Associate in Arts Degree:
Visual and Performing Arts
Musical Theater
This program provides fundamental skills and theory in musical comedy, theater and music both for transfer students and for persons interested in participating in theater and musical theater productions.

Courses Required for the Major: Units
DRAM 132, Beginning Acting ................................ 3
DRAM 134, Beginning Voice for Actor ..................... 3
DRAM 136, History of Canonized Theater-Ancient Greece to the Restoration, OR
DRAM 137, History of Canonized Western Theater Restoration to the Present.............................. 3
DRAM 170A & 170B, Musical Comedy ...................... 3,3
PHYE 110, Ballet ............................................ 0.5-1
PHYE 116, Choreography ..................................... 2
PHYE 118, Dance Production .................................. 1-2
MUSI 120A, Beginning Voice ................................ 1.5
MUSI 120B, Intermediate Voice .............................. 1.5
MUSI 150A, Basic Musicianship .............................. 3
SPEE 103, Oral Communication .............................. 3
Total Units = 27.5-29

Recommended electives: Fine Arts 100; Physical Education 135; Dramatic Arts 172, 173, 174; Music 115A, 130A.

Transfer Information
Students planning to transfer to a four-year college or university should complete courses required for the university major and the general education pattern required by that transfer institution. See catalog TRANSFER INFORMATION section. Additional courses may be required to meet university lower-division requirements. Course requirements are subject to change at the transfer institution and may be verified by a counselor or by consulting the current university catalog. Many Baccalaureate in Arts degrees require third semester competency in a foreign language. Consult the current catalog of the transfer institution and consult with a counselor.

California State University, San Marcos
See a counselor for specific course requirements for Visual and Performing Arts majors.

San Diego State University
Dance, B.A.: Anthropology 103; Biology 230; Dance 129, 253, 271 (City) (4 units); Psychology 101.
Third semester foreign language competency.
Consult faculty in the Music and Theater Departments for locations of universities that offer a Musical Theater program. Also refer to transfer requirements for San Diego State University and the University of California, San Diego Music and Drama departments.

Visual and Performing Arts
Photography

Program Description
The photography program offers a wide range of theory, technique and skills course work from beginning through advanced levels. The program is structured to emphasize the development of creative expression, visual awareness, and technical skills required to enter the photography field or to prepare for transfer to four-year institutions.

Program Emphasis
The certificate of achievement program and the associate degree, Visual and Performing Arts, Photography Emphasis, is designed for students seeking employment in the photography field.

Faculty
Cynthia Sabransky T-309(A) (619) 388-3794
Paul Spafford A-1(J) (619) 388-3649

Career Options
This list is not all-inclusive. Some careers require education beyond the associate degree: advertising photographer, commercial photographer, fashion photographer, food photographer, editorial photographer/journalist, industrial photographer, portrait/wedding photographer, photo researcher, photographic artist, photographic printer, photography instructor, photo laboratory technician, stock photographer.
Academic Programs
The associate degrees in photography requires completion of the courses listed below. Additional general education and graduation requirements for the associate degree are listed in the catalog. The associate degree requires a minimum of 60 units.

Certificate of Achievement: Visual and Performing Arts Photography
The certificate of achievement in photography requires completion of the courses listed below:

Courses Required for the Major: Units
ARTF 150A, Design I ............................................ 3
PHOT 100, Basic Black & White Photography ........... 3
PHOT 125, Photo Business Operations ..................... 2
PHOT 135, Intermediate Black & White Photography. 3
PHOT 145, Color Transparency Photography .......... 2
PHOT 200, Photographic Lighting Techniques .......... 3
Select one course from:
PHOT 155, Color Negative Photography
PHOT 156, Color Positive Photography
PHOT 180, Digital Imaging ................................... 3
Select one course from:
ARTF 193, Photography as Fine Art
PHOT 220, Portraiture
PHOT 230, Advertising Photography
PHOT 240, Large Format Photography
PHOT 250, Fashion Photography ............................ 3
Total Units = 22

Associate in Arts Degree: Visual and Performing Arts Photography

Courses Required for the Major: Units
ARTF 150A, Design I ............................................ 3
PHOT 100, Basic Black & White Photography ........... 3
PHOT 135, Intermediate. Black & White Photography ................................................ 3
PHOT 145, Color Transparency Photography .......... 2
PHOT 200, Photographic Lighting Techniques .......... 3
Select one course from:
PHOT 155, 156, 180 ............................................ 3
Select one course from:
ARTF 110, 111, 150B, 151, 155A, 193 ............. ....... 3
Select three courses from:
PHOT 125, 220, 230, 235, 240, 250 .................... 8-9
Total Units = 28 - 29
Recommended electives: Photograph 270, 290, 296.

Suggested courses for Photography Fine Arts, Design Emphasis: ARTF 193, PHOT 180, 181, 235, 240
Suggested courses for Photography Advertising, Commercial Emphasis: PHOT 125, 220, 230, 240, 250

Transfer Information
Students planning to transfer to a four-year college or university should complete courses required for the university major and the general education pattern required by that transfer institution. See catalog TRANSFER INFORMATION section. Additional courses may be required to meet university lower-division requirements. Course requirements at the transfer institution are subject to change and may be verified by a counselor or by consulting the current university catalog. Many Baccalaureate in Arts degrees require third semester competency in a foreign language. Consult the current catalog of the transfer institution and consult with a counselor.

Colleges and universities offering degrees in photography include:
Art Center College of Design, Pasadena
Brooks Institute, Santa Barbara
California Polytechnic State University, San Luis Obispo
California State University, Fresno
California State University, Long Beach
California State University, Los Angeles
San Jose State University
San Diego State University

Courses

Photography (PHOT)

100 Basic Black-and-White Photography
2 hours lecture, 3 hours lab, 3 units
Grade Only

Advisory: English 101 or 105 with a grade of “C” or better, or equivalent, or Assessment Skill Levels W6 and R6.
How cameras, lenses, exposure meters, electronic flash, enlargers, and related equipment work, and how to use them properly. Lab practice in film developing and black and white printing. Use of the exposure/development relationship. Finishing and mounting black and white prints using composition in the development of visual photographic skills. (FT) Transfer Credit: CSU and/or private coll/univ.; UC. (CAN ART 18).
105 Introduction to Photography

3 hours, 3 units
Grade Only
Advisory: English 101 or 105 with a grade of “C” or better, or equivalent, or Assessment Skill Levels W6 and R6.
Basic photo class for non-photo majors. Will discuss how to use cameras, lenses, exposure meters and similar equipment using flash and available light. Use of various films including black and white, color slide, color negative, and color polaroid will be covered. Outside assignments will be required and will include photographing of art for portfolios. Lecture. (FT) Transfer Credit: CSU and/or private coll/univ.

125 Photo Business Operations

2 hours, 2 units
Grade Only
Advisory: English 101 or 105 with a grade of “C” or better, or equivalent, or Assessment Skill Levels W6 and R6.
Survey of basic organization and planning techniques utilized in media and production with emphasis on pre-production planning, budgeting and scheduling. Variety of current photography related business operations will be covered and concentration on portfolio development and presentation and career opportunities in photography. (FT) Transfer Credit: CSU and/or private coll/univ.

135 Intermediate Black-and-White Photography

2 hours lecture, 3 hours lab, 3 units
Grade Only
Prerequisite: Photography 100 with a grade of “C” or better, or equivalent.
This course emphasizes the continued instruction and practice required for understanding and improving B/W film exposure and development procedures, and improving the student’s B/W printing skills. It covers various techniques for enhancing B/W negative and print quality. B/W composition and visual communication skills are stressed, as are the understanding and use of light and lighting control, both in the studio and on location. (FT) Transfer Credit: CSU and/or private coll/univ.

145 Color Transparency Photography

2 hours lecture, 2 units
Grade Only
Prerequisite: Photography 100 or 105 with a grade of “C” or better, or equivalent.
This course is an introduction to color photography, covering color perception, color theory, and the principles of color as they apply to transparency/slide films, and how they compare to color negative and B/W materials. Other topics to be covered will include: exposure techniques; using camera filters; composition; and the types and characteristics of light. There is a strong emphasis on understanding and using lighting and lighting control with all types of light sources both in the studio and on location. Transfer Credit: CSU and/or private coll/univ.

155 Color Photography, Negative

2 hours lecture, 3 hours lab, 3 units
Grade Only
Prerequisite: Photography 100 with a grade of “C” or better, or equivalent.
Advisory: Photography 135 with a grade of “C” or better, or equivalent.
This course will explore the concepts of using color negative photography materials with the emphasis on proper film exposure, printing procedures, and color composition. The topics covered will include the theory of color, color perception, visual concepts, and lighting control. The student will be shown the proper techniques for exposing and processing color negatives, printing from color negative materials, print finishing and presentation and understanding and using various light sources with color negative materials, both in the studio and on location. (FT) Transfer Credit: CSU and/or private coll/univ.

156 Color Photography Positive

2 hours lecture, 3 hours lab, 3 units
Grade Only
Prerequisite: Photography 100 with a grade of “C” or better, or equivalent.
Advisory: Photography 135 and 145, each with a grade of “C” or better, or equivalent.
This course will cover the concepts and techniques of using color positive/reversal photography materials, with the emphasis on proper film exposure, printing procedures, and color composition. The topics covered will include: the theory of color; color perception; visual concepts; and light and lighting control. The student will be shown the proper techniques for exposing and processing color positive materials, printing with color positive materials, print finishing and presentation, and the use of various light sources both in the studio and on location. (FT) Transfer Credit: CSU and/or private coll/univ.

180 Digital Imaging

2 hours lecture, 3 hours lab, 3 units
Grade Only
Prerequisite: Photography 100 or 105 with a grade of “C” or better, or equivalent.
This course is an introduction to theories and methods of computer use in image making utilizing both traditional photography and advanced technology. The course focus will be on application and principles of image creation, manipulation and enhancement for visual expression and communication using digital technology. (FT) Transfer Credit: CSU and/or private coll/univ.

**181 Intermediate Digital Imaging**  
2 hours lecture, 3 hours lab, 3 units  
Grade Only  
Advisory: English 101 or 105 with a grade of “C” or better, or equivalent, or Assessment Skill Levels W6 and R6.  
This course emphasizes the continued instruction and practice required for understanding and improving image creation and visual communication utilizing traditional photography methods in combination with digital technology. Students will explore a variety of creative techniques for producing, editing and altering images using computers, software and digital tools. (FT) Transfer Credit: CSU and/or private coll/univ.

**200 Photographic Lighting Techniques**  
2 hours lecture, 3 hours lab, 3 units  
Grade Only  
Prerequisite: Photography 100 with a grade of “C” or better, or equivalent.  
Advisory: Photography 135 and 145, each with a grade of “C” or better, or equivalent.  
This course is the study of the lighting concepts, techniques, and equipment used in all phases and types of color equipment used in all phases and types of color and B/W photography. Emphasis is on the understanding, control, and manipulation of lighting and lighting equipment using both additive and subtractive lighting techniques. This includes the use of studio and portable lighting equipment, and the techniques of mixing natural and man-made light. Other topics to be explored include: related special shooting techniques; multiple exposure; matte-boxing; using a shooting light-table; painting with light and advertising/product-specific lighting considerations. (FT) Transfer Credit: CSU and/or private coll/univ.

**220 Portraiture**  
1.5 hours lecture, 4.5 hours lab, 3 units  
Grade Only  
Prerequisite: Photography 100 with a grade of “C” or better, or equivalent.  
Advisory: Photography 135 and 155, each with a grade of “C” or better, or equivalent.  
Camera types and formats, lenses, films, and accessory equipment used for portrait and wedding photography. How to use different types and sources of light both in the studio and on location. Using B/W and color films. Posing techniques and proper use of cosmetics, clothing, etc. The physical, psychological, and compositional aspects and characteristics of different portrait styles. (FT) Transfer Credit: CSU and/or private coll/univ.

**230 Advertising Photography**  
2 hours lecture, 3 hours lab, 3 units  
Grade Only  
Prerequisite: Photography 100 and 145, each with a grade of “C” or better, or equivalent.  
Advisory: Photography 135 with a grade of “C” or better, or equivalent.  
The emphasis in this course is in producing photographs to sell a product or service using both black and white and color film materials. An understanding of the photographer’s role in the advertising industry will be explored and used as the basis from which all assignments are evaluated. Topics for lecture will include terminology used in the advertising field, layout production and working to layouts. The psychology of ad design and color usage will be covered. Lighting staples and techniques will be discussed as they relate to projects. The photographer’s role working with clients and on assignment work with the Art Director and as a member of the creative team will be heavily emphasized. (FT) Transfer Credit: CSU and/or private coll/univ.

**235 Advanced Black and White Photography**  
2 hours lecture, 3 hours lab, 3 units  
Grade Only  
Prerequisite: Photography 135 with a grade of “C” or better, or equivalent.  
This course concentrates on advanced theory and the practice of black and white photography to include professional applications, specialized processes, master of dark room skills with emphasis on individual expression. Presentation of advanced printing techniques, film, paper types, toners, and archival processing, are topics to be covered. Students will concentrate on individualized goals, exploring visual ideas and expanding their abilities using the black and white photography medium. (FT) Transfer Credit: CSU and/or private coll/univ.
240 Large Format Photography  
1.5 hours lecture, 4.5 hours lab, 3 units  
Grade Only

Prerequisite: Photography 100 and 145, each with a grade of “C” or better, or equivalent. 
Advisory: Photography 135 with a grade of “C” or better, or equivalent. 

It is recommended, but not required, that students have their own view camera. Instruction and practice in view camera techniques used in architecture, advertising, product, landscape and other commercial and artistic applications in B/W and color. Using the camera movements for perspective control and image manipulation. Processing sheet film. Doing close-up and copy work. (FT) Transfer Credit: CSU and/or private coll/univ.

250 Fashion Photography  
2 hours lecture, 3 hours lab, 3 units  
Grade Only

Prerequisite: Photography 100 and 145, each with a grade of “C” or better, or equivalent. 
Advisory: Photography 135 with a grade of “C” or better, or equivalent. 

This course will show the student how to create and produce attractive, exciting fashion photos. It will cover both B/W and color, and how to shoot for advertising and fashion magazines. The student will be given instruction and practice in using natural and man-made light on location and in the studio. Posing; clothing; accessories; locations/props; and special techniques in shooting and lighting will be discussed and demonstrated. The student will be shown how to shoot and layout effective fashion model composites. (FT) Transfer Credit: CSU and/or private coll/univ.

290 Independent Study in Photography  
3-9 hours lab, 1-3 units  
Grade Only

Limitation on Enrollment: Must obtain an Add Code from instructor for registration. 

Advanced individual projects in Photography. Open only to those photo students who have exhausted departmental offerings in their area of emphasis. Independent Study contract between student and professor required. This course may be taken four times with different content for a maximum of six units. (FT) Associate Degree Credit. 

This discipline may offer specialized instruction in one or more of the following areas: Supervised Tutoring (044), Special Topics (265), Independent Study (290), Individualized Instruction (298). 

Service Learning (277), Applied Applications and Software Skills (045L), or Work Experience (270). Detailed course descriptions are listed on page 94. Please refer to the class schedule and/or see the dean or department chair for availability.

Visual and Performing Arts 

Theater

Program Emphasis

The Theater Arts program provides an opportunity to gain practical experience in professional and community theater work and to prepare for continued higher education. Major theater productions are offered each year, allowing students to develop practical skills and talents while earning college credit for transfer to universities.

Faculty

Jerry Fenwick  C-106  (619) 388-3337
Duane Gardella  C-107  (619) 388-3594
June Richards  C-110  (619) 388-3617
Alicia Rincon  C-108  (619) 388-3563

Career Options

Most careers related to theatre require education beyond the associate degree, however, an understanding and mastery of technical theatre skills provides some preparation for work in local community theatre and professional theatre. A partial list of possible career options follows: Set designer, model builder, makeup artist, lighting designer, stage manager, scenic artist, set builder, set carpenter, set painter, stage technician, sound technician, prop maker, lighting operator.

Academic Programs

The associate degree in Theater requires completion of the courses listed for the degree. Additional general education and graduation requirements for the associate degree are listed in the catalog. The associate degree requires a minimum of 60 units.

Certificate of Completion: 

Technical Theater

Courses: Units
DRAM 122, Makeup for the Stage ......................... 2
DRAM 123, Beginning Stagecraft .......................... 3
DRAM 126, Advanced Stagecraft .......................... 3
DRAM 128, Stage Lighting Design ......................... 3
DRAM 129, Beginning Scene Painting .................... 3

Total Units = 14
This is a department award in recognition of information on the transcript and does not imply that a graduation requirement has been met.

**Associate in Arts Degree: Visual and Performing Arts**

**Theater**

The theater program offers transfer courses in preparation for university theater majors as well as fundamental skills in acting and play production useful for employment or for participation in community theater productions.

**Courses Required for the Major:**

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>DRAM 122, Makeup for the Stage</td>
<td>2</td>
</tr>
<tr>
<td>DRAM 123, Beginning Stagecraft</td>
<td>3</td>
</tr>
<tr>
<td>DRAM 126, Advanced Stagecraft</td>
<td>3</td>
</tr>
<tr>
<td>DRAM 132, Beginning Acting</td>
<td>3</td>
</tr>
<tr>
<td>DRAM 133, Intermediate Acting</td>
<td>3</td>
</tr>
<tr>
<td>DRAM 134, Beginning Voice for Actors</td>
<td>3</td>
</tr>
<tr>
<td>DRAM 136, History of Canonized Theatre- Ancient Greece to the Restoration</td>
<td>3</td>
</tr>
<tr>
<td>DRAM 137, History of Canonized Western Theatre- Restoration to the Present</td>
<td>3</td>
</tr>
</tbody>
</table>

**Total Units = 23**

**Recommended electives:** Dramatic Arts 103, 105, 106, 119, 128, 165A, 250, 251, 290; Fine Arts 150A, 151, 155A, 155B, 170A, 170B; Music 100, 120A, 150A; Speech 103.

**Transfer Information**

Students planning to transfer to a four-year college or university should complete courses required for the university major and the general education pattern required by that transfer institution. See catalog TRANSFER INFORMATION section. Additional courses may be required to meet university lower-division requirements. Course requirements at the transfer institution are subject to change and may be verified by a counselor or by consulting the current university catalog. Many Baccalaureate in Arts degrees require third semester competency in a foreign language. Consult the current catalog of the transfer institution and consult with a counselor.

**California State University, San Marcos**

See a counselor for specific course requirements for Visual and Performing Arts majors.

**San Diego State University**

Theatre, General, B.A.: Dramatic Arts 134 (City) or Speech 101; Dramatic Arts 120 (Miramar), 132 (City), 133 (City) or 131A, B or 201 (Mesa), 123 (City), 101 or 130 (Mesa) or 132 City.

**University of California, San Diego**

Theater, B.A.: Dramatic Arts 132 (City) or 130 (Mesa).

See a counselor for more information.

Theatre, Dance, B.A.: Dramatic Arts 130 (Mesa) or 132 (City). See a counselor for more information.

**Courses**

### Dramatic Arts (DRAM)

**103 Acting for Non-majors**

3 hours, 3 units

**Grade Only**

**Advisory:** English 51 and 56, each with a grade of "C" or better, or equivalent, or Assessment Skill Levels W5 and R5.

This course introduces students to improvisational acting. The first phase of the course treats acting as process-centered. The instructor leads the participants using a variety of exercises to imagine, enact and reflect upon human experiences. The second phase of the course emphasizes problem-solving skills in group improvisational work. The group improvises action and dialogue appropriate to the content it is exploring, using elements of drama to give form and meaning to the experience. This course is designed for students who wish to study acting as an introduction to Visual and Performing Arts. (FT) Transfer Credit: CSU and/or private coll/univ.

**105 Introduction to Dramatic Arts**

3 hours, 3 units

**Advisory:** English 51 and 56, each with a grade of "C" or better, or equivalent, or Assessment Skill Levels W5 and R5.

This course is an introductory study of the art and literature of the theater. Emphasis is placed on the examination and evaluation of dramatic texts in terms of genre, historical context, aesthetics and reception. In addition, this course introduces students to the technical aspects of the theatrical industry including production and personnel through campus drama productions and field trips. This course is designed for students pursuing a Liberal Arts degree with an emphasis in drama performance. (FT) Transfer Credit: CSU and/or private coll/univ.; UC. (CAN DRAM 18)
106 Acting for Radio/Voice-Over
2 hours lecture, 3 hours lab, 3 units
*Advisory:* English 56 with a grade of "C" or better, or equivalent, or Assessment Skill Level RS; and RTVC 105 with a grade of "C" or better, or equivalent.  
*Limitation on Enrollment:* This course is not open to students with credit for RTVC 106 or 265 or DRAMA 265, Acting for Radio/Voice-Over. (Same as RTVC 106.)  
This is an introductory course to train actors in the fundamentals of voice technique, dialects and voice-over. Emphasis in the voice-over component includes microphone technique, character voices and cartoon voices for commercial use as well as cold reading audio-taped audition skills. Other components include cold reading techniques, fundamental acting techniques required for voice-over work, and the production of a voice-over demo tape. This course provides a comprehensive introduction to students intending to enter a career in dramatic arts and radio/television.  
(FT) Transfer Credit: CSU and/or private coll/univ.

119 Acting for Film and Television
2 hours lecture, 3 hours lab, 3 units
*Advisory:* English 56 with a grade of "C" or better, or equivalent, or Assessment Skill Level RS; and Dramatic Arts 132 with a grade of "C" or better, or equivalent.  
*Limitation on Enrollment:* This course is not open to students with credit for RTVC 119 or 265 or DRAMA 265, Acting for Film and Television. (Same as RTVC 119.)  
This course introduces students to the skills required for on-camera performing techniques as used in the motion picture and television industry. Students participate in the selection, rehearsal, and on-camera performance of material from television and motion picture scripts including drama, sitcoms, soaps and commercials. Emphasis is placed on cold reading taped audition skills, improvisational and interview techniques, and the fundamental acting techniques required for camera, scene, and monologue studies. This course provides a comprehensive introduction to students intending to enter a career in dramatic arts and radio/television.  
(FT) Transfer Credit: CSU and/or private coll/univ.

122 Makeup for the Stage
1 hour lecture, 3 hours lab, 2 units
*Grade Only*  
This course is an introductory hands-on study of the materials and techniques used in stage makeup design and application. Emphasis is placed on the acquisition of a lexicon pertinent to the history and use of makeup in the theater as well as on the actual application of stage makeup in the classroom as a member of the makeup crew for a theatrical production.  
(FT) Transfer Credit: CSU and/or private coll/univ. (CAN DRAM 14)

123 Beginning Stagecraft
2 hours lecture, 3 hours lab, 3 units  
*Limitation on Enrollment:* This course is not open to students with credit for Dramatic Arts 125.  
This is a lecture and laboratory that emphasizes student involvement in all phases of technical scene production. Class material emphasizes construction, painting, rigging, placement, and manipulation of stage scenery, lighting equipment, sound and properties; and the organization and management of stage activity and stagecraft technology. Students study the aesthetics and practical application of set, sound and lighting design. This course is designed for students pursuing associate degrees in performance and technical theatre and may be repeated one time.  
Transfer Credit: CSU and/or private coll/univ. (CAN DRAM 12)

126 Advanced Stagecraft
1.5 hours lecture, 4.5 hours lab, 3 units
*Prerequisite:* Dramatic Arts 123 with a grade of "C" or better, or equivalent.  
This course offers students an advanced study of technical stage production and scene technology with an emphasis on the methods and practices of technical theory and on practical, hands-on experience. Course content includes theater design, stage decor and lighting and the synthesis of all elements of stagecraft within an environment of actual stage production. Students develop crew leadership skills as they create and construct set designs and operate stage equipment for all Dramatic Arts production throughout the semester. This course is designed for students pursuing an associate degree in performance and technical theatre and may be repeated one time.  
(FT) Transfer Credit: CSU and/or private coll/univ.; UC.

128 Stage Lighting Design
1.5 hours lecture, 4.5 hours lab, 3 units
*Prerequisite:* Dramatic Arts 123 with a grade of "C" or better, or equivalent.  
This course is an introduction to the principles and practices of stage lighting through instruction in the design of light plots. Emphasis is placed on design and knowledge of the drafting of lighting plots and the operation of basic electric stage equipment. Students participate in the department production, earning practical experience in lighting and execution. Technical preparation for other forms of production such as outdoors, television and movies is included. This course is intended for the transfer student planning a major in Dramatic Arts or desiring competency in technical theatre.  
(FT) Transfer Credit: CSU and/or private coll/univ.; UC.
129 Beginning Scene Painting  
2 hours lecture, 3 hours lab, 3 units  
Advisory: English 56 with a grade of "C" or better, or equivalent, or Assessment Skill Level R5.  
Limitation on Enrollment: This course is not open to students with credit for DRAMA 265: Introduction to Scene Painting and Decorative Arts.  
This course introduces students to basic techniques and materials used in the painting of scenery for the stage. Students learn techniques in faux painting, murals, trompe l’oeil (trick the eye), and decorative motifs for theatre. Emphasis is placed on application of techniques for theatre settings. This course provides a comprehensive introduction to students pursuing a degree in Visual and Performing Arts or a Certificate in Technical Theatre. (FT) Transfer Credit: CSU and/or private coll/univ.

132 Beginning Acting  
2 hours lecture, 3 hours lab, 3 units  
Advisory: English 43 and English 42, each with a grade of "C" or better, or equivalent, or Assessment Skill Levels W4 and R4.  
Limitation on Enrollment: This course is not open to students with credit for Dramatic Arts 130.  
This course is a beginning-level study, practice, and execution of the fundamentals of acting designed to develop a foundation in basic acting technique. Emphasis is placed on the effective communication of ideas and emotions by a dramatic character to audience. Course content includes staging techniques, improvisation, theater games, scenes, monologues, stage movement and an introduction to the lexicon of acting for theater. This course is intended for students pursuing a degree in Liberal Arts with an emphasis in drama. Transfer Credit: CSU and/or private coll/univ.; UC. (CAN DRAM 8)

133 Intermediate Acting  
2 hours lecture, 3 hours lab, 3 units  
Prerequisite: Dramatic Arts 132 with a grade of "C" or better, or equivalent.  
Limitation on Enrollment: This course is not open to students with credit for Dramatic Arts 131A or 131B.  
This course is designed to build upon the acting and scene work skills developed in Dramatic Arts 132. Emphasis is placed on character analysis through lecture, demonstration, and exercises as well as on scene rehearsal and presentation. This course is intended for students pursuing a degree in Liberal Arts with an emphasis in drama. (FT) Transfer Credit: CSU and/or private coll/univ.; UC. (CAN DRAM 22)

134 Beginning Voice for Actors  
3 hours, 3 units  
Advisory: English 51 and 56, each with a grade of "C" or better, or equivalent, or Assessment Skill Level W5 and R5.  
This course is designed as an introduction to voice for actors. Students learn the mechanics of voice production and the various elements of theatre speech: quality, strength time and pitch. The students are introduced to the American Standard Pronunciation and International Phonetic Alphabet. Lecture and discussion, plus individual and group exercises, are combined to help the student acquire the basics of good voice, speech and articulation. This course is for students pursuing a degree in Visual and Performing Arts with an emphasis in Drama. Transfer Credit: CSU and/or private coll/univ.; UC. (CAN DRAM 6)

136 History of Canonized Theatre- Ancient Greece to the Restoration  
3 hours, 3 units  
Advisory: English 51 and 56, each with a grade of "C" or better, or equivalent, or Assessment Skill Levels W5 and R5.  
This course is designed to introduce the student to a history theatre of the Western canon from ancient times to the Restoration in England. The student examines the physical theatre and methods of staging drama from the earliest records to the mid-17th Century. Emphasis is placed on text analysis of the works of the canonized playwrights and the relationship of the theatre to the historical, political and religious events of the times. This course is intended for students pursuing a degree in Visual and Performing Arts with an emphasis in Drama. Transfer Credit: CSU and/or private coll/univ.; UC.

137 History of Canonized Western Theatre- Restoration to the Present  
3 hours, 3 units  
Advisory: English 51 and 56, each with a grade of "C" or better, or equivalent, or Assessment Skill Levels W5 and R5.  
This course is designed to introduce students to a history of canonized Western theatrical experiences from the English Restoration to the present and includes examination of the physical theatre and methods of staging drama. Emphasis is placed on text analysis of the works of canonized playwrights and the relationship of theatre to the historical, political and religious events of the times. This course is intended for students pursuing a degree in Visual and Performing Arts.
Arts with an emphasis in Drama. (FT) Transfer Credit: CSU and/or private coll/univ.; UC.

**165A Introduction to Stage Movement**  
3 hours, 3 units  
*Advisory:* English 51 and 56, each with a grade of "C" or better, or equivalent, or Assessment Skill Levels W5 and R5.  
This course serves as an introduction to basic techniques of movement for the stage. Stage movement focuses on the actor’s body as an expressive instrument. Students acquire flexibility, strength, and physical repertoire of stage movement. The student is challenged to explore and utilize new areas of dramatic expression. Some examples of contemporary movement are Tai Chi, Suzuki, Alexander, and Feldenkrais. This course is intended for students pursuing a degree in Visual and Performing Arts with an emphasis in Drama. Transfer Credit: CSU and/or private coll/univ.; UC. (CAN DRAM 20)

**172 Beginning Musical Theater Audition**  
1 hour lecture, 3 hours lab, 2 units  
This course is a beginning-level study and demonstration of the skills needed to competitively audition for musical theater productions. Emphasis is placed on selecting and rehearsing appropriate ballads and up-tempo songs, as well as on music preparation, song interpretation, lyric memorization techniques, audition performance, projection, appearance, and communication. Course content also includes an introduction to the process of auditioning for musical theater within a professional context. Students are required to participate in an audition recital. (FT) Transfer Credit: CSU and/or private coll/univ.

**173 Intermediate Musical Theater Workshop**  
1 hour lecture, 3 hours lab, 2 units  
*Prerequisite:* Dramatic Arts 172 with a grade of "C" or better, or equivalent.  
This course is an intermediate level study and demonstration of the skills necessary to integrate singing and movement in performance and to audition for musical theater in a competitive way. Emphasis is placed on student participation in the selection, rehearsal, and weekly performance of ballads and up-tempo audition songs. Course content includes music preparation, lyric interpretation; musical terms and notation; and stage movement at the intermediate level. By the end of the course, students are able to arrange and audition and apply professional conduct and standards toward the goal of theater as employment. (FT) Transfer Credit: CSU and/or private coll/univ.

**174 Advanced Musical Theater Workshop**  
1 hour lecture, 3 hours lab, 2 units  
*Limitation on Enrollment:* By audition only.  
This course is an advanced level study and demonstration of the skills needed to integrate acting, singing, and movement in Musical Theater. Emphasis is placed on student participation in the selection, rehearsal and class performance of a song and scene from a musical. Topics explored through the course include interpretation, characterization, professional conduct and theater as employment in addition to an overview of major musicals, roles, songs, authors and composers. By the end of the course, students are able to arrange auditions and apply professional conduct and standards as they seek employment in the theater. Participation in a musical revue open to the public is required. This course may be repeated one time with different content. (FT) Transfer Credit: CSU and/or private coll/univ.

**250 Rehearsal, Production and Performance**  
3-12 hours lab, 1-4 units  
This course is a study and application of the skills, responsibilities and commitment required for work in play production and performance. Throughout the course, students participate in the rehearsal, production and performance of an actual play. As part of this process, students research and provide written critiques of the background, style, historical conditions and artistic theory connected to the given play and apply these to an original interpretation of the production. This course may be repeated three times. (FT) Transfer Credit: CSU and/or private coll/univ.; UC.

**251 Musical Comedy Rehearsal, Production and Performance**  
3-12 hours lab, 1-4 units  
This course is a study and application of the skills, responsibilities and commitment required for work in the production and performance of a musical. Throughout the course, students participate in rehearsal, production and performance as actors, singers, dancers, technicians, assistant directors, stage managers and production crew. As part of this process, students research and provide written critiques of the background, style, historical conditions and artistic theory connected to the given musical and apply these to an original interpretation of the production. This course may be repeated three times. (FT) Transfer Credit: CSU and/or private coll/univ.; UC.
290 Independent Study

**Hours by Arrangement, 1-3 units**

**Limitation on Enrollment:** Must obtain an Add Code from instructor for registration.

Advanced special work in dramatic arts: acting, design, lighting, film, business, makeup, costumes, direction, or play production. This course may be taken four times with different content for a maximum of six units. Transfer Credit: CSU and/or private coll/univ.; UC transfer limitations. See a counselor.

This discipline may offer specialized instruction in one or more of the following areas: Supervised Tutoring (044), Special Topics (265), Independent Study (290), Individualized Instruction (296), Service Learning (277), Applied Applications and Software Skills (045L), or Work Experience (270). Detailed course descriptions are listed on page 94. Please refer to the class schedule and/or see the dean or department chair for availability.

### Visual and Performing Arts

#### Two-and Three-Dimensional Art

**Description**

This program provides fundamental training in two-dimensional design (art) enabling students to earn an associate degree while completing lower division preparation for a four-year degree. The curriculum is designed to maximize transferable course units and to provide basic skills required for employment in art-related fields.

**Faculty**

<table>
<thead>
<tr>
<th>Name</th>
<th>Office</th>
<th>Telephone</th>
</tr>
</thead>
<tbody>
<tr>
<td>Douglas Dailard</td>
<td>C-225C</td>
<td>(619) 388-3622</td>
</tr>
<tr>
<td>Yoonchung P. Kim</td>
<td>C-225B</td>
<td>(619) 388-3600</td>
</tr>
<tr>
<td>Candice Lopez</td>
<td>T-310A</td>
<td>(619) 388-3560</td>
</tr>
<tr>
<td>Cynthia Sabransky</td>
<td>T-309A</td>
<td>(619) 388-3794</td>
</tr>
<tr>
<td>Andrea Singer</td>
<td>C-225F</td>
<td>(619) 388-3933</td>
</tr>
</tbody>
</table>

**Career Options**

Some careers listed require education beyond the associate degree: art critic, art dealer, educator, historian, arts administrator, advertising specialist, ceramicist, community or computer artist, computer graphics illustrator, computer publishing, design consulting, display designer, gallery director, graphic artist, illustrator, muralist, painter, printmaker, sculptor and visual information specialist.

**Academic Programs**

The associate degree in Two- and Three-Dimensional Art requires completion of the courses listed below. Additional general education and graduation requirements for the associate degree are listed in the catalog. The associate degree requires a minimum of 60 units.

### Associate in Arts Degree: Visual and Performing Arts

#### Two-Dimensional Art Emphasis

**Courses Required for the Major:**

<table>
<thead>
<tr>
<th>Course</th>
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<tbody>
<tr>
<td>ARTF 110, 111, Art History</td>
</tr>
<tr>
<td>ARTF 150A, Design I</td>
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<tr>
<td>ARTF 151, Three-Dimensional Design</td>
</tr>
<tr>
<td>ARTF 155A, 155B, Freehand Drawing, I,II</td>
</tr>
<tr>
<td>ARTF 165A, Composition in Painting</td>
</tr>
<tr>
<td>ARTF 210A, Life Drawing</td>
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<tr>
<td>PHOT 100, Basic Black &amp; White Photography</td>
</tr>
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</table>

**Select two courses (six units) from:**

<table>
<thead>
<tr>
<th>Course</th>
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<tbody>
<tr>
<td>ARTF 100, 109, 115, 150B, 165B,C,D, 170A, B,C, 175A,B,C</td>
</tr>
</tbody>
</table>

**Total Units = 33**

### Associate in Arts Degree: Visual and Performing Arts

#### Three-Dimensional Art Emphasis

**Courses Required for the Major:**

<table>
<thead>
<tr>
<th>Course</th>
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</thead>
<tbody>
<tr>
<td>ARTF 110, 111, Art History</td>
</tr>
<tr>
<td>ARTF 150A, Design I</td>
</tr>
<tr>
<td>ARTF 151, Three-Dimensional Design</td>
</tr>
<tr>
<td>ARTF 155A, 155B, Freehand Drawing, I,II</td>
</tr>
<tr>
<td>ARTF 175A, Sculpture I</td>
</tr>
<tr>
<td>ARTF 195A, Ceramics I</td>
</tr>
<tr>
<td>PHOT 100, Basic Black &amp; White Photography</td>
</tr>
</tbody>
</table>

**Select three units from:**

<table>
<thead>
<tr>
<th>Course</th>
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</thead>
<tbody>
<tr>
<td>Fine Arts 165A,B,C,D, 170A,B, 175B,C</td>
</tr>
</tbody>
</table>

**Select six units from:**

<table>
<thead>
<tr>
<th>Course</th>
</tr>
</thead>
</table>

**Total Units = 36**

**Recommended electives:** Art-Fine Arts 193, 270, 290.

#### Transfer Information

Students planning to transfer to a four-year college or university should complete courses required for the university major and the degree general education pattern required by that transfer institution. See catalog TRANSFER INFORMATION section. Additional courses may be required to meet university lower-division requirements. **Course requirements at the transfer institution are subject to change and may be verified by a counselor or by consulting the current university catalog. Many Baccalaureate in Arts**
degrees require **third semester competency in a foreign language. Consult the current catalog of the transfer institution and consult with a counselor.**

### San Diego State University

**Art, Environmental Design, B.A.:** Fine Arts 110, 111, 150A, 151, 155A, 155B; Interior Design 105 (Mesa).

**Art, Art History, B.A.:** Fine Arts 110, 111, 113 (Mesa), 125 (Mesa, Miramar) and 150A, 155A.

**Art, Interior Design, B.A.:** Fine Arts 110, 111, 150A, 151, 155A, 155B; Interior Design 105 (Mesa).

**Art, Single Subject Teaching Credential, B.A.:** Fine Arts 110, 111, 150A, 151, 155A, 155B; 170A,B, or C; 175A,B,C or D; and three units from Fine Arts 150B or 198A,B,C (Mesa), 210A,B,C.

### University of California, San Diego

**Visual Arts, Art History/Criticism, B.A.:** Fine Arts 109, 113 (Mesa).

**Visual Arts, Computing and the Arts, B.A.:** Music 100; Fine Arts 109; Mathematics 150, 151 or 121 and 122; Computer Science 190.

## Courses

### Art - Fine Art (ARTF)

**100 Art Orientation**  
3 hours, 3 units  
A survey of the field of visual arts, including aesthetic approaches, philosophies, media, professional fields, regional and cultural contributions. Recommended for general education and Fine Art majors. Illustrated lectures. (FT) Transfer Credit: CSU and/or private coll/univ.; UC.

**109 Nineteenth and Twentieth Century Art**  
3 hours lecture, 3 units  
Advisory: Art-Fine Art 110 and 111, each with a grade of "C" or better, or equivalent.  
This course is designed not only for art students but also for those who are interested in history, humanities, teaching, travel and cultural enrichment. It is an introductory survey of the visual arts that are most relevant to an understanding of western civilization in the 19th and 20th centuries. It includes major monuments and representative works from Europe, Russia and the Americas. (FT) Transfer Credit: CSU and/or private coll/univ.; UC.

**110 Art History: Prehistoric to Gothic**  
3 hours, 3 units  
Advisory: English 51 and 56, each with a grade of "C" or better, or equivalent or Assessment Skill Levels W5 and R5.  
This course is designed not only for art students, but also for those who are interested in history, humanities, teaching, travel, and cultural enrichment. It is an introductory survey of the visual arts that are most relevant to an understanding of western civilization, from prehistoric Africa and Europe through the Gothic period. It includes major monuments and representative artworks from Mesopotamia, Iran, Egypt, the Aegean and Greece. Also included are the Hellenistic, Roman, early Christian, Byzantine, and Islamic worlds and art work from early Medieval, Romanesque, and Gothic Europe. Material is presented in illustrated lectures. (FT) Transfer Credit: CSU and/or private coll/univ.; UC. (CAN ART 2) (CAN ARTF SEQ A = ARTF 110 + 111)

**111 Art History: Renaissance to Modern**  
3 hours, 3 units  
Advisory: English 51 and 56, each with a grade of "C" or better, or equivalent or Assessment Skill Levels W5 and R5.  
This course is designed not only for art students, but also for those who are interested in history, humanities, travel, and cultural enrichment. It is an introductory survey of the visual arts that are recognized as salient in the development of western civilization from the Renaissance to the early twentieth century. The art styles covered in the course include Renaissance, Mannerism, Baroque, Rococo, Neo-Classicism, Romanticism, Impressionism, post-Impressionism, and early twentieth century Modern movements. (FT) Transfer Credit: CSU and/or private coll/univ.; UC. (CAN ART 4) (CAN ARTF SEQ A = ARTF 110 + 111)

**115 African Art**  
3 hours, 3 units  
Advisory: English 51 and 56, each with a grade of "C" or better, or equivalent or Assessment Skill Levels W5 and R5.  
This course is designed not only for art students, but also for those who are interested in history, religion, philosophy, humanities, and cultural enrichment. It is an introduction to the background, aesthetics, styles and iconography of African art. It covers a selected group of cultures throughout the continent, with an emphasis on sub-Saharan West and Central Africa. Classroom lectures are illustrated. (FT) Transfer Credit:
CSU and/or private coll/univ.; UC transfer limitations. See a counselor.

150A Design I
1.5 hours lecture, 4.5 hours lab, 3 units
Advisory: English 51 and 56, each with a grade of "C" or better, or equivalent, or Assessment Skill Levels W5 and R5.
This is a course about visual form, and about ways of organizing two-dimensional visual forms into vivid and coherent images. As such, this course may serve as both an introduction to art for those with a tentative interest in art making, and as a foundation course for all other studio courses offered by this department, including courses such as ceramics and sculpture which involve construction in three-dimensions. This course does not require drawing expertise. (FT) Transfer Credit: CSU and/or private coll/univ. UC. (CAN ART14)

150B Beginning Graphic Design
1.5 hours lecture, 4.5 hours lab, 3 units
Advisory: English 51 and English 56 and Fine Art 150A, each with a grade of "C" or better, or equivalent, or Assessment Skill Levels W5 and R5.
This is an introductory class in graphic communication which uses the computer as a tool for building and editing images. As in Art 150A, students address problems of visual form and organization, but with an emphasis in this course on visual constructions which convey information, and on type and text as graphic components of those constructions. This is a core course for art majors and would be useful for anyone interested in computer graphic applications. (FT) Transfer Credit: CSU and/or private coll/univ. UC.

151 Three-Dimensional Design
1.5 hours lecture, 4.5 hours lab, 3 units
Advisory: English 51 and 56, each with a grade of "C" or better, or equivalent, or Assessment Skill Levels W5 and R5; and Art-Fine Art 150A with a grade of "C" or better.
This introduction to design in three dimensions continues the investigation of elements and principles of visual organization begun in Art 150A. Students learn to solve design problems using a variety of three-dimensional materials, and a variety of approaches to three-dimensional structure. This is a foundation course for students planning to major in art, and a useful course for all students interested in building visually coherent three dimensional objects. (FT) Transfer Credit: CSU and/or private coll/univ.; UC. (CAN ART 10)

155A Freehand Drawing I
1.5 hours lecture, 4.5 hours lab, 3 units
Advisory: English 51 and 56, each with a grade of "C" or better, or equivalent, or Assessment Skill Levels W5 and R5.
This course introduces anyone with an interest in drawing to the techniques and theory they need to create naturalistic drawings in various media. It provides students with the means to see and describe the world three-dimensionally using lines and differences in dark and light, and it provides students with compositional strategies for making their depictions more meaningful and effective. No previous art experience is required. (FT) Transfer Credit: CSU and/or private coll/univ. UC. (CAN ART 8)

155B Freehand Drawing II
1.5 hours lecture, 4.5 hours lab, 3 units
Advisory: English 51 and 56, each with a grade of "C" or better, or equivalent, or Assessment Skill Levels W5 and R5; and Art-Fine Art 155A.
This course builds upon the technical and compositional means introduced in 155A. It differs from 155A in its range of media and form, and in its emphasis on helping students find individual solutions to particular problems of graphic representation and expression. (FT) Transfer Credit: CSU and/or private coll/univ.

165A Composition in Painting I
1.5 hours lecture, 4.5 hours lab, 3 units
Advisory: ARTF 150A and ARTF 155A with a grade of "C" or better, or equivalent.
This course is an introduction to oil and acrylic painting methods and techniques with emphasis on composition, color, and application of general design principles. A variety of subject matter such as still-life, landscape, portrait and non-objective subjects, and a variety of stylistic approaches such as cubism, collage, realism and expressionism, are explored. This course is designed to develop students' creative abilities and critical thinking in visual terms. The course is designed for students who are pursuing an Associate in Arts degree, preparing for a major in Art, as well as for those who wish to improve their artistic skills. (FT) Transfer Credit: CSU and/or private coll/univ.; UC. (CAN ART 10)

165B Composition in Painting II
1.5 hours lecture, 4.5 hours lab, 3 units
A continuation of Fine Art 165A. Advanced work. (FT) Transfer Credit: CSU and/or private coll/univ.; UC.
165C Composition in Painting III
1.5 hours lecture, 4.5 hours lab, 3 units
A continuation of Fine Art 165B. Enrollment based on space availability and previous high achievement/ portfolio. (FT) Transfer Credit: CSU and/or private coll/ univ.; UC.

165D Composition in Painting IV
1.5 hours lecture, 4.5 hours lab, 3 units
A continuation of Fine Art 165C. Enrollment based on space availability and previous high achievement/ portfolio. (FT) Transfer Credit: CSU and/or private coll/ univ.; UC.

170A Contemporary Crafts I
1.5 hours lecture, 4.5 hours lab, 3 units
An introduction to crafts, stressing design principles and expressive quality. Offers problems in a variety of media including, but not limited to, ceramics, wood, fabrics, and enamels. (FT) Transfer Credit: CSU and/or private coll/univ.

170B Contemporary Crafts II
1.5 hours lecture, 4.5 hours lab, 3 units
Crafts problems adjusted to students’ individual needs and interests. (FT) Transfer Credit: CSU and/or private coll/univ.

175A Sculpture I
1.5 hours lecture, 4.5 hours lab, 3 units
Advisory: Fine Art 150A with a grade of "C" or better, or equivalent.
This course is an introduction to sculptural materials, processes and forms. The course helps students to appreciate the shapes and functions of sculpture (past and present) in the context of hands-on experience. This course is intended for transfer students planning to major in art and for all students interested in working in three dimensional media. (FT) Transfer Credit: CSU and/or private coll/univ.; UC. (CAN ART 12)

175B Sculpture II
1.5 hours lecture, 4.5 hours lab, 3 units
Advisory: ARTF 175A with a grade of "C" or better, or equivalent.
This course continues the introduction to sculptural materials, processes and forms begun in Art 175A. It differs from 175B in that it requires that students show more self-reliance in their selection and pursuit of sculptural goals, and that the goals they select be more complex and ambitious. This course is intended for transfer students planning to major in art and for all students interested in working in three-dimensional media. (FT) Transfer Credit: CSU and/or private coll/univ.; UC.

175C Sculpture III
1.5 hours lecture, 4.5 hours lab, 3 units
Advisory: ARTF 175B with a grade of "C" or better, or equivalent.
This course continues the acquaintanceship with sculptural materials, processes and forms begun in Art 175A and 175B. It differs from 175B in that it requires that students show more self-reliance in their selection and pursuit of sculptural goals, and that the goals they select be more complex and ambitious. This course is intended for transfer students planning to major in art and for all students interested in working in three-dimensional media. (FT) Transfer Credit: CSU and/or private coll/univ.; UC.

185 Lettering
1.5 hours lecture, 4.5 hours lab, 3 units
A basic course emphasizing freehand techniques of brush and pen lettering. Letter forms, styles, spacing and layout problems are presented. (FT) Transfer Credit: CSU and/or private coll/univ.

193 Photography as Fine Art
2 hours lecture, 3 hours lab, 3 units
Grade Only
The application of photography techniques, traditional and experimental, is the basis in this course with concentration being on creative expression. Students are encouraged to combine photography with a variety of art media work and techniques which might include darkroom manipulation, collage, painting, hand coloring, assemblage, Polaroid transfer, electronic imaging, non-silver processes, and other mixed media techniques. (FT) Transfer Credit: CSU and/or private coll/univ.

195A Ceramics I
1.5 hours lecture, 4.5 hours lab, 3 units
Advisory: English 51 and English 56, each with a grade of "C" or better, or equivalent, or Assessment Skill Level W5/R5.
This course is an introduction to the design and construction of ceramic objects. Students acquire techniques of hand-building and throwing on the potter’s wheel as they produce ceramic forms with visually interesting three dimensional shapes and varied surface treatment. This course is intended for transfer students planning to major in art and for all students interested in designing objects in three
dimensions. (FT) Transfer Credit: CSU and/or private coll/univ.; UC. (CAN ART 6)

**195B Ceramics II**

1.5 hours lecture, 4.5 hours lab, 3 units
Continuation of Fine Art 195A with advanced ceramic problems using both wheel and handbuilding techniques applying traditional and contemporary approaches. (FT) Transfer Credit: CSU and/or private coll/univ.; UC.

**195C Ceramics III**

1.5 hours lecture, 4.5 hours lab, 3 units
Continuation of Fine Art 195A/B. Ceramic problems adjusted to students individual interest and expressive direction, with further development of knowledge, skills and philosophy through individual creative projects. (FT) Transfer Credit: CSU and/or private coll/univ.; UC.

**195D Porcelain Ceramics**

1.5 hours lecture, 4.5 hours lab, 3 units
Advance projects in both wheel and handbuilding techniques using porcelain (or white stoneware) and related porcelain glazes. (FT) Transfer Credit: CSU and/or private coll/univ.; UC.

**196 Clay and Glaze Technology**

1.5 hours lecture, 4.5 hours lab, 3 units
Advisory: Art-Fine Art 195B or 197B with a grade of "C" or better, or equivalent.
This is a survey of technical processes in ceramics that introduces students to basic and advanced techniques of glaze formulation, mixing, and testing. The course also acquaints students with the composition of clays, stains, and engobes and how these respond to different kilns and firing conditions. This course is designed to help ceramics majors and other interested students understand the physical and chemical nature of ceramic materials. (FT) Transfer Credit: CSU and/or private coll/univ.; UC.

**197A Handbuilding Ceramics I**

1.5 hours lecture, 4.5 hours lab, 3 units
This course emphasizes the many aspects of handbuilding with clay for functional and non-functional pieces. Low fire and high fire will be offered. (FT) Transfer Credit: CSU and/or private coll/univ.; UC.

**197B Handbuilding Ceramics II**

1.5 hours lecture, 4.5 hours lab, 3 units
This course emphasizes advanced aspects of handbuilding with clay for functional and non-functional pieces. Low fire and high fire will be offered. (FT) Transfer Credit: CSU and/or private coll/univ.; UC.

**210A Life Drawing I**

1.5 hours lecture, 4.5 hours lab, 3 units
Drawing from live models. Dynamic representation of human form and expressive use of figure in composition. (FT) Transfer Credit: CSU and/or private coll/univ.; UC. (CAN ART 24)

**210B Life Drawing II**

1.5 hours lecture, 4.5 hours lab, 3 units
Drawing from live models. Dynamic representation of the human form and expressive use of figure in composition. (FT) Transfer Credit: CSU and/or private coll/univ.; UC.

**210C Life Drawing III**

1.5 hours lecture, 4.5 hours lab, 3 units
Figure drawing and composing related to the individual interests of the student. Enrollment based upon space availability and previous high achievement/portfolio. (FT) Transfer Credit: CSU and/or private coll/univ.; UC.

**270 Work Experience**

Hours by Arrangement; 1-4 units
Grade Only
Limitation on Enrollment: Must obtain an Add Code from Work Experience Coordinator for registration. To receive credit a student must complete a minimum of seven units during the semester, including work experience. A program of on-the-job learning experiences for students employed in a job related to their major. The combined maximum credit for all work experience courses from all disciplines may not exceed 16 units. (FT) Transfer Credit: CSU and/or private coll/univ.

**290 Independent Study**

Hours by Arrangement; 1-3 units
Limitation on Enrollment: Must obtain an Add Code from instructor for registration.
Open only to those students who have exhausted departmental offerings in their areas of emphasis. This course may be taken four times with different content for a maximum of six units. (FT) Transfer Credit: CSU and/or private coll/univ.; UC transfer limitations. See a counselor.

This discipline may offer specialized instruction in one or more of the following areas: Supervised Tutoring (044), Special Topics (265), Independent Study (290), Individualized Instruction (296), Service Learning (277), Applied Applications and Software Skills (045L), or Work Experience (270).
Detailed course descriptions are listed on page 94. Please refer to the class schedule and/or see the dean or department chair for availability.
Occupational Work Experience

**Occupational Work Experience** is a program of on-the-job learning experiences for students employed in a job related to an occupationally oriented major. The goals and assignments for completion of the courses are formulated with industry under the direction of the college instructor assigned to teach Work Experience 270. The grading system is the same as for other subjects offered by the college and the time spent for preparation and training is also comparable. Adequate records are maintained to determine satisfactory progress and attendance.

**Courses**

**Work Experience (WORK)**

**270 Occupational Work Experience (Parallel Plan)**

*Hours by Arrangement; 1-4 units*  
*Grade Only*

**Limitation on Enrollment:** To receive credit a student must complete a minimum of seven units during the semester, including work experience. During summer sessions, one other course must be taken concurrently. Failure to complete seven units during Fall/Spring and/or other class during Summer Session will result in course credit being denied and/or removed. A program of on-the-job learning experiences for students employed in a job related to an occupationally oriented major for which no work experience course is offered. One unit of credit is earned for each 75 hours of paid employment or 60 hours of volunteer work. This course may be taken four times for a maximum of 16 units. However, the combined maximum credit for all work experience courses from all disciplines may not exceed 16 units. Transfer Credit: CSU and/or private coll/univ.

**272 General Work Experience (Parallel Plan)**

*Hours by Arrangement; 1-3 units*  
*Grade Only*

**Limitation on Enrollment:** Must obtain an Add Code from Work Experience Coordinator for registration. To receive credit a student must complete a minimum of seven units during the semester, including work experience. During summer sessions, one other course must be taken concurrently. Failure to complete seven units during Fall/Spring and/or other class during Summer Session will result in course credit being denied and/or removed. A program of on-the-job learning experiences designed to assist the student in developing occupational effectiveness. Employment need not be related to vocational or occupational major. One unit of credit is earned for each 75 hours of paid employment or 60 hours of volunteer work, with a maximum of 3 units per semester or summer session. This course may be taken twice for a maximum of six units. However, the combined maximum credit for all work experience courses from all disciplines may not exceed 16 units. Transfer Credit: CSU and/or private coll/univ.
Apprenticeship

The apprenticeship training program provides an opportunity for a balanced approach of on-the-job training and related technical instruction to achieve the position of journeyperson in one of the state-approved programs. The length of the program depends on the trade selected and can range from two to five years. The program encourages the transfer of skills and knowledge from master journeymen and journeywomen to apprentices to further employment potential in their trade. The California state system was established in 1939 with the passage of the Shelley-Maloney Apprenticeship Labor Standards Act. This act established the California Apprenticeship Council as the policy-making body; named the State Director of Industrial Relations as the administrator of apprenticeship; authorized the Division of Apprenticeship Standards (DAS) to approve training standards and provide assistance in the development of apprenticeship programs; and assigned responsibility for related and supplemental training to state and local boards responsible for vocational education.

Affirmative Action Statement

The Apprenticeship Committees for whom the District provides related and supplemental instruction have indicated they do not and will not discriminate against any employee or against any applicant for employment because of age, race, color, religion, handicap, ancestry, sex or national origin.

Admission To The Program

Indenture in a state-approved apprenticeship program is a required prerequisite to enroll in the apprenticeship related and supplemental classes. Applicants for apprenticeship should contact the employer, program coordinator or labor union listed before each program in the apprenticeship course description section of the catalog. Each of the individual programs listed in the apprenticeship course description section of this catalog is administered by an apprenticeship committee made up of member representatives from the respective trades or industries. This committee serves as the approval body for all apprenticeship matters relating to the particular trade.

Completion Requirements

In addition to the academic requirements listed below, each apprentice must complete the prescribed number of hours of training during the period of the apprenticeship program as approved by the apprenticeship committee to receive the certificate of achievement or two-year degree.

Certificate of Achievement

Requirements:

<table>
<thead>
<tr>
<th>Courses Required for the Major:</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. Completion of the related and supplemental instruction during the period of the program as approved by the Apprenticeship Committee</td>
<td>25-48</td>
</tr>
<tr>
<td>B. Work experience (on-the-job training for the duration of the apprenticeship period) (4 units/semester, maximum of 16 units)</td>
<td>16</td>
</tr>
</tbody>
</table>

Associate in Science Degree

Requirements:

The Associate in Science degree is conferred upon successful completion of the required apprenticeship programs of A.B.C. Apprenticeships, Jet Products, Operating and Maintenance Engineers HVAC, San Diego and Imperial Counties Pipetrades, San Diego Gas and Electric, San Diego Trolley, or Solar Turbines.

Requirements:

<table>
<thead>
<tr>
<th>Courses Required for the Major:</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. Completion of the related and supplemental instruction during the period of the program as approved by the Apprenticeship Committee</td>
<td>25-48</td>
</tr>
<tr>
<td>B. Work experience (on-the-job training for the duration of the apprenticeship period) (4 units/semester, maximum of 16 units)</td>
<td>16</td>
</tr>
</tbody>
</table>

Additional general education and graduation requirements for the associate degree are listed in the Academic Requirements section of catalog. The associate degree requires a minimum of 60 units.

Recommended electives: English 101.
Associated Builders and Contractors Construction Electronic Systems Technician Apprenticeship

This is a three-year electrical apprenticeship program in the low-voltage electrical trade. Applications for this program should be directed to Associated Builders and Contractors, 4499 Ruffin Road, Suite 300, San Diego, CA 92123. Only students accepted as apprentices under Associated Builders and Contractors are eligible for enrollment in the following Construction Electronic Systems Technician courses.

Courses

Construction Electronic Systems Technician (CEST)

301A Introduction to Construction Electronic Systems Technician I
2 hours lecture, 3 hours lab, 3 units
Grade Only

Advisory: English 51 and 56 and Mathematics 95, each with a grade of "C" or better, or equivalent or Assessment Skill Levels W5, R5, and M40.

Limitation on Enrollment: Student must be a state registered apprentice in this trade.

This course provides the Construction Electronic Systems Technician apprentice with instruction in general construction site safety, measurements and formulas, use of hand and power tools, interpretation of blueprints, basic rigging techniques and methods used to move equipment and materials. (FT) Associate Degree Credit.

301B Introduction to Construction Electronic Systems Technician II
2 hours lecture, 3 hours lab, 3 units
Grade Only

Limitation on Enrollment: Student must be a state registered apprentice in this trade.

This course provides the Construction Electronic Systems Technician with instruction in mathematics related to the trade and electronic theory. Also includes electronic measurement tools and techniques, Alternating Current (AC) and Direct Current (DC) electrical systems and grounding, and blueprint reading related to the trade. (FT) Associate Degree Credit.

302A Intermediate Construction Electronic Systems Technician I
2 hours lecture, 3 hours lab, 3 units
Grade Only

Limitation on Enrollment: Student must be a state registered apprentice in this trade.

This course provides the Construction Electronic Systems Technician I with instruction in industry standards and building codes, residential and commercial construction methods, basic electrical theory, electrical meters, OSHA safety standards, and ladders and rigging. (FT) Associate Degree Credit.

302B Intermediate Construction Electronic Systems Technician II
2 hours lecture, 3 hours lab, 3 units
Grade Only

Limitation on Enrollment: Student must be a state registered apprentice in this trade.

This course provides the Construction Electronic Systems Technician with instruction in types of cabling, switches and relays, terminating conductors, low-voltage codes and standards, and computer cabling applications. (FT) Associate Degree Credit.

303A Advanced Construction Electronic Systems Technician
2 hours lecture, 3 hours lab, 3 units
Grade Only

Limitation on Enrollment: Student must be a state registered apprentice in this trade.

This course provides the Construction Electronic Systems Technician with instruction in wire and cable selection, advanced buses and networks, fiber optic installation, cable and satellite television systems, and wireless communications. (FT) Associate Degree Credit.

303B Advanced Construction Electronic Systems Technician II
2 hours lecture, 3 hours lab, 3 units
Grade Only

Limitation on Enrollment: Student must be a state registered apprentice in this trade.

This course provides the Construction Electronic Systems Technician II with instruction in site survey, job planning and documentation, maintenance and repair, supervision, and fire and security alarm systems. (FT) Associate Degree Credit.
349 Construction Electronic Systems Technician
Work Experience
  Hours by arrangement, 300 hours total, 4 units
Credit/No Credit Only
Limitation on Enrollment: Student must be a state registered apprentice in this trade and concurrently enrolled in a related apprenticeship class. This course consists of on-the-job learning experiences in the Construction Electronic Systems Technician occupational field. The combined maximum credit for all work experience courses from all disciplines may not exceed 16 units. Associate Degree Credit.

Associated Builders and Contractors Electrical Apprenticeship
This is a four-year electrical apprenticeship program in the electrical trades (inside wireman). Applications for this program should be directed to Associated Builders and Contractors, 4499 Ruffin Road, Suite 300, San Diego, CA 92123. Only students accepted as apprentices under Associated Builders and Contractors are eligible for enrollment in the following electrical courses.

Courses

Electrical (ELEC)

301A Introduction to Electrical Apprenticeship I
  2 hours lecture, 3 hours lab, 3 units
Advisory: Completion of English 51 and 56 and Mathematics 95, each with a grade of “C” or better, or equivalent, or Assessment Skill Levels W5 and R5, and M40.
Limitation on Enrollment: Student must be a state registered apprentice in this trade. This course is not open to students with credit for Building Construction Technology 108 or Electrical 60A.
This course provides the electrical apprentice with instruction in general construction site safety, measurements and formulas, use of hand and power tools, interpretation of blueprints, basic rigging techniques and methods used to move equipment and materials. (FT) Associate Degree Credit.

301B Introduction to Electrical Apprenticeship II
  2 hours lecture, 3 hours lab, 3 units
Advisory: Completion of Electrical Apprenticeship 301A with a grade of “C” or better, or equivalent.
Limitation on Enrollment: Student must be a state registered apprentice in this trade. This course is not open to students with credit for Building Construction Technology 109 or Electrical 60B.
This course provides the electrical student with instruction in basic principles of electrical safety and hazard procedures including working with toxins and vapors. Students will also be provided with instruction in techniques used to hand bend conduits and install anchors and supports. Additional instruction will include an introduction to basic electrical theory and test equipment, the use of NEC boxes, fittings and conductors, and the interpretation of related electrical blueprints and commercial/industrial/residential symbols, diagrams and schematics used for wiring. (FT) Associate Degree Credit.

302A Intermediate Electrical Apprenticeship I
  2 hours lecture, 3 hours lab, 3 units
Advisory: Completion of Electrical Apprenticeship 301B with a grade of “C” or better, or equivalent.
Limitation on Enrollment: Student must be a state registered apprentice in this trade. This course is not open to students with credit for Building Construction Technology 110 or Electrical 65A.
This course covers intermediate electrical techniques including principles of alternating currents, characteristics of circuits, transformers, motor theory applications, grounding purposes and methods, NEC requirements for conduit bending, types of bends, specifications for boxes and fittings, and location considerations. (FT) Associate Degree Credit.

302B Intermediate Electrical Apprenticeship II
  2 hours lecture, 3 hours lab, 3 units
Advisory: Completion of Electrical Apprenticeship 302A with a grade of “C” or better, or equivalent.
Limitation on enrollment: Student must be a state registered apprentice in this trade. This course is not open to students with credit for Building Construction Technology 111 or Electrical 65B.
This course provides the electrical apprentice with the installation of connections for conductor termination and splices; use of cable pulling instruments and NEMA and NEC standards for cable tray; installation of electrical service and related components and equipment; use of manual take-off methods and troubleshooting techniques; identification of ratings for current breakers and fuses and regulations for
Apprenticeship

342 Apprenticeship sizing, use, and installation of relay switches, conductors and overrides; electrical lighting principles, types and applications. (FT) Associate Degree Credit.

303A Advanced Electrical Apprenticeship I
2 hours lecture, 3 hours lab, 3 units
Advisory: Completion of Electrical Apprenticeship 302B with a grade of “C” or better, or equivalent. 
Limitation on Enrollment: Student must be a state registered apprentice in this trade. This course is not open to students with credit for Building Construction Technology 212 or Electrical 70A.
This course includes instruction in branch load calculations for circuits and varied electrical appliances; introduction to and identification of electrical conductors; devices used for overprotection of loads, currents, circuits and fuses; fill requirements for boxes/raceways; principles of wiring devices, switches and receptacles and their locations; requirements for distribution equipment; settings for voltage, switch gear, circuits and components; distribution system transformers and their characteristics; types of components; NEC requirements; methods for locating and troubleshooting problems. (FT) Associate Degree Credit.

303B Advanced Electrical Apprenticeship II
2 hours lecture, 3 hours lab, 3 units
Advisory: Completion of Electrical Apprenticeship 303A with a grade of “C” or better, or equivalent. 
Limitation on Enrollment: Student must be a state registered apprentice in this trade. This course is not open to students with credit for Building Construction Technology 213 or Electrical 70B.
This course provides the electrical apprentice with instruction in basic lighting and NEC requirements for lighting fixtures for indoor and outdoor use; an introduction to motor basics, calculations, transformers, instruments for testing, wiring, protection, maintenance, and troubleshooting for various types of motors and motor controls; introduction to HVAC systems and refrigeration theory, compressors, operating systems and system maintenance equipment, and safety requirements for varied locations; principles for combustion, hazardous materials and their reactions in varied locations, and the use of safety equipment. (FT) Associate Degree Credit.

304A Electrical Apprenticeship Specialties I
2 hours lecture, 3 hours lab, 3 units
Advisory: Completion of Electrical Apprenticeship 303B with a grade of “C” or better, or equivalent. 
Limitation on Enrollment: Student must be a state registered apprentice in this trade. This course is not open to students with credit for Building Construction Technology 222 or Electrical 75A.
This course provides the electrical apprentice with instruction in calculations for wiring commercial and residential dwellings and NEC requirements for lighting and specialty fixtures; characteristics and types of standby emergency electrical systems and system applications, size of disconnect switches, feeder and branch circuits for DC systems; theory and operating principles for solid-state devices, operational amplifier circuits, specialty and transformers and components of fire alarm and security systems; installation methods for smoke and heat detectors. (FT) Associate Degree Credit.

304B Electrical Apprenticeship Specialties II
2 hours lecture, 3 hours lab, 3 units
Advisory: Completion of Electrical Apprenticeship 304A with a grade of “C” or better, or equivalent. 
Limitation on Enrollment: Student must be a state registered apprentice in this trade. This course is not open to students with credit for Building Construction Technology 223 or Electrical 75B.
This course is designed to provide the electrical apprentice with advanced instruction of controls for motors, starters, relays, switches and transformers; installation and connection of gas burner controls and commercial and industrial HVAC control systems.; NEC and OSHA requirements for connecting and grounding varied welding machines; installation and protection of heat-tracing and freeze protection equipment; principles and maintenance of motors and selection of materials and tools required for high voltage termination/splices according to manufacturer’s specifications. (FT) Associate Degree Credit.

349 Electrical Work Experience
300 hours lab, 4 units
Credit/No Credit Only
Limitation on Enrollment: Student must be a state registered apprentice in this trade and concurrently enrolled in a related apprenticeship class. This course consists of on-the-job learning experiences in the occupational field of electrical trades. The combined maximum credit for all work experience courses from all disciplines may not exceed 16 units. Associate Degree Credit.
Associated Builders and Contractors Heating, Ventilation & Air Conditioning Apprenticeship

A four-year Heating, Ventilation and Air Conditioning (HVAC) apprenticeship program. Applications should be directed to Associated Builders and Contractors, 4499 Ruffin Road, Suite 300, San Diego, CA 92123. Only students accepted as apprentices under Associated Builders and Contractors are eligible for enrollment in the following HVAC courses.

### Courses

#### Heating, Ventilation & Air Conditioning (HVAC)

#### 301 Introduction to HVAC I

- 2 hours lecture, 3 hours lab, 3 units
- Grade Only

**Advisory:** English 56 and Mathematics 35, each with a grade of "C" or better, or equivalent, or Assessment Skill Levels R5 and M30.

**Limitation on Enrollment:** Student must be a state registered apprentice in this trade.

This course introduces the HVAC trainee to the basic concepts and environmental concerns related to heating, ventilation, and air conditioning including soldering, brazing, ferrous metal piping practices, basic electricity, heating and cooling. This course also describes the HVAC program and the career opportunities available in the HVAC trade. (FT) Associate Degree Credit.

#### 302 Introduction to HVAC II

- 2 hours lecture, 3 hours lab, 3 units
- Grade Only

**Advisory:** HVAC 301 with a grade of "C" or better, or equivalent.

**Limitation on Enrollment:** Student must be a state registered apprentice in this trade.

This course introduces the HVAC trainee in the properties of air and covers chimneys, flues and vents. Students are introduced to basic mechanical procedures commonly performed in HVAC service work such as the operation, installation and servicing of electric furnaces. This course also introduces the student to alternating current and electronic components and circuits used in HVAC systems. (FT) Associate Degree Credit.

#### 303 Intermediate HVAC I

- 2 hours lecture, 3 hours lab, 3 units
- Grade Only

**Advisory:** HVAC 302 with a grade of "C" or better, or equivalent.

**Limitation on Enrollment:** Student must be a state registered apprentice in this trade.

This course instructs the HVAC trainee in the properties of air and covers chimneys, flues and vents. Students are introduced to basic mechanical procedures commonly performed in HVAC service work such as the operation, installation and servicing of electric furnaces. This course also introduces the student to alternating current and electronic components and circuits used in HVAC systems. (FT) Associate Degree Credit.

#### 304 Intermediate HVAC II

- 2 hours lecture, 3 hours lab, 3 units
- Grade Only

**Advisory:** HVAC 303 with a grade of "C" or better, or equivalent.

**Limitation on Enrollment:** Student must be a state registered apprentice in this trade.

This course instructs the HVAC trainee in HVAC controls and metering devices and introduces the trainee to control circuit analysis. This course also covers compressors and heat pumps and instructs the student in leak detection, evacuation, recovery and charging service procedures used to troubleshoot, repair and/or maintain proper operation of the mechanical refrigeration system. (FT) Associate Degree Credit.

#### 305 Advanced HVAC I

- 2 hours lecture, 3 hours lab, 3 units
- Grade Only

**Advisory:** HVAC 304 with a grade of "C" or better, or equivalent.

**Limitation on Enrollment:** Student must be a state registered apprentice in this trade.

This course instructs the HVAC trainee in preventive maintenance and provides an introduction to troubleshooting applying to all types of HVAC equipment. This course also covers troubleshooting electronic controls, gas heating, electric heating and oil heating. (FT) Associate Degree Credit.

#### 306 Advanced HVAC II

- 2 hours lecture, 3 hours lab, 3 units
- Grade Only

**Advisory:** HVAC 305 with a grade of "C" or better, or equivalent.

**Limitation on Enrollment:** Student must be a state registered apprentice in this trade.
This course instructs the HVAC trainee in troubleshooting cooling, accessories, heat pumps and commercial heating and cooling systems. This course also covers water and air balance, steam systems and customer relations. (FT) Associate Degree Credit.

### 307 HVAC Specialties

2 hours lecture, 3 hours lab, 3 units  
**Grade Only**

**Advisory:** HVAC 306 with a grade of "C" or better, or equivalent.

**Limitation on Enrollment:** Student must be a state registered apprentice in this trade.

This course offers advanced blueprint reading and specifications as they relate to HVAC, indoor air quality and energy conservation equipment commonly used in HVAC systems. This course also covers energy management systems and the methods of water treatment and water treatment equipment used with HVAC systems. (FT) Associate Degree Credit.

### 308 HVAC Specialties II

2 hours lecture, 3 hours lab, 3 units  
**Grade Only**

**Advisory:** HVAC 307 with a grade of "C" or better, or equivalent.

**Limitation on Enrollment:** Student must be a state registered apprentice in this trade.

This course covers commercial heating and cooling systems, maintenance of these systems and system start-up and shut down. This course also covers commercial and industrial refrigeration systems, equipment, refrigerated warehouses, walk-in coolers display cases, etc. (FT) Associate Degree Credit.

### 349 HVAC Work Experience

Hours by arrangement, 300 hours total, 1-4 units  
**Credit/No Credit Only**

**Advisory:** English 43 and English 42, each with a grade of "C" or better, or equivalent, or Assessment Skill Levels W4 and R4.

**Limitation on Enrollment:** Student must be a state registered apprentice in this trade and concurrently enrolled in a related apprenticeship class.

This course consists of on-the-job learning experiences in the occupational field of HVAC. Student must be an indentured HVAC apprentice and be currently enrolled in a related apprenticeship class. The combined maximum credit for all work experience courses from all disciplines may not exceed 16 units. (FT) Associate Degree Credit.

### Courses

**Pipefitting (PLPF)**

### 325 Introduction to Pipefitting

2 hours lecture, 3 hours lab, 3 units  
**Grade Only**

**Advisory:** Plumbing (PLBG) 320 with a grade of "C" or better, or equivalent.

**Limitation on Enrollment:** Student must be a state registered apprentice in this trade. This course is not open to students with credit for Pipefitting (PLPF) 80. This course is designed to give the Pipefitting apprentice student an introduction to blueprint drawings and detail sheets, piping systems, standards and specifications, and trade math. This course also includes advanced blueprint reading and trade math as well as motorized equipment and aboveground pipe installation (FT) Associate Degree Credit.

### Associated Builders and Contractors Pipefitting Apprenticeship

A four-year apprenticeship program. Applications should be directed to Associated Builders and Contractors, 4499 Ruffin Road, Suite 300, San Diego, CA 92123. Only students accepted as apprentices under Associated Builders and Contractors are eligible for enrollment in the following pipefitting courses.

**Prerequisite:** Pipefitting apprentices must complete Plumbing (PLBG) 305, 310, 315 and 320 with a grade of "C" or better or equivalent prior to enrolling in the Apprenticeship Pipefitting program.

Proficiency in oxy-fuel cutting of straight, curved and bevel cuts, and shielded metal arc welding of mild steel plate is required for completion of the apprenticeship program. Welding proficiency can be achieved through non-credit courses offered through the San Diego Community College District Continuing Education division.

For fourth year, second semester, Apprentices may choose between Advanced Pipefitting 335 or increasing their proficiency with oxy-fuel equipment to scarf metal and cut bevels; and shielded metal arc welding of mild steel plates, tee, lap and square butt joints and fillet welds.
330 Intermediate Pipefitting
2 hours lecture, 3 hours lab, 3 units
Grade Only
Advisory: Pipefitting (PLPF) 325 with a grade of "C" or better, or equivalent.
Limitation on Enrollment: Student must be a state registered apprentice in this trade. This course is not open to students with credit for Pipefitting (PLPF) 85. This course is designed to give the pipefitting apprentice student instruction in pipe hangers and supports, identifying and installing valves, field routing and vessel trim, spring can supports, planning work activities and performing non-destructive examination testing. (FT) Associate Degree Credit.

335 Advanced Pipefitting
2 hours lecture, 3 hours lab, 3 units
Grade Only
Advisory: Pipefitting (PLPF) 330 with a grade of "C" or better, or equivalent.
Limitation on Enrollment: Student must be a state registered apprentice in this trade. This course is not open to students with credit for Pipefitting (PLPF) 90. This course is designed to give the pipefitting apprentice student instruction in advanced pipe fabrication, aligning pipe to rotating equipment, steam traps, in-line specialties, special piping, hot taps, and maintaining valves. (FT) Associate Degree Credit.

349 Pipefitting Work Experience
Hours by arrangement, 4 units
Credit/No Credit Only
Advisory: English 43 and English 42, each with a grade of "C" or better, or equivalent, or Assessment Skill Levels W4 and R4.
Limitation on Enrollment: Student must be a state registered apprentice in this trade and concurrently enrolled in a related apprenticeship class. This course consists of on-the-job learning experiences in the occupational field of pipefitting. The combined maximum credit for all work experience courses from all disciplines may not exceed 16 units. (FT) Associate Degree Credit.

Associated Builders and Contractors Plumbing Apprenticeship
A four-year apprenticeship program. Applications should be directed to Associated Builders and Contractors, 4499 Ruffin Road, Suite 300, San Diego, CA 92123. Only students accepted as apprentices under Associated Builders and Contractors are eligible for enrollment in the following plumbing courses.

Proficiency in oxy-fuel cutting of straight, curved and bevel cuts, and shielded metal arc welding of mild steel plate is required for completion of the apprenticeship program. Welding proficiency can be achieved through non-credit courses offered through the San Diego Community College District Continuing Education division.

Courses

Plumbing (PLBG)

305 Introduction to Plumbing I
2 hours lecture, 3 hours lab, 3 units
Grade Only
Advisory: Completion of English 51, 56 and Mathematics 35, each with a grade of "C" or better, or equivalent, or Assessment Skill Level W5 & R5 and M30.
Limitation on Enrollment: Student must be a state registered apprentice in this trade. This course is not open to students with credit for Plumbing (PLBG) 105 or 60A.
This course is designed to give the plumbing apprentice student introductory information regarding OSHA standards of safety and precautions for working on the construction site; a review of math as it relates to plumbing, hand and power tool usage, basic plumbing blueprint reading and basic rigging. (FT) Associate Degree Credit.

310 Introduction to Plumbing II
2 hours lecture, 3 hours lab, 3 units
Grade Only
Advisory: Completion of Plumbing (PLBG) 305 with a grade of "C" or better, or equivalent.
Limitation on Enrollment: Student must be a state registered apprentice in this trade. This course is not open to students with credit for Plumbing (PLBG) 110 or 60B.
This course is designed to give the plumbing apprentice student an introduction to reading and interpreting the
IAMP O uniform plumbing codes and residential plumbing drawings, identifying various types of pipe and the procedures for working with the pipe. This course will also include identification of various plumbing lines and their components. (FT) Associate Degree Credit.

315 Intermediate Plumbing I
2 hours lecture, 3 hours lab, 3 units
Grade Only
Advisory: Completion of Plumbing (PLBG) 310 with a grade of “C” or better, or equivalent.

Limitation on Enrollment: Student must be a state registered apprentice in this trade. This course is not open to students with credit for Plumbing (PLGB) 115 or 65A.

This course is designed to provide the intermediate plumbing apprentice student the knowledge of introductory plumbing math, the identification of various commercial drawings, the installation of DWV piping components and systems for commercial properties utilizing local and BOCA National Plumbing Codes. (FT) Associate Degree Credit.

320 Intermediate Plumbing II
2 hours lecture, 3 hours lab, 3 units
Grade Only
Advisory: Completion of Plumbing (PLBG) 315 with a grade of “C” or better, or equivalent.

Limitation on Enrollment: Student must be a state registered apprentice in this trade. This course is not open to students with credit for Plumbing (PLGB) 120 or 65B.

This course is designed to give the intermediate plumbing apprentice student the ability to perform testing of water supply piping and systems, installation of the components of a water supply system, and the ability to read and interpret commercial plumbing drawings for project requirements according to local and national codes. (FT) Associate Degree Credit.

325 Advanced Plumbing I
2 hours lecture, 3 hours lab, 3 units
Grade Only
Advisory: Completion of Plumbing (PLBG) 320 with a grade of “C” or better, or equivalent; and Completion of English 51, 56 and Mathematics 95, each with a grade of “C” or better or equivalent, or Assessment Skill Levels W5 & R5 and M40.

Limitation on Enrollment: Student must be a state registered apprentice in this trade. This course is not open to students with credit for Plumbing (PLBG) 125 or 70A.

This course is designed to provide the advanced plumbing apprentice student with the ability to perform applications of advanced math for plumbers and methods of handling waste. This course also provides information relating to water softening measures, methods of locating buried lines, the installation and maintenance of waste pressure booster systems, and the prevention of backflow. (FT) Associate Degree Credit.

330 Advanced Plumbing II
2 hours lecture, 3 hours lab, 3 units
Grade Only
Advisory: Completion of Plumbing (PLBG) 325 with a grade of “C” or better, or equivalent.

Limitation on Enrollment: Student must be a state registered apprentice in this trade. This course is not open to students with credit for Plumbing (PLBG) 130 or 70B.

This course is designed to provide the advanced plumbing apprentice student with the ability to organize job tasks, clean and disinfect potable water systems, thaw frozen pipes, install main to meter water services and solar systems. This course also covers the ability to rough-in fixtures for residential, commercial and handicapped settings and install natural gas and storm drainage systems. (FT) Associate Degree Credit.

335 Plumbing Construction Specialties
2 hours lecture, 3 hours lab, 3 units
Grade Only
Advisory: Completion of Plumbing (PLBG) 330 with a grade of “C” or better, or equivalent.

Limitation on Enrollment: Student must be a state registered apprentice in this trade. This course is not open to students with credit for Plumbing (PLBG) 135 or 75A.

This course is designed to introduce the plumbing apprentice student to specialty topics such as swimming pool installation, medical gas systems, mobile home and mobile home park plumbing systems, and private water waste and treatment systems. (FT) Associate Degree Credit.

340 Plumbing Code
2 hours lecture, 3 hours lab, 3 units
Grade Only
Limitation on Enrollment: Student must be a state registered apprentice in this trade. This course is not open to students with credit for Plumbing (PLBG) 75B.

This course is designed to prepare the advanced plumbing student to apply plumbing codes to correctly design and build plumbing systems. Primary topics include coverage of codes pertaining to plumbing...
fixtures and fittings, water heaters and fuel piping, drainage, waste and vent systems, sewage and reclaimed water systems, sizing and standards, and alternate plumbing systems. (FT) Associate Degree Credit.

349 Plumbing Work Experience
300 hours lab, 4 units
Credit/No Credit Only

Limitation on Enrollment: Student must be a state registered apprentice in this trade and concurrently enrolled in a related apprenticeship class. This course consists of on-the-job learning experiences in the occupational field of plumbing trades. The combined maximum credit for all work experience courses from all disciplines may not exceed 16 units. Associate Degree Credit.

Associated Builders and Contractors
Sheet Metal Apprenticeship

A four-year sheet metal apprenticeship program. Applications should be directed to Associated Builders and Contractors, 4499 Ruffin Road, Suite 300, San Diego, CA 92123. Only students accepted as apprentices under Associated Builders and Contractors are eligible for enrollment in the following sheet metal courses.

Proficiency in oxy-fuel cutting of straight, curved and bevel cuts, and shielded metal arc welding of mild steel plate and thin gauge metal is required for completion of the apprenticeship program. Welding proficiency can be achieved through non-credit courses offered through the San Diego Community College District Continuing Education division.

Courses

Sheet Metal (SHEE)

301A Level 1 Sheet Metal
2 hours lecture, 3 hours lab, 3 units
Advisory: Completion of English 56 and Mathematics 35, each with a grade of “C” or better, or equivalent, or Assessment Skill Levels R5 and M30.
Limitation on Enrollment: Student must be a state registered apprentice in this trade. This course is not open to students with credit for Sheet Metal 060A or 105.
In this course the trade mathematics and drawings, the tools of the trade, fasteners, metals, the principles of layout, sheet metal processing and fabrication are covered. (FT) Associate Degree Credit.

301B Level 1 Sheet Metal
2 hours lecture, 3 hours lab, 3 units
Advisory: Completion of Sheet Metal 301A with a grade of “C” or better, or equivalent.
Limitation on Enrollment: Student must be a state registered apprentice in this trade. This course is not open to students with credit for Sheet Metal 060B or 110.
In this course, a continuation of fabrication (parallel line development) and trade math are covered, as well as basic piping practices and radial line development. (FT) Associate Degree Credit.

302A Level 2 Sheet Metal
2 hours lecture, 3 hours lab, 3 units
Advisory: Completion of Sheet Metal 301B with a grade of “C” or better, or equivalent.
Limitation on Enrollment: Student must be a state registered apprentice in this trade. This course is not open to students with credit for Sheet Metal 065A or 115.
This course includes bend allowances, soldering, blueprints and specifications, duct fabrication, SMACNA Manuals, insulation, gutters and downspouts, roof flashings, and the principles of air flow. (FT) Associate Degree Credit.

302B Level 2 Sheet Metal
2 hours lecture, 3 hours lab, 3 units
Advisory: Completion of Sheet Metal 301B with a grade of “C” or better, or equivalent.
Limitation on Enrollment: Student must be a state registered apprentice in this trade. This course is not open to students with credit for Sheet Metal 065B or 120.
This course is a continuation of the principles of air flow. Other topics include associated equipment, principles of refrigeration, fiberglass ducts and an introduction to triangulation. (FT) Associate Degree Credit.

304A Level 3 Sheet Metal
2 hours lecture, 3 hours lab, 3 units
Advisory: Completion of Sheet Metal 302B with a grade of “C” or better, or equivalent.
Limitation on Enrollment: Student must be a state registered apprentice in this trade. This course is not open to students with credit for Sheet Metal 070A or 125.
In this course students will review the principles of triangulation, layout and pattern development using a
variety of tools, equipment and materials, as well as the fundamentals of welding, brazing, cutting, and field measuring and fitting. (FT) Associate Degree Credit.

304B Level 3 Sheet Metal
2 hours lecture, 3 hours lab, 3 units
Advisory: Completion of Sheet Metal 304A with a grade of “C” or better, or equivalent.
Limitation on Enrollment: Student must be a state registered apprentice in this trade. This course is not open to students with credit for Sheet Metal 070B or 130.
This course covers shop production and organization, air balancing, and an introduction to a comprehensive review of fabrication. (FT) Associate Degree Credit.

305A Level 4 Sheet Metal
2 hours lecture, 3 hours lab, 3 units
Advisory: Completion of Sheet Metal 304B with a grade of “C” or better, or equivalent.
Limitation on Enrollment: Student must be a state registered apprentice in this trade. This course is not open to students with credit for Sheet Metal 075A or 135.
In this course, students will continue to review fabrication as well as louvers, dampers, access doors, the use of hoods and ventilators, and how to design fume and exhaust systems per OSHA and ACGHI standards. (FT) Associate Degree Credit.

349 Sheet Metal Work Experience
300 hours per semester, 4 units
Credit/No Credit Only
Limitation on Enrollment: Student must be a state registered apprentice in this trade and concurrently enrolled in a related apprenticeship class. The combined maximum credit for all work experience courses from all disciplines may not exceed 16 units. Associate Degree Credit.

Jet Products Corporation Apprenticeship
A four-year indentured apprenticeship program in a number of manufacturing and technical trades is available. Applications for the following trades are accepted at Jet Products Corporation, 9106 Balboa Avenue, San Diego, CA 92123.

VTL Machinist/Milling Machinist Certificate of Achievement Requirements:

<table>
<thead>
<tr>
<th>Courses Required for the Major:</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENGE 108, Dimensioning and Tolerancing</td>
<td>3</td>
</tr>
<tr>
<td>ENGE 151, Engineering Drawing</td>
<td>2</td>
</tr>
<tr>
<td>ENGE 152, Engineering Design</td>
<td>3</td>
</tr>
<tr>
<td>MACT 140, Machine Technology</td>
<td>4</td>
</tr>
<tr>
<td>MACT 150, Introduction to CNC and EDM</td>
<td>4</td>
</tr>
<tr>
<td>MAFG 102, Print Reading and Symbology</td>
<td>3</td>
</tr>
<tr>
<td>MAFG 115, Properties of Materials for Technicians</td>
<td>3</td>
</tr>
<tr>
<td>MATH 95, Elementary Algebra</td>
<td>5</td>
</tr>
<tr>
<td>JETP 349, Jet Products Work Experience</td>
<td>16</td>
</tr>
</tbody>
</table>

Total Units = 43

VTL Machinist/Milling Machinist Associate in Science Degree Requirements:

<table>
<thead>
<tr>
<th>Courses Required for the Major:</th>
<th>Units</th>
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<tbody>
<tr>
<td>ENGE 108, Dimensioning and Tolerancing</td>
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<tr>
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<td>3</td>
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<td>5</td>
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<tr>
<td>JETP 349, Jet Products Work Experience</td>
<td>16</td>
</tr>
</tbody>
</table>

Total Units = 43

Additional general education and graduation requirements for the associate degree are listed in the Academic Requirements section of catalog. The associate degree requires a minimum of 60 units.

Recommended electives: English 101.

Jet Products (JETP)

349 Jet Products Work Experience
300 hours per semester, 4 units
Credit/No Credit Only

Limitation on Enrollment: Student must be a state registered apprentice in this trade and concurrently enrolled in a related apprenticeship class. The combined maximum credit for all work experience courses from all disciplines may not exceed 16 units. See note preceding apprenticeship course listings. Associate Degree Credit.
Operating and Maintenance Engineers Heating, Ventilation, and Air Conditioning (HVAC) Apprenticeship

A four year apprenticeship program for Operating and Maintenance Engineers. Applications for this program should be directed to Operating and Maintenance Engineers Trade, Local 501, 2501 West Third St., Los Angeles, CA 90057.

Certificate of Achievement Requirements:

<table>
<thead>
<tr>
<th>Courses Required for the Major:</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>ELCT 111, Electrical Theory I</td>
<td>3</td>
</tr>
<tr>
<td>ELCT 111L, Electrical Lab I</td>
<td>2</td>
</tr>
<tr>
<td>ELEC 121, Electrical Theory II</td>
<td>3</td>
</tr>
<tr>
<td>ELEC 121L, Electrical Lab II</td>
<td>2</td>
</tr>
<tr>
<td>AIRE 100, Thermal &amp; Refrigeration Theory</td>
<td>4</td>
</tr>
<tr>
<td>AIRE 103, Thermal &amp; Refrigeration Lab</td>
<td>2</td>
</tr>
<tr>
<td>AIRE 122, Cost Estimating/Blueprints</td>
<td>3</td>
</tr>
<tr>
<td>AIRE 123, Cost Estimating/Blueprints Lab</td>
<td>1</td>
</tr>
<tr>
<td>AIRE 124, Control Systems Theory</td>
<td>3</td>
</tr>
<tr>
<td>AIRE 125, Control Systems Lab</td>
<td>2</td>
</tr>
<tr>
<td>AIRE 126, Fluid Flow Dynamics</td>
<td>3</td>
</tr>
<tr>
<td>AIRE 127, Fluid Flow Dynamics Lab</td>
<td>2</td>
</tr>
<tr>
<td>AIRE 132, Advanced Refrigeration Theory</td>
<td>3</td>
</tr>
<tr>
<td>AIRE 133, Advanced Refrigeration Lab</td>
<td>2</td>
</tr>
<tr>
<td>AIRE 134, Heating, Solar, &amp; Alternative Energy Systems</td>
<td>4</td>
</tr>
<tr>
<td>AIRE 135, Heating, Solar, &amp; Alternative Energy Systems Lab</td>
<td>2</td>
</tr>
</tbody>
</table>

Total Units = 41

Associate in Science Degree Requirements:

<table>
<thead>
<tr>
<th>Courses Required for the Major:</th>
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</thead>
<tbody>
<tr>
<td>ELCT 111, Electrical Theory I</td>
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<tr>
<td>ELCT 111L, Electrical Lab I</td>
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<td>ELEC 121, Electrical Theory II</td>
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<tr>
<td>ELEC 121L, Electrical Lab II</td>
<td>2</td>
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<tr>
<td>AIRE 100, Thermal &amp; Refrigeration Theory</td>
<td>4</td>
</tr>
<tr>
<td>AIRE 103, Thermal &amp; Refrigeration Lab</td>
<td>2</td>
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<tr>
<td>AIRE 123, Cost Estimating/Blueprints Lab</td>
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</tr>
<tr>
<td>AIRE 127, Fluid Flow Dynamics Lab</td>
<td>2</td>
</tr>
<tr>
<td>AIRE 132, Advanced Refrigeration Theory</td>
<td>3</td>
</tr>
<tr>
<td>AIRE 133, Advanced Refrigeration Lab</td>
<td>2</td>
</tr>
<tr>
<td>AIRE 134, Heating, Solar, &amp; Alternative Energy Systems</td>
<td></td>
</tr>
<tr>
<td>AIRE 135, Heating, Solar, &amp; Alternative Energy Systems Lab</td>
<td></td>
</tr>
</tbody>
</table>

Total Units = 41

AIRE 134, Heating, Solar, & Alternative Energy Systems
AIRE 135, Heating, Solar, & Alternative Energy Systems Lab

Total Units = 41

Additional general education and graduation requirements for the associate degree are listed in the Academic Requirements section of catalog. The associate degree requires a minimum of 60 units.

Recommended electives: English 101.

San Diego and Imperial Counties Pipetrades Apprenticeships

Five-year apprenticeship programs in Pipefitting and in Plumbing are available. Applications for these programs are accepted at San Diego and Imperial Counties Pipetrades, 6225 Federal Blvd., San Diego, CA 92114. Call (619)262-7588 for application information.

Pipefitting Apprenticeship

Certificate of Achievement Requirements:

<table>
<thead>
<tr>
<th>Courses Required for the Major:</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>PMBG 301, Pipe Trades Orientation</td>
<td>3</td>
</tr>
<tr>
<td>PMBG 303, Piping Mathematics</td>
<td>3</td>
</tr>
<tr>
<td>PMBG 305, Pipe Bending and Rigging</td>
<td>2</td>
</tr>
<tr>
<td>PMBG 307, Drawing I</td>
<td>3</td>
</tr>
<tr>
<td>PMBG 311, Basic Science</td>
<td>3</td>
</tr>
<tr>
<td>PIPF 331, Arc Welding I</td>
<td>2</td>
</tr>
<tr>
<td>Select two to three units from the following:</td>
<td></td>
</tr>
<tr>
<td>PIPF 328, 330, 334, 335</td>
<td>2-3</td>
</tr>
<tr>
<td>PIPF 349 or PMBG 349, Work Experience</td>
<td>16</td>
</tr>
</tbody>
</table>

Total Units = 34-35

Plumbing Apprenticeship

Certificate of Achievement Requirements:

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<tr>
<th>Courses Required for the Major:</th>
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</thead>
<tbody>
<tr>
<td>PMBG 301, Pipe Trades Orientation</td>
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</tr>
<tr>
<td>PMBG 303, Piping Mathematics</td>
<td>3</td>
</tr>
<tr>
<td>PMBG 305, Pipe Bending and Rigging</td>
<td>2</td>
</tr>
<tr>
<td>PMBG 307, Drawing I</td>
<td>3</td>
</tr>
<tr>
<td>PMBG 311, Basic Science</td>
<td>3</td>
</tr>
<tr>
<td>PIPF 331, Arc Welding I</td>
<td>2</td>
</tr>
<tr>
<td>Select two to three units from the following:</td>
<td></td>
</tr>
<tr>
<td>PMBG 327, 330, 332</td>
<td>2-3</td>
</tr>
<tr>
<td>PMBG 349 or PIPF 349, Work Experience</td>
<td>16</td>
</tr>
</tbody>
</table>

Total Units = 34-35
### Pipefitting Apprenticeship

**Associate in Science Degree Requirements:**

<table>
<thead>
<tr>
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<tbody>
<tr>
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<td>3</td>
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<tr>
<td>PMBG 305, Pipe Bending and Rigging</td>
<td>2</td>
</tr>
<tr>
<td>PMBG 307, Drawing I</td>
<td>3</td>
</tr>
<tr>
<td>PMBG 311, Basic Science</td>
<td>3</td>
</tr>
<tr>
<td>PIPF 331, Arc Welding I</td>
<td>2</td>
</tr>
</tbody>
</table>

Select two to three units from the following:

<table>
<thead>
<tr>
<th>Courses</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>PIPF 328, 330, 334, 335</td>
<td>2-3</td>
</tr>
<tr>
<td>PIPF 349 or PMBG 349, Work Experience</td>
<td>16</td>
</tr>
</tbody>
</table>

**Total Units = 34-35**

Additional general education and graduation requirements for the associate degree are listed in the Academic Requirements section of catalog. The associate degree requires a minimum of 60 units.

**Recommended electives:** English 101; PIPF 304, 308, 310, 314, 318, 320, 322, 324, 326.

### Plumbing Apprenticeship

**Associate in Science Degree Requirements:**

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<td>PMBG 307, Drawing I</td>
<td>3</td>
</tr>
<tr>
<td>PMBG 311, Basic Science</td>
<td>3</td>
</tr>
<tr>
<td>PIPF 331, Arc Welding I</td>
<td>2</td>
</tr>
</tbody>
</table>

Select two to three units from the following:

<table>
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<tr>
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</tr>
</thead>
<tbody>
<tr>
<td>PMBG 327, 330, 332</td>
<td>2-3</td>
</tr>
<tr>
<td>PMBG 349 or PIPF 349, Work Experience</td>
<td>16</td>
</tr>
</tbody>
</table>

**Total Units = 34-35**

Additional general education and graduation requirements for the associate degree are listed in the Academic Requirements section of catalog. The associate degree requires a minimum of 60 units.

**Recommended electives:** English 101; PMBG 317, 319, 321, 323, 325, 329, 335, 337, 339; PIPF 332, 333, 334, 335.

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**Courses**

### Pipefitting (PIPF)

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours, Units</th>
<th>Grade Only</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>304 Heating I, Steam</strong></td>
<td>3, 3</td>
<td></td>
</tr>
</tbody>
</table>

Advisory: Mathematics 95 with a grade of “C” or better, or equivalent, or Assessment Skill Level M40; and English 51 and 56, each with a grade of “C” or better, or equivalent, or Assessment Skill Levels W5 and R5.

**Limitation on Enrollment:** Student must be a state registered apprentice in this trade.

Introduction to hot water steam heating, gravity hot water systems, forced hot water heating systems, problems caused by air in the systems, hot water piping connections, installation of equipment safety devices for hot water boilers. (FT) Associate Degree Credit.

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours, Units</th>
<th>Grade Only</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>308 Pneumatic Controls</strong></td>
<td>3, 3</td>
<td></td>
</tr>
</tbody>
</table>

Advisory: Pipefitting (PIPF) 304 with a grade of “C” or better, or equivalent; and Mathematics 95 with a grade of “C” or better, or equivalent, or Assessment Skill Level M40; and English 51 and 56, each with a grade of “C” or better, or equivalent, or Assessment Skill Levels W5 and R5.

**Limitation on Enrollment:** Student must be a state registered apprentice in this trade.

Review of fundamentals of pneumatics, controllers, controlled devices, auxiliary devices, day-night and heat-cooling thermostats, ventilation control, heating control, cooling control, humidity control, year-round air conditioning, and master-submaster system. (FT) Associate Degree Credit.

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours, Units</th>
<th>Grade Only</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>310 Refrigeration and Air Conditioning</strong></td>
<td>3, 3</td>
<td></td>
</tr>
</tbody>
</table>

Advisory: Pipefitting (PIPF) 304 with a grade of “C” or better, or equivalent; and Mathematics 95 with a grade of “C” or better, or equivalent, or Assessment Skill Level M40; and English 51 and 56, each with a grade of “C” or better, or equivalent, or Assessment Skill Levels W5 and R5.

**Limitation on Enrollment:** Student must be a state registered apprentice in this trade.

Automatic expansion valves, proper handling of compressor oil, testing and charging, refrigeration system control, heat exchangers, dryers, valves and
accessories, refrigeration piping, single compressor systems, normal maintenance, seasonal shutdown and starting, joint preparation, fluxing, assembly filler materials, heating equipment, soldering and post cleaning, brazing and post cleaning, brazeable metals, and performance tests. (FT) Associate Degree Credit.

314 Heating II Hydronics 3 hours, 3 units Grade Only
Advisory: Pipefitting (PIPF) 310 with a grade of “C” or better, or equivalent; and Mathematics 95 with a grade of “C” or better, or equivalent, or Assessment Skill Level M40; and English 51 and 56, each with a grade of “C” or better, or equivalent, or Assessment Skill Levels W5 and R5.

Limitation on Enrollment: Student must be a state registered apprentice in this trade. This Hydronics course will deal with the technical aspects of design, calculations and installation of hydronics systems in residential, commercial, institutional and industrial applications of heating and cooling with water. (FT) Associate Degree Credit.

318 Fitting Fabrication 3 hours, 3 units Grade Only
Advisory: Pipefitting (PIPF) 314 with a grade of “C” or better, or equivalent; and Mathematics 95 with a grade of “C” or better, or equivalent, or Assessment Skill Level M40; and English 51 and 56, each with a grade of “C” or better, or equivalent, or Assessment Skill Levels W5 and R5.

Limitation on Enrollment: Student must be a state registered apprentice in this trade. The student will use welding experience and mathematics to design, layout and fabricate fittings used in the pipefitting trade. (FT) Associate Degree Credit.

320 Tig Welding 1.5 hours lecture, 1.5 hours lab, 2 units Grade Only
Advisory: Pipefitting (PIPF) 318 with a grade of “C” or better, or equivalent; and Mathematics 95 with a grade of “C” or better, or equivalent, or Assessment Skill Level M40; and English 51 and 56, each with a grade of “C” or better, or equivalent, or Assessment Skill Levels W5 and R5.

Limitation on Enrollment: Student must be a state registered apprentice in this trade. The content of this course is designed to provide the apprentice with a working knowledge of the welding process known as TIG (Tungsten Inert Gas). (FT) Associate Degree Credit.

322 Instrumentation and Automated Systems 3 hours, 3 units
Advisory: Pipefitting (PIPF) 320 with a grade of “C” or better, or equivalent; and Mathematics 95 with a grade of “C” or better, or equivalent, or Assessment Skill Level M40; and English 51 and 56, each with a grade of “C” or better, or equivalent, or Assessment Skill Levels W5 and R5.

Limitation on Enrollment: Student must be a state registered apprentice in this trade. Review of mechanical instrument family, pressure measuring instruments, liquid level instruments, density measuring instruments, temperature measuring instruments, humidity measuring instruments, speed and position transmitters, automatic force balance controllers, pneumatic control valves, control valve accessories, and instrumentation systems. (FT) Associate Degree Credit.

324 Pipe Drafting and Blueprint Reading
Advisory: Pipefitting (PIPF) 322 with a grade of “C” or better, or equivalent; and Mathematics 95 with a grade of “C” or better, or equivalent, or Assessment Skill Level M40; and English 51 and 56, each with a grade of “C” or better, or equivalent, or Assessment Skill Levels W5 and R5.

Limitation on Enrollment: Student must be a state registered apprentice in this trade. Introduction to the theory and installation of domestic hot water energy systems, and the design of plumbing modules, i.e., waste vents, water and gas lines using mock-ups. (FT) Associate Degree Credit.

326 Advanced Piping Mathematics
Advisory: Pipefitting (PIPF) 324 with a grade of “C” or better, or equivalent; and Mathematics 95 with a grade of “C” or better, or equivalent, or Assessment Skill Level M40; and English 51 and 56, each with a grade of “C” or better, or equivalent, or Assessment Skill Levels W5 and R5.

Limitation on Enrollment: Student must be a state registered apprentice in this trade. Advanced Mathematics is designed to introduce and develop applied piping and calculating skills necessary in the piping industry. It will allow the student a wider based of mathematical expertise needed in the field. (FT) Associate Degree Credit.
328 Pipefitters Code
3 hours, 3 units
Advisory: Pipefitting (PIPF) 326 with a grade of “C” or better, or equivalent; and Mathematics 95 with a grade of “C” or better, or equivalent, or Assessment Skill Level M40; and English 51 and 56, each with a grade of “C” or better, or equivalent, or Assessment Skill Levels W5 and R5.
Limitation on Enrollment: Student must be a state registered apprentice in this trade.
Review of the fundamentals of pipefitting, including rigging, tools, safety, hydronics, science, plan reading, pneumatics, controls and refrigeration. (FT) Associate Degree Credit.

330 Pipefitting Certification
3 hours, 3 units
Credit/No Credit Only
Limitation on Enrollment: Student must be a state registered apprentice in this trade.
This course involves the application of the most current codes and state regulations governing piping, medical gas and excavating operations. (FT) Associate Degree Credit.

331 Arc Welding I
1.5 hours lecture, 1.5 hours lab, 2 units
Grade Only
Advisory: English 51 and 56 and Mathematics 95, each with a grade of "C" or better, or equivalent, or Assessment Skill Levels W5 and R5 and M40.
Limitation on Enrollment: Student must be a state registered apprentice in this trade. This course is not open to students with credit for Pipefitting (PIPF) 302. In this course the student is introduced to arc welding, intensive pipe and plate welding, safe welding practices, personal protection and fire protection. Basic electricity, the types of arc welding machines, arc welding consumables, and arc welding symbols are covered. This course is designed to give the apprentice student a basic understanding of arc welding. (FT) Associate Degree Credit.

332 Arc Welding II
1.5 hours lecture, 1.5 hours lab, 2 units
Grade Only
Advisory: Pipefitting (PIPF) 331 with a grade of "C" or better, or equivalent.
Limitation on Enrollment: Student must be a state registered apprentice in this trade. In this course the student is introduced to the safety procedures for arc welding, arc welding equipment and equipment maintenance. Students learn how to weld trial beads. Additional instruction on basic electricity is covered. This course is designed to build on the students’ basic understanding of arc welding. (FT) Associate Degree Credit.

333 Arc Welding III
1.5 hours lecture, 1.5 hours lab, 2 units
Grade Only
Advisory: Pipefitting (PIPF) 332 with a grade of "C" or better, or equivalent.
Limitation on Enrollment: Student must be a state registered apprentice in this trade.
This is an advanced Arc Welding course. In this course the student studies Federal OSHA rules and regulations related to arc welding. The student is introduced to and begins to prepare for the SMAW/GTAW United Association Arc Welding certification test. (FT) Associate Degree Credit.

334 Arc Welding IV
1.5 hours lecture, 1.5 hours lab, 2 units
Grade Only
Advisory: Pipefitting (PIPF) 333 with a grade of "C" or better, or equivalent.
Limitation on Enrollment: Student must be a state registered apprentice in this trade.
This is an advanced Arc Welding course. In this course the student is introduced to the fundamentals of metallurgy, mechanical properties of metals, non-ferrous metals, shielding gases, and heat-treating. Welding low-, medium- and high-carbon steel is also covered, as well as welding alloy steels, stainless steels and high-chromium alloys. In addition, this course covers the use of computer-assisted arc welding machines for the high-tech industry. (FT) Associate Degree Credit.

335 Arc Welding V
1.5 hours lecture, 1.5 hours lab, 2 units
Grade Only
Advisory: Pipefitting (PIPF) 334 with a grade of "C" or better, or equivalent.
Limitation on Enrollment: Student must be a state registered apprentice in this trade.
This is an advanced Arc Welding course and is the last in a series of five welding courses required for a Pipefitting Apprenticeship. In this course students take the FED OSHA 10-hour course on confined space entry as related to arc welding and receive a certificate from FED OSHA. All procedures and techniques required for the SMAW/GTAW United Association welding certification are reviewed. The student takes the required arc-welding test at the end of this course for this certification. (FT) Associate Degree Credit.
349 Pipefitting Work Experience  
300 hours per semester, 4 units  
Credit/No Credit Only  
Limitation on Enrollment: Student must be a state registered apprentice in this trade and concurrently enrolled in a related apprenticeship class. The combined maximum credit for all work experience courses from all disciplines may not exceed 16 units. See note preceding Apprenticeship listing. (FT) Associate Degree Credit.

**Courses**

### Plumbing (PMBG)

#### 301 Pipe Trades Orientation  
3 hours, 3 units  
Grade Only  
Limitation on Enrollment: Student must be a state registered apprentice in this trade.  
Introduction to the industry; use and care of tools and piping materials. (FT) Associate Degree Credit.

#### 303 Piping Mathematics  
3 hours, 3 units  
Grade Only  
Limitation on Enrollment: Student must be a state registered apprentice in this trade.  
Piping Mathematics and its practical application to the trade. Knowledge skills are developed through problem-solving. (FT) Associate Degree Credit.

#### 305 Pipe Bending and Rigging  
1.5 hours lecture, 15 hours lab, 2 units  
Grade Only  
Limitation on Enrollment: Student must be a state registered apprentice in this trade.  
Pipe bending, rigging, signaling, rigging equipment and knot tying. (FT) Associate Degree Credit.

#### 307 Drawing I  
3 hours, 3 units  
Grade Only  
Limitation on Enrollment: Student must be a state registered apprentice in this trade.  
Preliminary drawings, isometric and plan flat symbols, applied drawing and blueprint reading and architects scale. (FT) Associate Degree Credit.

#### 309 Supervision and Leadership  
3 hours, 3 units  
Limitation on Enrollment: Student must be a state registered apprentice in this trade.  
Introduction to the theory and installation of domestic hot water energy systems, and the design of plumbing modules, i.e., waste vents, water and gas lines using mock-ups. (FT) Associate Degree Credit.

#### 311 Basic Science  
3 hours, 3 units  
Grade Only  
Limitation on Enrollment: Student must be a state registered apprentice in this trade.  
Review of the fundamental sciences and mechanics of the piping trade, including properties of water, hydraulics, pneumatics and metals. (FT) Associate Degree Credit.

#### 313 Copper and Gas Welding  
1.5 hours lecture, 1.5 hours lab, 2 units  
Grade Only  
Limitation on Enrollment: Student must be a state registered apprentice in this trade.  
Introduction to oxyacetylene welding, and brazing, safety practices, equipment needs, filler materials, types of pipe welds, oxyacetylene cutting, cutting defects, flame straightening, and use of templates. (FT) Associate Degree Credit.

#### 315 Metallic Arc Welding  
1.5 hours lecture, 1.5 hours lab, 2 units  
Grade Only  
Limitation on Enrollment: Student must be a state registered apprentice in this trade.  
Safety and arc welding equipment, trial beads and defects, basic electricity review, equipment maintenance, filler metal, types of welds, types of fillers, preheating and stress relieving, quality control and codes, welding procedure qualification, vee welds, pipe welds, piping materials, performance qualifications, and pipe welding processes. (FT) Associate Degree Credit.

#### 317 Drainage Systems  
3 hours, 3 units  
Grade Only  
Limitation on Enrollment: Student must be a state registered apprentice in this trade.  
Theory and operation of plumbing drainage systems, plumbing traps, vents, private and municipal sewer systems, screwed type drainage fittings, theory and operation, installation and testing of plumbing systems.
fixtures. Use of the waste and vent section of the Plumbing Code. (FT) Associate Degree Credit.

319 Gas Distribution 3 hours, 3 units Grade Only

Limitation on Enrollment: Student must be a state registered apprentice in this trade.
The use of the gas section of the Plumbing Code, operation and installation of gas vent systems and controls. (FT) Associate Degree Credit.

321 Math/Builder Level-Transit 3 hours, 3 units Grade Only

Limitation on Enrollment: Student must be a state registered apprentice in this trade.
The Science/Builders Level-Transit course provides instruction in the use of advanced math needed to perform measurements and calculations as needed in Science/Mechanics application as applied in the field. (FT) Associate Degree Credit.

323 Water Distribution Systems 3 hours, 3 units Grade Only

Limitation on Enrollment: Student must be a state registered apprentice in this trade.
Study of the principles which govern the method of water supply, treatment of water, and study in and use of the “Unified Plumbing Code” and sizing charts. (FT) Associate Degree Credit.

325 Fixtures 3 hours, 3 units Grade Only

Limitation on Enrollment: Student must be a state registered apprentice in this trade.
Instruction of plumbing fixtures and control including installation practices, institutional fixtures and design. (FT) Associate Degree Credit.

327 Plumbing Code 3 hours, 3 units Grade Only

Limitation on Enrollment: Student must be a state registered apprentice in this trade.
A survey of the Plumbing Code emphasizing special areas requiring knowledge of large multiple installation of plumbing, including medical gasses. (FT) Associate Degree Credit.

329 Advanced Drawing and Plan Reading 3 hours, 3 units Grade Only

Limitation on Enrollment: Student must be a state registered apprentice in this trade.
Advanced plan reading and drawing as applied to plumbing systems. (FT) Associate Degree Credit.

330 Fifth Year Specialties 3 hours, 3 units Credit/No Credit Only

Limitation on Enrollment: Student must be a state registered apprentice in this trade.
This course involves the application of the most current codes and state regulations governing plumbing, piping and excavating operations. Associate Degree Credit.

332 Piping Technologies 1.5 hour lecture, 1.5 hour lab, 2 units Grade Only

Advisory: Student should have completed four years of his or her apprenticeship.
Limitation on Enrollment: Student must be a state registered apprentice in this trade.
This is a piping course for plumbing apprentices who wish to expand their knowledge of the plumbing industry and the state of the art medical gas systems used in the trade. Apprentices will also utilize microcomputers and software to plan, diagnose, and lay out plumbing projects. (FT) Associate Degree Credit.

335 Solar Systems and Plumbing Modules 3 hours, 3 units Grade Only

Limitation on Enrollment: Student must be a state registered apprentice in this trade.
Introduction to the theory and installation of domestic hot water energy systems, and the design of plumbing modules, i.e., waster vents, water and gas lines using mock-ups. (FT) Associate Degree Credit.

337 Service and Repair 3 hours, 3 units Grade Only

Limitation on Enrollment: Student must be a state registered apprentice in this trade.
Theory and practice of service work in the plumbing industry. (FT) Associate Degree Credit.

339 Plumbing Design and Layout 3 hours, 3 units Grade Only

Limitation on Enrollment: Student must be a state registered apprentice in this trade.
Principles, operation, installation and distribution of hot and cold water systems, back flow prevention and roof drains in the plumbing system and the Plumbing code as it relates to water, waste and vents and gas. (FT) Associate Degree Credit.

349 Plumbing Work Experience

300 hours per semester, 4 units
Credit/No Credit Only

Limitation on Enrollment: Student must be a state registered apprentice in this trade and concurrently enrolled in a related apprenticeship class. The combined maximum credit for all work experience courses from all disciplines may not exceed 16 units. Associate Degree Credit.

San Diego City Civil Service Communications Technician Apprenticeship

A four-year apprenticeship program in the installation, maintenance and repair of communications equipment offered through the City of San Diego. This is a promotional opportunity for City of San Diego employees only and applicants must meet criteria specified by the city. For information about employment through the City of San Diego, call (619) 682-1011.

Upon successful completion of the program, the student will receive a Journeyman certificate from the State of California, and will be eligible for employment in the field of communication equipment maintenance and repair.

Certificate of Achievement Requirements:

Prepares student for employment as a Communications Technician with the City of San Diego.

Courses Required for the Major:
- ELDT 123, Introduction to Digital Circuits ............ 3.0
- ELDT 123L, Digital Circuits Laboratory ................. 1.0
- ELDT 124, Basic DC/AC Electronics ...................... 4.0
- ELDT 124L, Basic DC/AC Laboratory .................... 1.0
- ELDT 143, Semiconductor Devices ....................... 3.0
- ELDT 143L, Semiconductor Devices Laboratory ...... 1.5
- ELDT 144, OP-AMPS, Sensors and Computers .......... 3.0
- ELDT 144L, OP-AMPS and Sensors Laboratory ......... 1.5
- ELDT 224, Microprocessor Design ........................ 3.0
- ELDT 224L, Microprocessor Design Laboratory ....... 1.5
- ELDT 228, Communication Circuits and CET/NARTE Preparation ........................................ 3.0
- ELDT 228L, Communication Circuits and Certification Laboratory ............................................. 1.0
- ELDT 229, Advanced Telecommunications Networks ......................................................... 3.0
- ELDT 229L, Advanced Telecommunications Networks Laboratory ........................................... 1.0
- ELDT 230, Advanced Computer Designs ............... 3.0
- ELDT 230L, Advanced Computer Designs Laboratory ......................................................... 1.0

Total Units = 34.5

Associate in Science Degree Requirements:

Prepares student for employment as a Communications Technician with the City of San Diego.

Courses Required for the Major:
- ELDT 123, Introduction to Digital Circuits ............ 3.0
- ELDT 123L, Digital Circuits Laboratory ................. 1.0
- ELDT 124, Basic DC/AC Electronics ...................... 4.0
- ELDT 124L, Basic DC/AC Laboratory .................... 1.0
- ELDT 143, Semiconductor Devices ....................... 3.0
- ELDT 143L, Semiconductor Devices Laboratory ...... 1.5
- ELDT 144, OP-AMPS, Sensors and Computers .......... 3.0
- ELDT 144L, OP-AMPS and Sensors Laboratory ......... 1.5
- ELDT 224, Microprocessor Design ........................ 3.0
- ELDT 224L, Microprocessor Design Laboratory ....... 1.5
- ELDT 228, Communication Circuits and CET/NARTE Preparation ........................................ 3.0
- ELDT 228L, Communication Circuits and Certification Laboratory ............................................. 1.0
- ELDT 229, Advanced Telecommunications Networks ......................................................... 3.0
- ELDT 229L, Advanced Telecommunications Networks Laboratory ........................................... 1.0
- ELDT 230, Advanced Computer Designs ............... 3.0
- ELDT 230L, Advanced Computer Designs Laboratory ......................................................... 1.0

Total Units = 34.5

Additional general education and graduation requirements for the associate degree are listed in the Academic Requirements section of catalog. The associate degree requires a minimum of 60 units.

Recommended Electives:
- ELDT 126, 126L, 198, 227, 227L.
San Diego Gas and Electric Company Apprenticeship

A three-year apprenticeship program in various electrical trades at the San Diego Gas and Electric Company. Applications for the following trades are accepted at SDG&E, 8306 Century Park Court, San Diego, CA 92123.

1. Lineman
2. Electric Meter Tester
3. Electric Repair Shop Mechanic

All applicants must be company employees. Apprentices in all three trades will complete the following courses:

WORK EXPERIENCE: Total maximum credit allowed for all San Diego Gas and Electric Company work experience is 16 units.

Courses

San Diego Gas and Electric (SDGE)

302 Electric Lineman IA

5 hours lecture, 5 units
Grade Only

Advisory: Completion of English 43 and English 42 and Mathematics 35, each with a grade of “C” or better, or equivalent, or Assessment Skill Levels W4, R4, and M30.

Limitation on Enrollment: Student must be a state registered apprentice in this trade.

Orientation in the power distribution and line construction industry. Basic electrical principles and safety on the job. (FT) Associate Degree Credit.

304 Electric Lineman IB

5 hours lecture, 5 units
Grade Only

Advisory: Completion of SDGE 302, Electric Lineman IA, with a grade of “C” or better, or equivalent.

Limitation on Enrollment: Student must be a state registered apprentice in this trade.

A study of the power distribution and line construction industry including methods of producing electricity, AC and DC meters and circuitry. (FT) Associate Degree Credit.

310 Electric Lineman IIA

5 hours lecture, 5 units
Grade Only

Advisory: Completion of SDGE 304, Electric Lineman IB, with a grade of “C” or better, or equivalent.

Limitation on Enrollment: Student must be a state registered apprentice in this trade.

A study of alternating current circuits, AC and DC motors and generators, pole and overhead construction, and transformers and voltage regulators. (FT) Associate Degree Credit.

312 Electric Lineman IIB

5 hours lecture, 5 units
Grade Only

Advisory: Completion of SDGE 310, Electric Lineman IIA, with a grade of “C” or better, or equivalent.

Limitation on Enrollment: Student must be a state registered apprentice in this trade.

A continuation of pole and overhead construction including state safety order for line construction and maintenance, transmission and distribution systems, conductors, and electrical system faults, short circuits and system protection concepts. (FT) Associate Degree Credit.

320 Electric Lineman IIIA

5 hours lecture, 5 units
Grade Only

Advisory: Completion of SDGE 312, Electric Lineman IIB, with a grade of “C” or better, or equivalent.

Limitation on Enrollment: Student must be a state registered apprentice in this trade.

Advanced theory of electrical distribution lines and systems including phasing, system groundings, substations and use of electrical instruments. (FT) Associate Degree Credit.

322 Electric Lineman IIIB

5 hours lecture, 5 units
Grade Only

Advisory: Completion of SDGE 320, Electric Lineman IIIA, with a grade of “C” or better, or equivalent.

Limitation on Enrollment: Student must be a state registered apprentice in this trade.

A continuation of the advanced theory including use of hot sticks and special equipment; repair and maintenance of poles and lines both cold and energized, safety practices and the local/state requirements. (FT) Associate Degree Credit.

349A Electric Meter Tester Work Experience

300 hours per semester, 4 units
Credit/No Credit Only

Limitation on Enrollment: Student must be a state registered apprentice in this trade and concurrently enrolled in a related apprenticeship class.

The combined maximum credit for all work experience courses from all disciplines may not exceed 16 units.
See note preceding Apprenticeship course listings. Associate Degree Credit.

349B Electric Repair Shop Mechanic Work Experience
300 hours per semester, 4 units
Credit/No Credit Only

Limitation on Enrollment: Student must be a state registered apprentice in this trade and concurrently enrolled in a related apprenticeship class. The combined maximum credit for all work experience courses from all disciplines may not exceed 16 units. See note preceding Apprenticeship course listings. Associate Degree Credit.

349C Electric Lineman Work Experience
300 hours per semester, 4 units
Credit/No Credit Only

Limitation on Enrollment: Student must be a state registered apprentice in this trade and concurrently enrolled in a related apprenticeship class. The combined maximum credit for all work experience courses from all disciplines may not exceed 16 units. See note preceding Apprenticeship course listings. Associate Degree Credit.

San Diego Trolley Apprenticeship
A four-year apprenticeship in electro-mechanical trades at San Diego Trolley. Application for the following trades are accepted at 1255 Imperial Avenue, San Diego, CA 92101-7492.

Light Rail Vehicle Lineman Certificate of Achievement Requirements:
Courses Required for the Major: Units
MATH 95, Elementary Algebra & Geometry.................. 5
ELDT 124, Basic DC/AC Electronics ....................... 4
ELDT 124L, Basic DC/AC Laboratory ....................... 1
ELDT 125, DE/AC Circuit Analysis/Pslice ................. 4
ELDT125L, DC/AC Circuit Analysis Lab ................. 1
ELDT 143, Semiconductor Devices ....................... 3
ELDT 143L, Semiconductor Devices Lab ................. 1.5
AIRE 100, Thermal Refrigeration Theory ................. 4
AIRE 103, Thermal Refrigeration Lab ................... 2
TROL 349B, Work Experience ................................ 16
Total Units = 41.5

Revenue Maintainer Certificate of Achievement Requirements:
Courses Required for the Major: Units
MATH 95, Elementary Algebra & Geometry.................. 5
ELDT 124, Basic DC/AC Electronics ....................... 4
ELDT 124L, Basic DC/AC Laboratory ....................... 1
ELDT 125, DE/AC Circuit Analysis/Pslice ................. 4
ELDT125L, DC/AC Circuit Analysis Lab ................. 1
ELDT 143, Semiconductor Devices ....................... 3
ELDT 143L, Semiconductor Devices Lab ................. 1.5
ELDT 144, OP-AMPS, Sensors & Computers ............. 3
ELDT 144L, OP-AMPS & Sensors Laboratory ............. 1.5
TROL 349B, Work Experience ................................ 16
Total Units = 40

Wayside Assistant Lineman Certificate of Achievement Requirements:
Courses Required for the Major: Units
MATH 95, Elementary Algebra & Geometry.................. 5
ELCT 111, Electrical Theory I ............................ 3
ELCT 111L, Electrical Laboratory I ....................... 2
ELCT 121, Electrical Theory II .......................... 3
ELCT 121L, Electrical Laboratory II ..................... 2
ELCT 131, Electrical Theory III ......................... 3
ELCT 131L, Electrical Laboratory III .................. 2
ELCT 141, Electrical Theory IV .......................... 3
ELCT 141L, Electrical Laboratory IV .................. 2
ELCT 200, Electrical Control Systems ................... 3
ELCT 200L, Electrical Control Systems Lab .......... 2
TROL 349A, Work Experience ................................ 16
Total Units = 40

Light Rail Vehicle Lineman Associate in Science Degree Requirements:
Courses Required for the Major: Units
MATH 95, Elementary Algebra & Geometry .................. 5
ELDT 124, Basic DC/AC Electronics ....................... 4
ELDT 124L, Basic DC/AC Laboratory ....................... 1
ELDT 125, DE/AC Circuit Analysis/Pslice ................. 4
ELDT125L, DC/AC Circuit Analysis Lab ................. 1
ELDT 143, Semiconductor Devices ....................... 3
ELDT 143L, Semiconductor Devices Lab ................. 1.5
AIRE 100, Thermal Refrigeration Theory ................. 4
AIRE 103, Thermal Refrigeration Lab ................... 2
TROL 349B, Work Experience ................................ 16
Total Units = 41.5
Additional general education and graduation requirements for the associate degree are listed in the Academic Requirements section of catalog. The associate degree requires a minimum of 60 units.

**Recommended electives:** Electronic Systems 123, 123L, 125L, 143, 143L, 144, 144L; English 70, 101;

**Revenue Maintainer**  
Associate in Science Degree  
Requirements:

<table>
<thead>
<tr>
<th>Courses Required for the Major:</th>
<th>Units</th>
</tr>
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<tbody>
<tr>
<td>MATH 95, Elementary Algebra &amp; Geometry</td>
<td>5</td>
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<tr>
<td>ELDT 124, Basic DC/AC Electronics</td>
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</tr>
<tr>
<td>ELDT 124L, Basic DC/AC Laboratory</td>
<td>1</td>
</tr>
<tr>
<td>ELDT 125, DE/AC Circuit Analysis/Pspice</td>
<td>4</td>
</tr>
<tr>
<td>ELDT125L, DC/AC Circuit Analysis Lab</td>
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<tr>
<td>ELDT 143L, Semiconductor Devices Lab</td>
<td>1.5</td>
</tr>
<tr>
<td>ELDT 144, OP-AMPS, Sensors &amp; Computers</td>
<td>3</td>
</tr>
<tr>
<td>ELDT 144L, OP-AMPS &amp; Sensors Laboratory</td>
<td>1.5</td>
</tr>
<tr>
<td>TROL 349B, Work Experience</td>
<td>16</td>
</tr>
</tbody>
</table>

**Total Units = 40**

Additional general education and graduation requirements for the associate degree are listed in the Academic Requirements section of catalog. The associate degree requires a minimum of 60 units.

**Recommended electives:** Electronic Systems 123, 123L, 124, 124L, 125, 125L, 126, 126L, 143, 143L, 144, 144L; English 70, 101;

**Courses**

<table>
<thead>
<tr>
<th>San Diego Trolley (TROL)</th>
</tr>
</thead>
</table>

**349A Wayside Assistant Lineman Work Experience**  
300 hours per semester, 4 units  
Credit/No Credit Only

**Limitation on Enrollment:** Student must be a state registered apprentice in this trade and concurrently enrolled in a related apprenticeship class. The combined maximum credit for all work experience courses from all disciplines may not exceed 16 units. See note preceding apprenticeship course listings. Associate Degree Credit.

**349B Light Rail Vehicle Lineman Work Experience**  
300 hours per semester, 4 units  
Credit/No Credit Only

**Limitation on Enrollment:** Student must be a state registered apprentice in this trade and concurrently enrolled in a related apprenticeship class. The combined maximum credit for all work experience courses from all disciplines may not exceed 16 units. See note preceding apprenticeship course listings. Associate Degree Credit.

**349C Revenue Maintainer Work Experience**  
300 hours per semester, 4 units  
Credit/No Credit Only

**Limitation on Enrollment:** Student must be a state registered apprentice in this trade and concurrently enrolled in a related apprenticeship class. The combined maximum credit for all work experience courses from all disciplines may not exceed 16 units. See note preceding apprenticeship course listings. Associate Degree Credit.
Solar Turbines, Incorporated
Apprenticeship

A four-year indentured apprenticeship program in a number of manufacturing or technical trades is available. Applications for the following trades are accepted at Solar Turbines, Incorporated. 2200 Pacific Coast Highway, San Diego, CA 92186-5376.

1. Master Machinist
2. Tool and Die Maker
3. Gas Turbine Experimental Mechanic (Sheet Metal)
4. Plaster Pattern Maker
5. General Maintenance Mechanic
6. Precision Machine Tool Mechanic

Enrollment in classes other than those listed will be allowed with the approval of the Solar Turbines Incorporated Apprenticeship Coordinator.

Certificate of Achievement
Requirements:

Courses Required for the Major:
- MAFG 102, Print Reading and Symbology ................ 3
- MAFG 106, Manufacturing Process .......................... 4
- MAFG 115, Properties of Materials for Technicians .... 3
- MATH 95 (formerly 54) or higher ......................minimum 8
- PHYS 120A/125A OR CHEM 100/100L or 200/200L ......................... 4
- ENGE 108, Dimensioning and Tolerancing .............. 3
- ENGE 151, Engineering Drawing .......................... 2
- ENGE 152, Engineering Design.......................... 3
- ENGL 101, Reading and Composition ...................... 3
- SPEE 103, Oral Communications .......................... 3
- MACT 140, Machine Technology or
- MACT 150, Introduction to Computer Numerical Control (CNC) & Electrical Discharge Machining (EDM) ... 4
- SOLR 349, Solar Work Experience ......................16

Total Units = 56

Associate in Science Degree
Requirements:

Complete the following, as required, for a minimum of 60 units.
1. Solar Turbines Certificate of Achievement
2. District Requirements
3. General Education Requirements

The additional district and general education requirements are listed in the Academic Requirements section of the catalog. The associate degree requires a minimum of 60 units.

Recommended electives: Accounting 116A, 116B; Chemistry 100 and 100L, 200 and 200L; Economics 120; English 70, 101; Electricity 111 and 111L; Engineering 111, 118, 200, 210, 240, 250; Air Conditioning, Refrigeration and Environmental Control Technology 100, 103, 124, 125, 132, 133 and 134; Health Education 101; History 109, 110; Machine Technology 140, 150, 151, 160, 161, 162, 170, 171, 172, 180, 181, 182, 290; Manufacturing Technology 111, 150, 200, 205, 210, 215, 220, 225; Mathematics 95 or higher; Physics 120A, 125A; Political Science 101, 102, 103, 140.

Courses

Solar Turbines (SOLR)

349 Solar Work Experience
300 hours per semester, 4 units
Credit/No Credit Only

Limitation on Enrollment: Student must be a state registered apprentice in this trade and concurrently enrolled in a related apprenticeship class. The combined maximum credit for all work experience courses from all disciplines may not exceed 16 units. Associate Degree Credit.

San Diego City College • 2003-2004
San Diego City College Community
SAN DIEGO CITY COLLEGE
FACULTY
2003-2004

Abiña, Armando
Dean, School of Math, Engineering and Technologies
A.A., Grossmont Community College
A.B., San Diego State University
M.A., University of Redlands

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Ph.D., University of California, San Diego

Andersen, Elizabeth C.
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B.A., M.A., San Diego State University

Anderson, Dianne L.
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B.S., Northwest Nazarene College
M.S., San Diego State University

Baron, Chris
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M.A., San Diego State University

Barton, Cynthia
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M.S.W., San Diego State University
Licensed Clinical Social Work (LCSW)

Basile, Laura
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B.A., San Jose State University
B.S.N., San Jose State University
M.A., San Jose State University
M.S.N., University of San Diego

Berg, Deborah Jo
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B.S.N., University of Michigan
M.S.N., San Diego State University

Bernal, Juan Manuel
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B.A., M.A., San Diego State University

Bodnar, Dede
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Bollinger, John C.
Assistant Professor, Machine Technology
15 years experience

Bouscaren, Stephen J.
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A.A., Sacramento City College
B.S., M.S., Ph.D., University of California, Riverside
Bilingual Certification for Secondary Teaching Credential

Boyd, Arthur
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Ph.D., La Salle University

Brown, Christopher
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M.S., Cal State University Fullerton

Brown, Larry J.
Vice President, Student Services
B.A., California Western University
M.A., Ph.D., U.S. International University

Butler, Winston
Dean, Arts, Humanities & Communication
M.A. Dramatic Arts, University of California, Santa Barbara

Calhoun, Constance
Professor, Cosmetology
A.A., B.A., National University

Cary, Nancy
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B.A., University of Oregon
M.A., San Diego State University

Ceccacci, Vincent
Professor, Disabled Student Services Counselor
B.A., State University of New York at Stony Brook
M.S., State University of New York at Albany

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M.S. San Diego State University

Cheung, Cecilia Y.K.
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B.A., University of Hong Kong
M.L.S., State University of New York at Albany
M.B.A., Adelphi University

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M.A., University of California, San Diego

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M.A., University of California, Riverside
M.S., National University

Colbert, Jim
Associate Professor, Health and Physical Education
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Coleman, Mary
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M.A., San Diego State University
Cordell, Dotti
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B.S.N., M.P.H., University of California, Los Angeles

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M.A., University of Chicago
Ph.D., University of California, Davis

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Ph.D., University of California, Davis

Crispen, Nancy
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Deaton, Merilyn S.
Associate Professor, Business Studies
B.S., M.S., San Diego State University

De la Lama, Carlos
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Djawdan-Spradley, Minou
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Ph.D., University of California, Irvine

Dowd, Tammy
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M.S., San Diego State University

Dubon, J. Armando
Professor, Business Studies
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M.A., University of Kansas

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<table>
<thead>
<tr>
<th>Name</th>
<th>Position</th>
<th>Institution Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Harms, Marie-Louise Lind</td>
<td>Professor, French</td>
<td>Baccalauréat: Lycée de St. Cloud, France M.A., University of Aarhus, Denmark</td>
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Brashars, Janet, Faculty
Brill, Jack A., Faculty
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Clark, Ken A., Faculty
Coppola, Joseph, Faculty
Couch, John, Faculty
Crabtree, Lyle Fred, Faculty
Crowe, Alicia, Faculty
Cydell, Alice H., Faculty
Dawes, Betty R., Faculty

Dark, James Dark, Administrator
Decker, Mary, Administrator
Downs, Robert L., Faculty
Duke, Joe W., Faculty
Escamilla, Augustine, Faculty
Flaherty, Bernard, Faculty
Forman, Sidney
Galas, James, Faculty
Geddes, John, Faculty
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Gosewisch, Vincent Robert, Faculty
Gray, Ansel, Faculty/Administrator
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Harron, Vince, Faculty
Henderson, Charles B., Faculty
Hendry, Wiloene, Faculty
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Lang, Curtis E., Faculty
Leavitt, Daniel David, Faculty
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Lemons, Lemuel W., Faculty
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Anderson, George,
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