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College Administration

Margaret A. Gratton,
President of the College

Robert Dees,
Vice President, Instruction

Donald A. Ackley,
Dean, Library and Media Services

Kevin T. Ballinger,
Dean, Career Education and Consumer and Health Sciences

Sylvia J. Impert,
Dean, Fine Arts

Stanley N. Johnson,
Dean, Mathematics and Sciences

Michael Mandelkern,
Dean, Literature and Languages

Dick E. Marsh,
Dean, Social and Behavioral Sciences

Robert H. Mendoza Jr., Ed.D.,
Dean, Technology

To Be Announced,
Dean, Business

To Be Announced,
Dean, Physical Education and Athletics

Susan V. McClintic,
Director, Early Childhood Lab School

To Be Announced,
Vice President, Student Services

Nancy L. Kidder,
Administrative Dean, Admissions and Records, and International Center Programs

Kenneth K. Ortiz, Ph.D.,
Administrative Dean, Special Programs and Services and Financial Aid

Hue Pham, Ed.D.,
Dean, Counseling & Matriculation

To Be Announced,
Dean, Student Services

Kristin L. Clark,
Director, Admissions and Records

Marilyn M. Dickson,
Director, Student Health Services

Mark A. Freed,
Director, Student Auxiliary Bookstore Services

Lucy Groetsch,
Director, Children’s Center

Richard C. Hernandez,
Director, EOPS

Saeeda Wali Mohammed,
Director, International Center Programs

Delores Pritchard,
Director, Student Auxiliary Food Services

Melissa M. Moser,
Director, Financial Aid

James L. McIlwain, Vice President, Administrative Services

George L. Blanc,
Administrative Dean, Economic Development and Community Education

William B. Avery,
Director, Marine Programs, Facilities and Services

Marjorie J. Ball,
Director, Community Education

Terry Craig,
Director, Maintenance and Operations

Leo R. LaJeunesse,
Director, College Support Services

Janet B. Neth,
Director, Personnel Services

Helen M. Rothgeb,
Director, Fiscal Services

Douglas C. Bennett,
Director, Foundation

James A. Carnett,
Director, Marketing and Community Relations

Coast Community College District Board of Trustees

Paul G. Berger, George E. Brown, Walter G. Howald, Jerry Patterson, Armando R. Ruiz, Student Trustee

Chancellor
William Vega, Ed.D.
Fall 2001 Calendar

August 27 ......................... Class instruction begins in 16 & 1st 8 week classes
September 3 ...................... HOLIDAY — Labor Day
October 1 ......................... Applications accepted for Spring 2002 Semester, including Winter Intersession
October 22 ....................... Beginning of second 8 week classes
November 12 ..................... HOLIDAY — Veterans’ Day
November 22-25 .................. HOLIDAY — Thanksgiving vacation
December 16 ..................... Last day of Fall Semester
Dec. 17-Jan. 1 .................... Winter Break

Winter Intersession

January 2 ......................... First day of Winter Intersession
January 21 ....................... HOLIDAY—Martin Luther King Jr. Day
January 27 ....................... Last day of Winter Intersession

Spring 2002 Calendar

January 28 ....................... Class instruction begins in 16 & 1st 8 week classes
February 15 ..................... HOLIDAY — Lincoln’s Birthday
February 18 ..................... HOLIDAY — Washington’s Birthday
March 25-29 ..................... Spring Break
April 1 ............................ Beginning of second 8 week classes
April 1 ............................. Applications accepted for 2002 Summer Session and Fall Semester
May 26 ............................. Last day of Spring Semester

All dates are subject to change without notice.
Deadlines for refund, fee cancellations, registration, and withdrawals are different for each course.
For specific course deadlines, please refer to one of the following:
- Dates to Remember- Distributed with registration receipt each semester
- Academic Calendar in the class schedule
- www.orangecoastcollege.com - Click on deadlines for the Admissions page
- Contact the Student Records Office at (714) 432-5772
- If a holiday falls on Friday, then Saturday classes will not meet. If a holiday falls on Monday, then Saturday classes will meet.
- Final examinations are held during regular class meeting times during the last week of the semester.
Mission Statement

The mission of Orange Coast College is to enhance student success by providing quality instruction in basic skills, English as a Second Language, and programs leading to associate degrees, occupational certificates, employment opportunities, and transfer to other institutions of higher education. Additionally, Orange Coast College accepts responsibility for serving the community's diverse needs for lifelong enrichment opportunities.

Administrators, faculty, and staff are committed to the development of students as individuals and as citizens of the world. We value close teaching and learning relationships, support services, and a strong co-curricular program that contributes to meaningful personal growth in our students and to their ultimate success.
About the College

History and Location

Orange Coast College, Costa Mesa, California, was founded in 1947 on a 202-acre site which was granted to Orange Coast College by the federal government. The campus currently consists of 162 acres used for instructional facilities, athletic fields, and parking areas.

The Coast Community College District comprises three public community colleges: Orange Coast College, Golden West College and Coastline Community College. Each is a tax-supported community college.

Accreditation and Approvals

Orange Coast College is accredited by the Accrediting Commission for Community and Junior Colleges of the Western Association of Schools and Colleges, (3402 Mendocino Avenue, Santa Rosa, CA 95403; 707/569-9177), an institutional accrediting body recognized by the Commission on Recognition of Postsecondary Accreditation and the U.S. Department of Education. The college and its instructional programs are also approved by the Board of Governors of the California Community Colleges and by the State Department of Education for training veterans.

In addition, Orange Coast College offers programs which are accredited or approved by recognized accrediting agencies: the American Culinary Federation Educational Institute Accrediting Commission, the Commission on Dental Accreditation; The Commission on Accreditation/Approval for Dietetics Education of the American Dietetic Association; Commission on Accreditation of Allied Health Education Programs (CAAP); Joint Review Board on Education in Radiologic Technology; Committee on Accreditation for Respiratory Care (COARC); the California State Department of Health; and the Federal Aviation Agency.

Degrees and Certificates

By authorization of the Board of Governors of the California Community Colleges, Orange Coast College confers the Associate in Arts degree on students who complete sixty (60) units with a grade of “C” or better in prescribed courses.

Orange Coast College awards the Certificate of Achievement to students who successfully complete the required courses of a certificate program including a minimum of 18 units. Orange Coast College also grants the Certificate of Completion to students who complete a specially designed or intensive learning activity.

Memberships and Affiliations

Orange Coast College maintains membership with the following organizations:

• Academic Senate for California Community Colleges
• Accrediting Commission for Community and Junior Colleges, Western Association of Schools and Colleges
• American Association for Respiratory Care (COARC)
• American Association for Respiratory Care (COARC)
• American Association of Colleges of Radiologic Technology

Our college has diverse programs designed to identify and satisfy student needs, such as the following:

• Programs for special groups which are

Objectives

Orange Coast College constantly strives to serve the best interests of its community.

Orange Coast College maintains instructional excellence by providing the following:

• Instructional opportunities so that students can fulfill their lower division requirements leading to baccalaureate and advanced degrees.
• Instructional opportunities so that students can develop positive attitudes while acquiring skills and knowledge for their chosen careers, for entry-level positions, for advancing within a career, or for changing careers.
• Lifetime access to general education and to educational opportunities for those who want more knowledge about our ever changing world.
• Opportunities to expand learning and living skills through programs that increase intellectual, occupational and physical development.
• Opportunities to resolve problems due to an inadequate education.
• Resources to develop the strongest selection of teaching and learning experiences for our community including classroom and laboratory instruction, library and reader services, independent study, field studies, telecommunications, outreach programs, computer-assisted learning, learning by experience and tutorial assistance.

Orange Coast College proudly welcomes everyone who seeks intellectual, cultural and personal enrichment.

Our college has diverse programs designed to identify and satisfy student needs, such as the following:

• Programs that support traditional instruction, which are developed in the library, the Media Center and the Tutorial Center.
• Health programs in the Student Health Center, the Sports Medicine Center and the Speech and Language Center.
• Programs for special groups which are
developed in the Disabled Students’ Center, the Extended Opportunities Programs and Services Office and in the Learning Center.

• Economic programs available in the Financial Aid Office, the Career Development Center and Placement Office and the Children’s Center.

• Student government programs including the Associated Students of Orange Coast College, clubs and co-curricular activities.

Orange Coast College sanctions community service activities for professional and personal improvement, other educational opportunities and entertainment and recreational events.

Our college contracts educational services and programs which the school develops at the request of business and public agencies. These services and programs take place on campus, at work sites and other locations.

Orange Coast College has programs that support the quality of service offered to its community, which in turn supports the college administration, faculty and staff in their personal development.

The Orange Coast College Foundation

The Orange Coast College Foundation serves as a community and financial support organization to help Orange Coast College achieve its mission. The goals of the Orange Coast College Foundation include providing financial support for the college, involvement opportunities for board and community members, advocacy to help the college meet its goals, and advisement to the college’s administration.

The OCC Foundation accepts donations of cash, securities, real property, insurance and personal property from individuals, businesses and other foundations. The foundation strengthens the educational objectives of the college by providing funds for faculty development, student scholarships, library acquisitions, and capital improvements and repairs to the campus of Orange Coast College.

Members of the Orange Coast College Foundation Board of Directors are volunteers. They generally serve three year renewable terms. Members are appointed from the community and can include alumni, business leaders, community leaders, parents, donors, and members of the college’s current and retired faculty and staff who are interested in supporting the missions of the college and the Foundation. For additional information on the Foundation, please call (714) 432-5126.

Equal Opportunity Policy

Orange Coast College is committed to providing equal opportunities in its activities and in its educational programs. Therefore, neither an Orange Coast College student nor a Coast Community College District employee nor any applicant for enrollment or for employment shall be unlawfully denied the benefits of, or be unlawfully subjected to discrimination under any programs or activity on the basis of race, color, gender, sexual orientation, national origin, religion, age, disability, or marital and Vietnam-era status.

Orange Coast College’s policies and procedures strengthen and guarantee equal opportunity. Specifically, the college does the following:

• Systematically reviews its policies and procedures to preclude the possibility of discrimination against women, minorities, disabled individuals and others.

• Makes every effort to provide leadership for the communities it serves, protect human rights, and assure equal opportunity.

• Maintains the policy that every course, course section, and class—wherever offered, shall be open to enrollment and participation by any person who has been admitted to the college and who meets such prerequisites as may be established pursuant to Chapter II, Division 2, Part VI, Title 5 of the California Code of Regulations, commencing with Section 51820. This policy is maintained unless specifically exempted by statute.

The college Grievance Officer, is charged with ensuring that these policies and procedures are enforced and with investigating complaints
One of the primary missions of Orange Coast College is to help all students with career development.

To qualify for positions in their chosen fields, many students require study in a career program for two years or less. The college cooperates with secondary schools to provide articulation of vocational programs that avoid duplication of occupational skills and knowledge, and builds on student's career competencies.

A variety of artistic, scientific, professional, and technical programs are available for students. These programs, combining theory, practical training, and experience, were established as a result of surveys of employment opportunities throughout the community. A program advisory committee, comprised of local employers and workers, helps plan and offers on-going advice and supervision for career programs. An extensive description of each program is listed in the section of this catalog entitled “Career and Certificate Programs.”

A student who completes one of these programs may be able to transfer to a four-year college or university to complete a bachelor's degree. Employers who hire students from many of the career programs are provided guarantees that students possess the skills needed on the job. If students are found deficient by employers, they can return for additional training at no cost.

Many students choose careers that require four or more years of college. Orange Coast College has a comprehensive transfer program that satisfies lower division requirements for most majors. A student, working with a counselor, may plan a two-year program at Orange Coast College that then transfers to a college or university to complete a four-year degree.

Courses numbered 100 or higher are transferable to the California State University. A list of courses which transfer to the University of California is available in the Counseling Center and Transfer Center. These courses are also marked "UC" in the Courses section of this catalog. Counselors can help determine which courses transfer to other colleges and universities.

The Transfer Programs section of this catalog contains additional information about transfer.

The counseling program at Orange Coast College is in place to help students identify and clarify personal, career, and educational goals. The intent is to help students choose options that will improve the quality of their lives.

The counseling process encourages the building of a strong self-concept by helping students identify their needs and motivations and by guiding them in learning and applying effective decision-making skills. Personal, career, and academic choices are not viewed as separate and disconnected entities but as interrelated issues, the combination and interaction of which determine the present and future quality of each individual's life experience.

Our Community Education Office sponsors cultural and performing arts events, continuing education, recreational programs, business seminars and contract education.

This community education program, which is self-supporting and open to the public, offers lectures, workshops and activities to meet our community's interests and needs.

Many special programs are offered to students who are not prepared for the demands of college-level courses. We offer special programs and courses in developmental reading, vocabulary building, spelling, oral communication, basic mathematics, and English as a Second Language.

As never before in its history, America needs people who are trained in artistic, scientific, professional, and technical fields. Orange Coast College can provide that training.

Thousands of students enroll annually in OCC’s highly acclaimed career programs. We offer more than 50 programs which lead to exciting, well-paying careers within two years or less.

Our comprehensive programs, which grant certificates of achievement and/or associate in arts degrees, prepare students to become qualified employees as well as educated citizens. A number of programs offer transfer options to four-year colleges and universities. Our career courses are both professional and high tech. They are fully accredited and feature industry advisory committees which meet annually to ensure the course curriculum accurately reflects current industry standards.
Reserve Officers Training Corps

Orange Coast College students can participate in the Army and Air Force Reserve Officers Training Corps.

Army ROTC classes are conducted two hours each week at UCLA and CSULB. Two- and four-year programs lead to a commission as a second lieutenant in the Army or in the National Guard. Participants must be physically qualified full-time students at the undergraduate or graduate level. During their last two years, students receive $100 monthly, throughout the regular school year. Students with ROTC scholarships receive full tuition and have their required fees and books paid for. Veterans ordinarily qualify for advanced placement. For more Army ROTC information, call California State University, Long Beach, or University of California, Los Angeles.

Through arrangements with Loyola Marymount University (LMU) in west Los Angeles, student may participate in the Air Force Reserve Officer Training Corps (AFROTC) program. AFROTC offers a variety of two, three and four year scholarships, many of which pay the full cost of tuition, books, and fees. Successful completion of as little as four semesters of AFROTC academic classes and leadership laboratories can lead to a commission as a second lieutenant in the United States Air Force.

Classes consist of one hour of academics and two hours of laboratory for freshmen and sophomores and three hours of academics and two hours of laboratory for juniors and seniors. The academic hours earned can normally be counted as elective credit toward graduation. All AFROTC classes and laboratories are held on Fridays to better accommodate students commuting from other colleges and universities. Currently, LMU does not charge for the courses and offers cross-town students free parking while attending AFROTC activities. Additionally, AFROTC cadet under scholarship and all juniors and seniors receive a $150 per month tax-free stipend.

For more information, contact the Loyola Marymount University Department of Aerospace Studies (AFROTC) at (310) 338-2770.
The primary mission of all educational institutions is learning. Orange Coast College recognizes that there are many activities and programs, outside of the classroom which enhance the learning process. Consequently, numerous student services have been established to help students move toward the attainment of their goals.

Students at Orange Coast College come from a diversity of backgrounds, ages, and lifestyles. The personal circumstances of many often include financial, physical and/or learning constraints that make attending college difficult. The variety and comprehensive nature of student services at Orange Coast College is intended to support a multitude of concerns for a large student population. All students are encouraged to explore the services available and to obtain a copy of the CHART, the handbook for students at OCC. This publication, available in the Student Services Office, provides valuable information for all students.

Memorable college experiences often include more than classroom instruction. To this end student activities and co-curricular programs are an integral part of Orange Coast College. These activities expand learning and living skills. The Student Services Staff, the Associated Students and the College Life office coordinate these programs. Examples of activities offered throughout the year are lecture series, Awareness Days, clubs, Coast Days, athletics, forensics, homecoming and many more.

A current schedule of student activities is available at the College Life office.
Adapted P.E. Program

Adapted Physical Education classes are designed for physically disabled persons who can benefit from individualized exercise programs. A variety of courses are offered for improvement in strength, flexibility, and cardiovascular endurance. Additional courses in Bowling, Aquatics and Exercises for Persons with Neck & Back Problems are offered. Students must register with the Disabled Students Center and complete a necessary medical verification form in order to participate. For more information, phone (714) 432-5528.

OCC Alumni Association

The reputation of every distinguished college grows as a result of the benefits it bestows on its students, faculty and staff. The Orange Coast College Alumni Association enables our college not only to maintain its distinctive standing among community colleges but also to strengthen that standing by preserving close ties with all former OCC students.

Any student who has taken one or more classes at Orange Coast College is considered an alumna. Voluntary membership in the Alumni Association is available for an annual fee of $20, or $25 for couples. Lifetime membership is available for $150, or $200 for couples.

Membership in the Alumni Association entitles you to a membership card, library privileges, an alumni decal, invitations to alumni events and the alumni newsletter “Post Coaster.”

For more information, phone (714) 432-5749.

Assessment Center

The Assessment Center, located in the Special Services Building, administers aptitude, interest, and personality tests to students who have a counselor’s referral. It also administers the English and mathematics placement tests and the English as a Second Language program tests for students who are not native speakers of English.

Applications are available for SAT, ACT and TOEFL tests. For more information, phone (714) 432-5789.

The Associated Students

The Associated Students are responsible for student government and participation in college planning, policy-making, and governance. They manage a large college-life program that includes a wide variety of clubs, social activities, and informal learning experiences. They also oversee a large budget to insure that many needs of students are met on campus.

This program is organized in three "wings." The Governance-and-Leadership wing includes elected and appointed student leaders and includes both informal leadership training and formal coursework in IDST 150AD and IDST 140. For more information, visit the
ASOCC Office in the Student Center. The College-Life wing, located in the Student Center, includes the InterClub Council and many social programs. To start a club or become involved in campus activities visit the College Life Office. The Fiscal-Affairs wing oversees the ASOCC budget and related matters. It is located in the Student Center.

We invite you to participate in our many programs and to become involved as a student leader.

Jurisdiction of the Associated Students of Orange Coast College is established in the Manual of Board Policies and Administrative Procedures of the Coast Community College District.

Athletics

OCC has one of the best Athletic programs in the state.

The Pirates field twelve men's athletic teams, and twelve women's teams. Men's sports include baseball, basketball, crew, cross country, football, golf, soccer, swimming and diving, tennis, track and field, volleyball, and water polo. Women's sports include badminton, basketball, crew, cross country, golf, soccer, softball, swimming and diving, tennis, track and field, volleyball and water polo. Cheerleading is a co-ed sport.

Intercollegiate Athletics

Orange Coast College participates as a member of the Orange Empire Conference for most of its sports sponsored by the Community College League of California - Commission on Athletics. The Orange Empire Conference includes the following schools: Orange Coast, Cypress, Santa Ana, Riverside, Saddleback, Fullerton, Golden West, Irvine Valley and Santiago Canyon.

For football, Orange Coast College is a member of the Mission Conference which includes the following schools: Orange Coast, Palomar, Pasadena, Santa Ana, Riverside, Saddleback, Golden West, Long Beach, Mt. San Antonio, Cerritos, El Camino, Fullerton and Palomar.

Internship Academy

The Internship Academy at Orange Coast College offers students the opportunity to attend college classes and earn college credit for concurrent learning on the job. The program is designed to meet the demands of the students and employers for internship experience and is compliance with Title 5 regulations for accredited field experience. Together, the employment experience and educational aspects enable the student to acquire the knowledge, skills, and attitudes necessary to enter and progress in a chosen career.

The Internship Academy assists students in making the transition from school to work by providing hands-on, “real world” learning experiences, and practical application of classroom theory. The Academy delivers career related field experience to students interested in or planning to enter a specific career field related to their education. The Academy experience is a compilation of career exploration, training related field experience, and clinical fieldwork. For information: 714-432-5628.

Non-Conference Athletics (*)

The men's and women's crew compete in individual sports associations.

OCC crew joins the Pacific Coast Rowing Association and the Western Intercollegiate Rowing Association and the PAC-10. Other colleges competing in this association include: CSU Long Beach, Loyola Marymount, CSU Sacramento, St. Mary's College, CSU San Diego, Santa Clara University, UC Irvine, UC Davis, UC San Diego, UC Santa Barbara, UC San Diego, Stanford University, UC Berkeley, University of Washington, Oregon State University, UCLA, USC and Washington State University.

Non-Conference Athletics (*)

The Harry and Grace Steele Children’s Center is located on Merrimac Way, just west of Fairview Road. Comprehensive child development services are available to student parents enrolled at OCC.

The Children’s Center

The Children's Center is sponsored by the California State Department of Education and the Associated Students of Orange Coast College. The Children’s center serves children ages 6 months through 12 years old during fall, spring and summer semesters while the college is in session. Children between the ages of 2 1/2 to 12 years are offered care in the evening, Monday through Thursday. School age children (6 - 12 years of age) are offered care during the day in the summer semester only.

The hours of operation are:

DAYTIME
Monday-Friday: 7:30am-5pm
(6 months - 6 years of age)

EVENING
Monday - Thursday: 4pm-10pm
(2 1/2 - 12 years of age)

SUMMER
Specific summer semester hours will be posted each year. We offer all day and evening care to children as old as 12 years of age. The evening program continues to limit the minimum age to 2 1/2 years.

Parents must be enrolled at OCC in a minimum of six units for fall and spring semesters, and three units for summer term. Student parents using evening care only, must be enrolled in a minimum of 3 units. The units must apply to their established academic goals. Enrollment implies active participation and attendance in coursework at OCC.

Wait List Registration dates are set before the beginning of each semester, and parents must pay the college service charge before registering their children. Fees are set by the State Department of Education. Subsidized child development services are available for those who qualify under the Office of Child Development Guidelines. Full cost openings are also available. For more information, phone (714) 432-5569.

Counseling Services

Counseling Appointments

Appointments are available Monday through Thursday from 8 a.m. to 7:00 p.m. and Friday from 8 a.m. to 3 p.m. Appointments
serve the needs of students seeking academic, career and/or personal counseling and may be made in person at the Counseling counter in the Counseling Building or by phone, (714) 432-5078. For further counseling information call (714) 432-5700.

**Resource and Information Desk**

A resource and information desk is located in the Counseling Center and is staffed by a credentialed counselor during most day and evening hours. The resource counselor cannot respond to questions that require student records, but is otherwise available to provide information and assistance. You may come in person to the resource/information desk, or phone (714) 432-5699.

**Career Library**

A full service career library is located in the Counseling Center. Assistance is available Monday through Thursday from 8 a.m. to 7:30 p.m. and Friday from 8 a.m. to 3 p.m.

**Career Lab**

The career lab offers students access to a variety of computerized guidance programs, as well as audio and video tapes for listening and viewing. Hours are posted and a technician is available to offer assistance.

**Re-Entry Center**

The Re-Entry Center provides individual and group counseling, workshops and special programs designed for students who have been out of school for one or more years. Appointments may be made in person or by phone, (714) 432-5162.

**Transfer Center**

The Transfer Center provides information and assistance to students who are preparing to transfer to four-year colleges and universities. The center provides information on transfer programs, general education requirements and schedules appointments with representatives from four-year colleges and universities. Applications for admission to CSU and UC are available in the center. The center also sponsors a “Transfer Day” in the fall semester with representatives on campus from more than forty colleges and universities from throughout California. Transfer planning workshops are offered throughout the academic year. The Transfer Center is located in the Counseling Annex, between the Social Science classroom building and the Computing Center. For more information, phone (714) 432-5894.

**Workshops**

Workshops, offered on an on-going basis, focus on topics of interest to both new and returning students. Workshop schedules are available in the Counseling Center.

**Instruction**

The Counseling Division provides instruction in career and personal development, offering a variety of credit courses that support the developmental needs of both new and returning students. Counseling courses are offered both day and evening and are articulated for transfer the same as courses offered in other divisions. Courses are listed under “Counseling” in the college catalog and class schedule.

**Assessment of Prior Learning**

This program is designed to help students apply the knowledge gained outside the formal classroom setting toward a college degree. Questions about the program may be directed to the APL instructor. For more information, phone (714) 432-5959 or e-mail to apl@mail.occ.cccd.edu.

**Matriculation Services**

Counseling-related components of matriculation are orientation, counseling/advising and follow-up of student progress. Programs are in place to respond to issues in these areas. Matriculation is coordinated through the Counseling Center.

**Outreach**

Outreach consists of a variety of liaison activities with area high schools, including participation in college nights, classroom presentations and meetings with counseling and administrative personnel. Outreach counselors work closely with Assessment Center personnel, the director of the Transfer Center and the coordinator of matriculation. For information about Outreach activities, phone (714) 432-5815.
Cumulative Records

The students’ cumulative records are developed and maintained in the Counseling Center. Counselors refer to these records in preparation for and during student appointments. Students, through a counselor, may also access their own cumulative records.

Petition Processing

A petition is a request for special action and is processed through the Counseling Center. Petitions for Credit by Examination, Waiver of Requirements, Excessive Units and Academic Renewal are available in the Counseling Center.

Disabled Students’ Center

The Disabled Students’ Center (DSC) provides support services to students with disabilities in an effort to ensure equal opportunity and participation at the college.

To receive services from the DSC, each student is responsible for the following:

- **Verification of Disability:** Submit verification of disability by a physician or other qualified professional.
- **Personal Care:** Each student is responsible for taking care of personal bodily needs, such as feeding and restroom care and, if necessary, providing in a personal attendant while on campus, including the classroom.
- **Seizure Policy:** Because of the college’s concern for the well-being of all students, OCC has a policy governing a student who has a seizure on campus. When a physician indicates that seizures possibly endanger the student or others, the student may be denied continued enrollment. This may range from a particular class deemed hazardous to exclusion from campus. Reinstatement may occur when there is evidence that seizures are controlled. For more information, contact the Administrative Dean, Admissions and Records.

Specialized equipment, disability resource information and referrals are available through the DSC. Assistance is also available for registration, test proctoring, tutoring, note takers, campus orientation and readers (based on the specific disability).

Only those students with a DMV plate or placard may park in designated blue curbed areas in all campus lots free of charge. All other disabled students must purchase a campus parking permit and use student parking spaces.

The Disabled Students’ Center is located in the Special Services Building. Hours are 8am to 5pm, Monday through Friday. Phone 432-5807 or 432-5604 (TDD).

Disabled Students' High Tech Center

The High Tech Center is specifically designed for students with disabilities at Orange Coast College. Its primary purpose is to allow students with disabilities to use computers through various adaptives. The facility is located in the Special Services building. Our IBM PCs and Macintosh computers are equipped with both adapted computer software and major computer programs that can be combined to accommodate and help students with their schoolwork and educational goals. Software packages include word processing, spreadsheets and accounting programs.

Extended Opportunity Programs and Services (EOPS)

EOPS is a state-funded comprehensive support system that assists low-income disadvantaged students. The goal of the program is to help students meet their educational objectives. Services include academic and personal counseling and/or assistance, career planning and transfer information, book grants and academic tutoring.

To determine eligibility, the student should visit the EOPS office located in Counseling and Admissions 114. For more information, phone (714) 432-5817.

Financial Aid

The Financial Aid Office is temporarily located in the Art Village. Office hours are 8am to 5pm Mondays and Thursdays, 8am to 7pm Tuesday and Wednesdays; and 8am to 2pm on Fridays. Our phone number is (714) 432-5508.

The Financial Aid Office assists eligible students who require financial support while attending our college in attaining their educational goals. Aid programs include: Pell Grant, Supplemental Educational Opportunity Grant, Cal Grant, Perkins Loan, FFEL program, College Work Study, a state tuition fee waiver for qualified California residents, and short-term, interest free emergency and book loans for eligible students.

NEW LAW: Effective immediately and in accordance with Public Law 105-244, students who receive federal financial grant assistance and who withdraw from all of their classes before completing more than 60% of any semester are required to repay federal grant funds within thirty (30) days on a pro rata basis. Loans must be repaid according to the terms of the original promissory note. Failure to repay grant amount(s) owed within designated time limits will result in future denial of all federal financial aid at our college and any college/university within the United States of America until satisfactory repayment arrangements are made with the United States Department of Education. PLEASE COME TO THE FINANCIAL AID OFFICE FOR ASSISTANCE if you are planning to drop all of your classes prior to completing 60% of any semester so that we may advise you regarding the financial liabilities of such a decision and/or recommend alternative actions to you.

CARE

Cooperative Agencies Resources for Education

CARE is an additional support program for EOPS students who meet the following qualifications:

a. Be 18 years of age or older
b. Be a single parent of a child or children under 14 years of age

c. Receive AFDC/TANF/CalWORKs

Support services for CARE students include Book Grants, Material Fees, OCC Parking Permits, Bus Passes, Prepaid Gas Cards, School Supplies, Child Care Assistance, Tutoring and Counseling and Educational Support.

Please call (714)432-5817 or visit the EOPS Office, Counseling and Admissions 113.

Housing

The International Center is responsible for housing information and services and seeks to provide the widest range of housing options for all students. Students may request an annually updated apartment listing for the surrounding community. All students have access to a housing board, on which students and the community may advertise, free of charge, who have rooms to rent or who need roommates to share housing costs. The housing board, which is on an outdoor display case located on the South wall of the Admissions and Counseling Building is updated daily. The Homestay program is a housing option for international students. Through this program, students are put in contact with interested host families in the area. The goal of the programs is to provide both guest and host with the opportunity to learn about each other’s country and culture, see one’s own country in a new light and make new friends. For further information, contact the International Center at (714) 432-5940 or visit the International Center in the Counseling and Admissions Annex.

Job Placement Center

The Job Placement Center is temporarily located in the Art Village, Building #2. Office hours are Mondays and Thursdays from 9 a.m. to 5 p.m., Tuesdays and Wednesdays from 9 a.m. to 7 p.m., and Fridays from 9 a.m. until 2 p.m.

The Job Placement Center is one of the busiest community college job placement centers in the nation. Our services include: a multitude of job listings which are updated daily, readily available appointments with our Job Placement Specialists, resume development workshops, interviewing skills workshops, and the use of the World Wide Web to assist you in your job search.

The Learning Center

The Learning Center is in the Special Services Building. In addition to providing support services for learning disabled students in regular classes, the Learning Center offers individual instruction for students with learning disabilities in reading, writing, spelling and arithmetic. The Learning Center staff evaluates the learning difficulties of each student and then develops a program which includes a number of teaching techniques and materials. A student may earn one to three units of credit each semester by enrolling in a Learning Center program. The center’s phone number is (714) 432-5535.

Library Services

Comprised of over 100,000 titles of books, periodicals, and audio-visual programs, the Norman E. Watson Library supports and enriches the quality of our educational program.

Temporarily located at the north end of the Adams parking lot, the library provides a relaxed atmosphere in which to study.

Reserve materials will be found at the circulation desk and may be checked out for a limited time, usually two hours. Fines are charged for reserve materials returned late at the rate of 25 cents per hour up to $10.00. Materials not found in our library may, in some cases, be ordered via inter-library loan. Inquire at the reference desk. Our reference librarians are here to teach and guide you in using the numerous print and computer based indexes found in the library which aid you in your research needs. The library offers a transferable one-unit class (ENG 108, Introduction to Library Resources) which will help you better understand the library maze.

Our circulating books may be checked out for a three week period and renewed once if not overdue. Fines are 25 cents per day per book up to a maximum of $10.00.

Our Media Department, provides instructional video and audio programs as well as the campus Macintosh computer lab, complete with laser printer, to turn out professional looking as-
Assignments for a small charge. Audio cassettes of designated large group instruction lectures may be purchased for study and review.

The library is open Monday through Thursday from 8 a.m. to 9 p.m., and Friday from 8 a.m. to 3 p.m. We are closed all school holidays. Home computer access to the library’s on-line catalog as well as periodical and newspaper full-text databases is available on our website.

Lost and Found

Lost and Found is in the Student Center. It is open during the following times: 8am to 6pm Monday through Thursday and 8am - 2pm on Friday. For more information, phone (714) 432-5731.

Recycling Center

The Associated Students of Orange Coast College sponsors an on-campus Recycling Center located on Adams Avenue, between Harbor Boulevard and Fairview Road. The center has a 24-hour drop-off service for materials that can be recycled, such as newspapers, magazines, pamphlets, office paper, computer paper and tab cards, glass, aluminum and plastic soda pop bottles.

The center will pay the current market price for “CA Redemptive Value” containers of glass, plastic and aluminum Monday through Friday, 8 a.m. to 5 p.m. and Saturday 9 a.m. to 5 p.m. Profits from the center go to scholarships for OCC students.

Scholarships

Students who complete OCC scholarship applications will be considered for a wide variety of scholarships awarded through the generosity of the citizens and civic groups in the Coast Community College District.

Application requirements vary, depending on the scholarship programs for which the student applies. For further information, pick up a scholarship brochure or applications from the Scholarship Office in the Student Center or visit our web site: www.occ.cccd.edu/departments/studentsvcs/scholarshipoffice. For more information, phone (714) 432-5730.

Student Health Service

The Orange Coast College Student Health Service was initiated by students for students unable to obtain affordable health care. It is financed by a student health fee of $11. Students must be currently enrolled and attend classes to use the service. Please bring your student ID card when visiting the health center.

The Student Health Center is located between the library and gymnasium on Fairview Road. It is open when classes are in session at the following times: 8 a.m. to 8:30 p.m., Monday through Thursday, and 8 a.m. to 4 p.m. on Friday. The phone number is (714) 432-5808.

Registered nurses consult with students concerning their health needs and schedule appointments with physicians and members of the mental health team. Physicians diagnose and treat acute short-term health problems. The mental health team provides brief individual and group counseling. Referrals to community resources are given for long-term treatment.

Students are covered by accident insurance for injuries that occur on campus or at a college-sponsored event. This coverage is secondary to any primary coverage by which students are covered and is subject to certain exclusions and limitations. An injury must be reported immediately to the appropriate instructor or to the Student Health Center if claim benefits are to be paid. All claims have a $50 deductible.

Student Center Lounge

The Student Center Lounge is open for public use Monday through Thursday, 8:00 a.m. - 6:00 p.m. and Friday, 8:00 a.m. - 2:00 p.m. It serves as a quiet study area as well as a place to relax. Several conference rooms are also available for use in the lounge. The conference rooms may be reserved by calling (714) 432-5507.

Tutorial Center

Trained tutors assist students in improving study skills as well as course content areas. Students may receive one free hour of tutoring in two subjects weekly. OCC’s Tutorial Center is located in the west wing of the Special Services Building.

Center hours are 9:00am - 7:00pm Mondays and Tuesdays, 9:00am - 4:00pm Wednesdays and Thursdays, and 9:00 am-3:00 pm on Fridays.

For more information, phone (714) 432-5559 or 432-5538.

Vocational Rehabilitation Services

Students having physical, emotional, or other disabilities may be eligible for State Department of Rehabilitation services if their disabilities affect their vocations. These services include vocational counseling and guidance, reimbursed training and job placement. Under certain circumstances, students may also qualify for assistance with medical needs, living expenses and transportation.

Interested students should visit or write the State Department of Rehabilitation Office, 3822 Campus Drive, Newport Beach, California 92660. The phone number is (714) 756-1999.
Policies & Regulations
In accordance with requirements of DVB Circular 20-76-84, Appendix P, this is to certify this school catalog is true and correct in policy at the time of printing.

**Academic Honesty**

Orange Coast College has the responsibility to ensure that grades assigned are indicative of the knowledge and skill level of each student. Acts of academic dishonesty make it impossible to fulfill this responsibility and weaken our society. Faculty have a responsibility to ensure that academic honesty is maintained in their classroom. Students share that responsibility and are expected to refrain from all acts of academic dishonesty. Procedures for dealing with any violation of academic honesty will be followed. Additionally, the Student Code of Conduct and Disciplinary Procedure shall be applied to incidents of academic dishonesty.

**Disruptive Behavior**

A student who is uncontrollably disruptive of the educational process or a danger to her- or himself or students and staff may be subject to dismissal from the college. In lieu of dismissal, such students may be required to provide an attendant when on campus or at any college-sponsored event. Cost of providing an attendant shall be the responsibility of the student. The decision to dismiss or require the presence of an attendant shall be the responsibility of the student. The decision to dismiss or require the presence of an attendant shall be the responsibility of the College President upon recommendation of the Student Services Council. The student shall have the right to appeal any decision to the Vice Chancellor of Human Resources of the Coast Community College District. No decision shall be made without providing the student with adequate opportunity to provide evidence in his or her behalf.

**Family Rights and Privacy Act of 1974 Policy**

Orange Coast College may release student directory information upon request, provided such release is approved by the college president or a designee. Students may request in writing to the college president that directory information not be released. The president or a designee may limit or deny the release of specific categories of directory information based upon a determination of the best interests of the student.

Directory information is defined to mean one or more of the following: student’s name, city of residence, date and place of birth, major field of study, participation in officially recognized activities and sports, weight and height of members of athletic teams, dates of attendance, degrees and awards received, and the most recent previous public or private school attended.

Any currently enrolled or former students shall have access to any and all of their records on file at the college. Such access shall be granted within 15 working days of a written request and shall be subject to procedures established by the Administrative Dean of Admissions and Records for academic records, Dean of Counseling Services for counseling files, Vice President of Student Services for other records.

Students, by written request to the above administrator, may challenge the content of their records pursuant to Education Code section 76232. Such challenges will be processed according to procedures established by those responsible administrators.

**Privacy of and Access to Student Records**

The Information Practices Act of 1977, California Civil Code, Sections 1798 et.seq., guarantee certain rights:

**The Right to Privacy.** Only information about you that is relevant and necessary to carry out the purpose of the college will be collected. This information will be used only in the administration of specific college programs.

**The Right to Access.** You may request access to any records about you that are maintained by the college. The college shall promptly let you or your chosen representative inspect or shall provide you copies of any document or item of information in your case record, within 15 working days of a written request. In a few cases, medical or psychological information will be released only to an appropriate licensed professional chosen by the student.
Protection Against Redisclosure. All persons who are allowed access to your records are prohibited from disclosing this information to anyone else without your specific, informed, written consent. There are specific instances where information may be released without your informed, written consent, such as in the case of a medical emergency.

Student Identification Number. Students are not required to provide their social security number except to receive financial aid. However social security numbers are helpful in identifying number. All students are strongly encouraged to select a personal identification number to protect electronic access to their records.

Grievances
The student who believes himself or herself to have been mistreated, or that the policies or procedures of the college have not been carried out, or that some campus issue has not been properly addressed may petition for a review of the complaint. A grievance is a complaint that is formally written. Before filing a grievance, a student must make every effort to resolve the complaint with the college representative against whom the complaint is made. These efforts must be made within twenty (20) days after the date the student knows, or should reasonably know, about the problem.

If the student cannot resolve the complaint, the student must go to the immediate supervisor of the college representative being complained of in a continuing effort to resolve the complaint.

For more information, see the College Grievance Officer or phone (714) 432-5941.

Non-Discrimination Policy
It is the policy of the Coast Community College District to provide all persons with equal employment and educational opportunities regardless of race, color, gender, sexual orientation, national origin, religion, age, disability, or marital and Vietnam-era status.

Plan de No-Descriminación
La póliza del Distrito de Coast Community College es de proveer a todas las personas igualdad de oportunidades de empleo y educación sin tener en cuenta su raza, color, sexo, país de origen, religión, edad, impedimento físico, estado civil o que hayan servido o no durante la era del Vietnam.

Chính Sách Bất Ký Thi
Chính sách của Coast Community College District là cung cấp cơ hội công đều cho tất cả mọi người trong các lĩnh vực giáo dục và công ăn việc làm, bất kể các khuyết điểm về chứng tộc, màu da, giới tính, khuyết tật, tình dục, người gốc quốc gia, tôn giáo, tuổi tác, sự tác hại, tính trạng gia đình, hay vai trò của mình trong thời kỳ chiến tranh Việt Nam.

Parking Permits
A registered student may purchase a parking permit for $20 each semester and $10 for summer session. The permit is valid at Orange Coast College and Golden West College. Alternatives to the parking permit are metered parking, which costs 25 cents for one hour, at most meters, and temporary parking permits available at the ticket dispensers.

Parking spaces are available on a first-come, first-served basis. The Coast Community College District and Orange Coast College accept no liability for vandalism, theft, or accidents; students use the parking facilities at their own risk.

For more information, complete parking rules and regulations are available at the campus safety building in the theatre parking lot. (714) 432-5017.

Sexual Harassment
Sexual harassment is offensive, unwelcome sexual attention. It may be pressure for dates or sexual favors, suggestive gestures or remarks, touching, or even actual or attempted rape or assault. Sexual harassment is a form of sex discrimination which violates Title VII of the Federal Civil Rights Act of 1964 as amended; Title IX of the Education Amendments of 1972; California state law; and the Coast Community College District policies. If you feel you are being sexually harassed and would like clarification, please contact the Student Services Office for an informational brochure on the options available to you. If you would like to discuss your concern with an Administrator, please contact either the Vice President for Student Services or the College Grievance Officer. If contacted, either Administrator is required by law to conduct an investigation of the alleged charges.

Student Due Process Procedure
If charges are brought against a student by another student or by a representative of the college, that student should get information about the college’s due process procedure from the Student Services Office. The due process procedure guarantees fair and reasonable treatment of all concerned parties. Our college is bound by the laws of State of California, the California Education Code, and the policies and procedures of the Coast Community College District.

Student Code of Conduct
Students enrolled at Orange Coast College assume an obligation to conduct themselves in accordance with the laws of the State of California, the California Education Code, and the policies and procedures of the Coast Community College District. The Code of Conduct has been established by the Coast Community College District Board of Trustees to provide notice to students of the type of conduct that is expected of each student. Being under the influence of drugs and/or alcohol or the existence of other mental impairment does not diminish or excuse a violation of the Code of Conduct.

An Orange Coast College student found to have violated any of the following regulations that are District or campus related will be subject to the maximum sanction of expulsion.

- Aiding, abetting or inciting. (3.1)
- False report of emergency. (3.2)
• Any action which results in serious injury or death. (3.3, 3.10)
• Infliction of mental harm upon any member of the District community. (3.4)
• Possession of weapons. (3.5)
• Rape/sexual assault. (3.6)
• Sale of Alcohol or Narcotics. (3.7, 3.8)
• Repeat Suspension. (3.9)

An Orange Coast College student found to have violated any of the following regulations which are District or campus related may be expelled, placed on probation, or given a lesser sanction.

• Abusive behavior. (4.1)
• Assault/battery. (4.3)
• Cheating/plagiarism. (4.4)
• Continued misconduct. (4.6)
• Damaging or stealing library materials. (4.22)
• Destruction of property. (4.7)
• Discrimination. (4.8)
• Disruption of the educational process. (4.9)
• Disruptive behavior. (4.10)
• Disturbing the peace. (4.11)
• Failure to appear before a district official when directed to do so. (4.12)
• Failure to comply or identify. (4.13)
• Failure to obtain permits before participation in an organized protest. (4.14)
• Failure to repay debt or return district property. (4.15)
• Fighting. (4.16)
• Forgery. (4.17)
• Gambling. (4.18)
• Harassment. (4.19)
• Hateful behavior. (4.20)
• Lewd conduct. (4.21)
• Misrepresentation. (4.23)
• Misuse of college identification. (4.24)
• Possession of alcohol or narcotics. (4.25, 4.26)
• Sexual harassment or the threat of sexual assault. (4.27, 4.30)
• Smoking where prohibited. (4.28)
• Theft. (4.29)
• Unauthorized entry or trespass. (4.31)
• Unauthorized possession of property. (4.32)
• Unauthorized tape recording or use of electronic devices. (4.33, 4.36)
• Unauthorized use of alcoholic beverages. (4.34)
• Unauthorized use of District keys. (4.35)
• Unauthorized use of property or services. (4.37)
• Unreasonable demands. (4.38)
• Violation of District computer usage policy, computer theft, or other computer crime. (4.39)
• Violation of driving regulations. (4.40)
• Violation of health and safety regulations. (4.41)
• Violation of local, state, or federal law, or violation of posted District rules. (4.42)

Copies of the Coast Community College District Student Code of Conduct and Disciplinary Procedures which includes complete definitions of the above violations are available in the Office of the Dean of Student Services.

About this Catalog
This publication must be prepared well in advance of the time period it covers; therefore, changes in some programs and policies may occur. Courses as described are subject to change without notice and some listed courses are not offered each year. In addition, some courses or programs that are offered may have to be cancelled because of insufficient enrollment, elimination or reduction in programs or for any other reason considered sufficient by the College President or designee. Any questions about courses or programs listed in this catalog should be directed to the Counseling office.
We want to make your enrollment at Orange Coast College as easy as possible. It begins when you complete and file an application form in the Admissions Office, either in person, by mail or by our internet web site.

New students take placement tests in English, reading and math. These tests are designed to help the student select courses which will lead to academic success.

Placement testing is followed by an orientation and counseling session. Counselors help with the selection of appropriate courses and provide the permit to register.

These activities are followed by the actual registration process: signing up for classes and paying fees.

If a choice of a major is any one of the many allied health career programs, students go through a special admission process in addition to the activities described above. Additional information may be found in this section.
Entrance Requirements

Admission to Orange Coast College is granted to those applicants who meet one of the following requirements:

- High school graduation.
- Certificate of Proficiency or a G.E.D. from the State of California.
- Attainment of 18 years of age and who, in the judgment of college officials, is capable of profiting from instruction at our college.
- Enrollment in the 11th or 12th grade and recommendation for advanced academic or vocational college level study.

Students enrolled as 11th or 12th grade students may enroll for courses at Orange Coast College under provisions of the Education Code, sections 76001 or 76001.5, and in accordance with the district’s policy and the following guidelines:

- Students must be enrolled as 11th or 12th grade students at their schools.
- The course is an advanced academic or vocational experience for the student and not available at their regular school.
- Students must have letters of permission, signed by the principal or the designee of their school, recommending the specific course or courses.
- Students who have not completed the tenth grade may inquire through the appropriate Division office regarding their eligibility for specific advanced coursework. If approved, the student and their parent(s) must obtain the permission of the respective Division Dean and faculty and attend an appointment scheduled through the Office of the Administrative Dean of Admissions and Records.

Application

An application for admission is required for all students. Application forms may be accessed through the OCC website at www.orangecoastcollege.com, picked up in person or obtained by writing to this address:

Orange Coast College
Admissions Office, Room 107
2701 Fairview Road, Box 5005
Costa Mesa, California 92628-5005

Transcripts

If you have completed English or mathematics course work at another college or university, you must submit those transcripts for evaluation to the Admissions or Matriculation Office before enrolling in any course with an English or mathematics prerequisite. College transcripts are also required for the Associate of Arts Degree (A.A.), Certificates of Achievement, transfer certification, and advisement. Orange Coast College reserves the right to evaluate work completed at other colleges. Official student transcripts of records from other institutions become the property of Orange Coast College. Students with transcripts from countries outside the United States must first submit their transcripts to an evaluation service. Please contact the Counseling Office for information regarding these services.

Priority Registration Policy

The Coast Community College District is committed to the philosophy that all students should have fair and equitable access to courses and programs within the resources of each college and in accordance with State Education Code, Title 5 provisions and guidelines adopted by the Board of Governors. Further, the District believes that students should be able to progress toward their stated educational objective in a timely manner.

The primary mission of the District colleges is to provide transfer and vocational courses and programs. Therefore, priority is extended to matriculated students who have demonstrated progress toward their declared educational objectives, the completion of their transfer requirements, and/or the completion of a degree or vocational certificate.

Enrollment priority is the process used to determine the order in which students will have the opportunity to register for classes. Recognizing that each college serves a unique student population that may have differing needs, the development of specific registration priorities will be done at the college level in accordance with District procedures.

Contact the Administrative Dean, Admissions and Records for additional information.

Matriculation

The purpose of matriculation is to ensure access to programs and courses for all students who can benefit, and to facilitate successful completion of each student’s educational objectives.

On the college’s part, the matriculation agreement includes providing an admissions process; orientation to college programs, services and procedures; pre-enrollment assessment and counseling; advisement and counseling for course selection; a suitable curriculum or program of courses, and continuous follow-up of student progress with referral to appropriate support services when needed.

On the student’s part, the agreement calls for an expression of at least a broad educational intent at entrance and the willingness to declare a specific educational objective within a reasonable period of enrollment. Diligence in class attendance, completion of assigned coursework and maintenance of progress toward an educational goal is expected.

Course Prerequisite, Corequisite and Advisory on Recommended Preparation

A "prerequisite" is a course you are required to complete with a "C" or better, or a skill you are required to have before you enroll in another course. A "corequisite" is a course you are required to take at the same time you are enrolled in another course. All prerequisites and corequisites are designed to ensure you have the skills or information you need to succeed in the course. These requirements are established in such a way that without meeting them you are not likely to receive a passing grade in the course. A prerequisite or corequisite may also be necessary to protect your health and safety or the health safety of others.
An "Advisory on recommended preparation" (listed as "Recommended Preparation") is a course or skill you should have before you enroll in another course. This is advice offered to you by the faculty who teach these courses, and it should be followed if you want to do well. However, unlike a prerequisite or corequisite, "Recommended Preparation" is not required.

Course Prerequisite and Corequisite Challenge Process

A prerequisite and corequisite challenge requires the student to provide written explanation and documentation of alternative course work, professional or educational background, or demonstrated abilities which adequately prepare the student for the course. A Prerequisite Challenge Form can be obtained from the appropriate Division office. Students must follow the directions on the challenge form.

The student must file the prerequisite/corequisite challenge form not less than two weeks prior to the first day of instruction. The college will respond within five working days to the student’s challenge. If the college fails to do so, the student must be admitted to the class that has the prerequisite and/or corequisite by the first day of the semester, providing that the course section was open on the date the student filed the challenge.

Reasons for seeking a prerequisite/corequisite challenge form may include one or more of the following:

1) A prerequisite/corequisite course has not been reasonably available or offered during the past two years.

2) The prerequisite has been established unlawfully, is unlawfully discriminatory, or is being applied in a discriminatory manner.

3) The student has the documented knowledge or demonstrated ability to succeed in the course without having completed the prerequisite/corequisite course.

A grade lower than a "C" in a prerequisite course may NOT be challenged through this process.

Decisions on challenges of prerequisite/corequisite course listings will be made by a committee of two college instructional staff members, at least one of whom will be a faculty member, knowledgeable about the discipline, but not the faculty member assigned to teach the course section for which the challenge is being made.

Placement Test Requirements

Testing for placement in English, ESL and mathematics is mandatory prior to enrolling in an English, ESL or math class. You may not register in a level higher than what is indicated for you on your test results. If you believe you can successfully complete a course above the level indicated to you, you may submit an appeal to the Literature and Language Division Dean for English or ESL. Appeals regarding mathematics may be made at the Mathematics and Science Division Office. Any appeal must be made before you have enrolled in the placement course and begun taking the class. All placements are based on both test results and student background data.

If English is not your native language and you have taken the regular English Placement Test, your placement may not be accurate for you. The regular English test may not accurately measure the reading, writing and speaking skills of non-native speakers. If English is not your native language, you should make an appointment to take the ESL Placement Test, which can correctly place you in ESL courses or in regular English courses.

To take any placement test or the English, ESL or math test, go in person to the Assessment Center in the Special Service Building or call 714/432-5789.
Admission to School of Allied Health Professions

Enrollment is limited in the health science training programs for several reasons:

- Various health care team members must have specific aptitudes and qualifications.
- Training in any health care area should be for an identified community need.
- Available clinical affiliations are limited.

General Program Requirements for All Programs

Enrolling in Allied Health 010 is the best way to apply for admission to one of the following programs:

- Cardiovascular Technology
- Electrocardiography
- Echocardiography
- Vascular Ultrasound
- Dental Assisting — Registered
- Diagnostic Medical Sonography
- Dietetic Technician/Nutrition Care
- Medical Assisting
- Medical Transcription
- Neurodiagnostic Technology
- Polysomnography
- Radiologic Technology
- Respiratory Care

In addition, all students must prove the following:

- That they have adequate financial support so that they do not jeopardize their academic achievement and weaken their clinical experiences by extensive outside employment.
- That they are in good physical and mental health. (A physical examination will be required before entering clinical experience.)
- That they have the required ability, as shown by their successfully completing appropriate tests. (The tests are taken in Allied Health 010 or by arrangement.)
- That they have adequate financial support so that they do not jeopardize their academic achievement and weaken their clinical experiences by extensive outside employment.

During clinical experience, students must adhere to the dress code of the program/clinical site and wear identification name pins. Students must have reliable means of transportation to off-campus clinical affiliates. Physical examination and blood testing is required for all programs; vaccinations may be required when indicated. Some areas in allied health may require criminal background checks prior to licensing/certification exams and employment.

OCC Fees

California legislation requires the college to charge student enrollment fees. Student fees are:

- Enrollment fee of $11 per unit (at time of publication) for students meeting California residency requirements.
- $20 parking permit
- $11 health service fee
- $12 College Services charge*
- $2.50 Student Photo I.D. card (replacement charge only)
- Material fees as listed in the current class schedule

Students not meeting California residency requirements are required to pay $130 per unit in addition to the $11 per unit enrollment fee. Students who are citizens and residents of other countries are required to pay an additional $10 per unit capital outlay fee. All fees quoted are at time of publication and are subject to change without notice.

Student Health Center services include no-cost visits with doctors, registered nurses, and the mental health team, in addition to other services at reduced rates.

The student health service fee is mandated unless students present a waiver prior to registration. Those eligible for a waiver are:

- Recipients of SSI/SSP, AFDEC, or General Assistance. For more information, phone (714) 432-5508.
- Recipients of BOGG-A, B, or C. For more information, phone (714) 432-5508.
- Students who depend solely on prayer for healing in accordance with the teachings of a bona fide religious sect, denomination, or organization. For more information, phone (714) 432-5730.
- Students in courses of less than two weeks duration.

* The college services charge provides services and benefits, e.g., the Library Computer Lab, Bookstore buyback, Edwards Cinema discounts, free tutoring, interest-free emergency loans, student activities, and legal advice. Students may present their request for waiver of the college services charge to the Student Services Office prior to registration.

In accordance with regulations of the Board of Governors of the California Community Colleges, Title 5, California Administrative Code, Section 59400 et seq., the Coast Community College District shall provide free of charge to students all instructional materials, except for the following materials which the student may purchase from the district at cost or may be provided through the student’s own means.

- Optional Instructional Materials: Materials used to enhance the student’s learning experience in the classroom, but that are not essential to the completion of course objectives.
- Required Instructional Materials: Materials required to complete the objectives of the course and that are tangible property of continuing value outside the classroom which the student will retain.

The college shall have the discretion to either charge or not charge a fee for instructional materials of the types indicated above. Such fees will cover actual district costs. Students may choose to provide the materials in lieu of paying the fee.

Refund Policy

According to state regulations, to be eligible for a refund students must withdraw from each course before 10% of the course is completed. All official withdrawals by the deadline will be credited to your OCC registration.
account. OCC student ID must be presented to a Registration representative to receive a refund in person. Students who register telephonically are obligated for all fees incurred unless they drop by the refund/fee cancellation date.

1. To be eligible to receive a refund you must officially withdraw from classes by the deadline date printed on your student program. You may do this in person, through the mail or over the Touch-tone System (714) 438-8222. If withdrawing through the mail, please be sure your envelope is postmarked ON OR BEFORE THE REFUND DEADLINE.

   If you wish someone to withdraw you from your courses and receive your refund, the person you designate must present written authorization to the registration clerk and they must present some form of photo identification.

2. If you are withdrawing from all your classes and wish to receive a refund for ALL fees, you must do the following ON OR BEFORE THE DEADLINE DATE, for each of the courses being dropped.

   A. Withdraw from classes
   B. Return Parking decal (if purchased) in person, or mail postmarked by all class refund deadlines
   
   Please Note: The student ID Card is NON-REFUNDABLE after the card is issued.

3. If you are withdrawing partially (i.e. one or two classes):

   You will be eligible for refund only for enrollment and material fees for classes dropped by each class deadline.

4. Fees Paid by Check:

   When fees are paid by check, you must meet all criteria set forth in items listed above. Further, in order to receive you refund money, 30 days must pass from the time the check was posted to your registration account OR you must present proof that the check has been cleared by your bank (canceled check or bank photocopy).

   STOPPING PAYMENT ON A CHECK DOES NOT CONSTITUTE AUTOMATIC WITHDRAWAL from class. A check returned from the bank for any reason is subject to a $15.00 service charge.

4B. FEES PAID BY CASH OR DEBIT CARD (must meet all criteria set forth in Items 1-2 above) Refunds will be issued in cash. Refunds exceeding $250 will be made by check.

4C. FEES PAID BY CREDIT CARD (must meet all criteria set forth in Items 1-2 above)

   a. Fees paid by credit card over the touch-tone system:
   
   You may submit your request for a refund by mail or come into the Registration Office in person. We will need both the credit card numbers and the expiration date of the card you used for paying your fees.
   
   b. Fees paid by credit card through the mail or in person:
   
   You may submit your request for a refund by mail or come into the Registration Office in person. You must present the ORIGINAL CREDIT CARD RECEIPT received at the time of payment, or your credit card statement showing the original charge.

5. Cancelled Classes:

   Fees paid at registration for the canceled class will be refunded if Orange Coast College cancels a class. The student must come in to the Registration Office to pick up the refund, or make written request for it to be mailed.

6. REFUNDS ARE NOT AUTOMATICALLY MAILED TO YOU.

   Requests for refunds must be submitted in person or by mail. Cash refunds are limited to $250. Refund form previous semesters and those over $250 must be mailed and may take approximately 4-6 weeks for the time of eligibility to process.

Residence Requirements

California Residence

Any person satisfying all requirements may attend Orange Coast College regardless of the city in which they live. Only persons meeting California residency requirements are exempt from out-of-state tuition.

California Residence: Generally California residence is established by one of the following:

1. If the applicant is under the age of 18, his or her parents must have had legal residence within the State of California for 12 consecutive months preceding the day before the first day of the semester.

2. If the applicant is 18 but not yet 19 years of age, the applicant and the applicant’s parents must have had legal residence within the State of California for 12 consecutive months preceding the day before the first day of the semester.

3. If the applicant is 19 years of age or older, the applicant must have residence within the State of California for 12 consecutive months preceding the day before the first day of the semester. If the applicant’s parents or legal guardians reside out-of-state, the student must meet requirements for financial independence. (See Non-California Residents #4).

4. A non-citizen holding a visa that does not preclude the student from establishing residency in California must have legal residence in California for 12 consecutive months preceding the day before the first day of the semester.

It is the responsibility of all students to maintain an accurate address on file with the Admissions and Records Office.

Non-California Residents: An individual who does not meet the California residency requirements may be admitted under the following conditions:

1. Students who are not residents of California as of the day immediately preceding the first day of the semester or summer session will be required to pay non-resident tuition.

2. Active military personnel are exempt from non-resident tuition fees provided they are in California for a purpose other than attending a state-supported institution of higher learning.

3. Dependents of active military personnel are granted a one-year exemption from paying the non-resident tuition fee. The one-year period begins on the day the dependent enters California. After the exemption period has ended, dependents will be charged non-resident tuition unless they have met the residency intent and durational requirements for a one-year period prior to the residency determination date.
4. Minors (under 18 years of age and not married) will be required to pay the non-resident tuition fee if their parents or legal guardians reside outside the state even though such minors may have lived in the State of California for one year or more.

5. Students who are financially dependent on their parents or legal guardians will be required to pay non-resident tuition if their parents' or legal guardians' residence outside the state even though such students may have lived in the State of California for one year or more.

6. Students holding visas which preclude them from establishing residency in California may be restricted in their enrollment and will have to pay non-resident tuition. In addition, alien students with visas who are citizens and residents of another country are required to pay an additional per unit capital outlay fee.

**International Students**

OCC is authorized by the United States Immigration Naturalization Service to enroll International Students (F-1).

The faculty, students and staff of OCC believe that our international students provide an ethnic and cultural diversity to the campus and help increase the awareness and understanding of students from other countries and cultures. Conversely, we provide an opportunity for our international students to study in the United States and learn about us and our culture. If you join in our college activities, enter into class discussions and let us get to know you, we know that our lives and country will be enriched. Hopefully, yours will be too.

Interested international students should request applications for admission from the International Center, Orange Coast College, P.O.Box 5005, Costa Mesa, California 92628-5005 or by visiting the International Center website at: www.occ.cccd.edu/departments/studentsvcs/intstudents/index1.html.

The following are entrance procedures for international students requesting F-1 status:

- Our rolling admissions process allows for acceptance to OCC during the Fall, Spring and Summer terms. Applicants outside the U.S. should apply at least two months prior to start of the term. Approximate start dates: Fall in mid-August, Spring in mid-January, and Summer in early June. We recommend early application for the best selection of classes and acceptance in the student’s preferred semester of entrance.

- International applicants must complete an international student admission application and file that application with the International Center. A $30 application fee, in U.S. dollars must be submitted with the application.

- All evidence of academic achievement, which is equivalent to high school graduation or higher, must be submitted. The transcripts of the original records must be accompanied by a notarized English translation.

- All applicants must demonstrate knowledge of the English language sufficient to enable them to profit from instruction. A score of 500 on the Test of English as a Foreign Language (TOEFL) or for applications in the U.S., a Level 5 placement on the College’s English Assessment Test (EAT) is required for admission. To make arrangements to take the TOEFL, write to TOEFL, Educational Testing Service, P.O.Box 592, Princeton, New Jersey 08540. International Students must designate Orange Coast College (Institutional Code 04584) as the recipient of the test results.

- When available, International students must submit all prior college transcripts along with a notarized English translation of completed courses and their grades. International applicants must present satisfactory statements about their character, background and experience. They must include a current statement of financial support.

- International students must maintain health insurance during their entire course of studies at OCC through the college carrier meeting the minimum requirements.

- International students must complete 12 or more units each semester with a 2.0 grade point average while pursuing their selected academic goal.

- The Immigration and Naturalization Service (INS) restricts international students from employment. International students must get approval from the INS and the International Center’s Immigration Technician before they can be legally employed on or off campus.

- International students pay non-resident tuition during their entire attendance at Orange Coast College.

- Admission materials received from international applicants remain active for twelve (12) months after their submission. If the international applicant does not register during that 12-month period, the materials are destroyed.

**Students with Visas**

Students with the types of visas listed below, otherwise eligible for admission, may enroll for a maximum of 6 units provided they are proficient in English and have visas that do not expire before the end of the term for which they are enrolling.

A—Career Diplomat

B—Visitor

E—Foreign Investor

G—International Treaty Organization Representatives and Dependents

H—Temporary Worker and Dependents

I—Foreign Press

J—Exchange Visitor

K—Fiance(e)

L—Intra-Company Transferee and Dependents

A student who is precluded from establishing domicile in the United States shall not be classified as a resident unless and until he or she has been granted a change in status by the Immigration and Naturalization Service to a classification which permits establishing domicile and has met other residency requirements.
Veterans, Active Duty
Military and Credit for Military Training

Orange Coast College is approved for training veterans under all applicable laws. The college helps veterans by cooperating with the Veterans Administration and the California State Department of Veterans Affairs. Orange Coast College is a Servicemen Opportunity College (SOC) and establishes policies and programs for educating veterans and active-duty military personnel.

Veterans who were on active duty more than 180 days from February 1, 1955, through December 31, 1976, are eligible for veterans' benefits under the G.I. Bill. Those who entered the service on or after January 1, 1977, may be eligible for benefits under the contributory plan: Veterans may be entitled to 1 1/2 months of educational assistance for each month, or fraction thereof, that they served, to a maximum of 36 calendar months. In almost all cases, a veteran’s education must be completed within 10 years from the veteran’s date of discharge.

Some benefits are available for active-duty personnel. Those personnel must be attending college on their own time and must have served at least two years.

Orange Coast College recognizes and grants academic credit to veterans for eligible military service and training credit completed in the armed forces. Orange Coast College reserves the right to evaluate and grant credit based on the academic policies established at OCC. Veteran’s may apply for evaluation of this credit by presenting authentic military service and training records of the Veteran’s Clerk, including a copy of discharge papers. Awarded credit will be applied once the student has completed 12 units at Orange Coast College. Credit earned for military training may count toward satisfying requirements for the Associate of Arts (A.A.) Degree; however, under no circumstances will OCC graduate a veteran who has not completed 12 units of Orange Coast College coursework.

Transfer to Other Colleges

Students can complete up to two years of coursework at Orange Coast College before transferring to another college or university. Many programs are available which qualify students for junior standing in most four-year colleges and universities in the United States. Students planning to transfer should consult the catalog of the college or university in which they are interested. With a counselor’s assistance, students can select Orange Coast College courses which satisfy the lower division requirements of that college or university.

Catalogs of schools, colleges and universities are available in the Counseling Center, the Transfer Center and in the library. Also, be sure to see the Transfer Information section of this catalog.

Upon request, a transcript from OCC will be sent to another college or university. Two transcripts of record are provided free. Each additional transcript or verification of record costs $3.

Study Load and Student Classification

The average student, enrolled full-time in classes at Orange Coast College, carries 15 units during a semester. This load requires most students to spend 40-45 hours each week preparing for and attending classes. The college recommends that entering freshmen carrying a full academic load (15 or more units) plan to work no more than 12-16 hours each week. Students having a poor high school record—below a “C” average—probably should work no more than 6-8 hours each week.

No student may carry more than 19 units during a semester; 9 units during summer; or 3 units during intersession without the permission of the Dean of Counseling Services. Students are classified as follows:

Freshman—

A student who has completed fewer than 30 units.
Sophomore—
A student who has completed 30 or more units.

Part-time—
A student carrying fewer than 12 units.

Full-time—
A student carrying 12 or more units.

Remedial Coursework
Limits
No more than 30 semester units of course credit may be assigned to a student for remedial coursework except when the student is enrolled in one or more courses in English as a Second Language or is identified as having a learning disability. This limit may be waived if the student can show significant, and/or measurable progress toward the development of skills appropriate to enrollment in college-level courses. Students needing remedial instruction beyond the course credit restrictions set forth in this section shall be referred to appropriate non-credit adult basic education programs conducted by an adult school.

Alternate Methods of Study and Course Credit
Orange Coast College recognizes work taken at other accredited colleges. Additionally, college credit is awarded in the following areas:

Credit by Examination
Students who have completed one semester with a minimum of 12 units at Orange Coast College, with a cumulative grade point average of at least 2.4 ("C+") by examination for courses listed in the college catalog may petition for credit by examination for courses listed in the college catalog.

Procedure - To earn credit by examination, follow these steps:
1. Get a petition from the Counseling Office.
2. Contact the appropriate Division Office for a petition approved by the instructor who sets the requirements to be met by the student.
3. Have the petition approved by the Director of Admissions and Records.
4. Fulfill the requirements so that the instructor can certify the final grade earned.

Students should not enroll in the course to be taken as credit by examination. Earned course credit is identified on the students' transcript and designated as "Credit by Examination." Units earned by examination will not be counted toward the 12 units in residence at the college as required for the Associate in Arts Degree. Units for credit by examination are excluded from enrollment verifications.

CLEP – College Level Examination Program
Orange Coast College grants a maximum of 24 units for any combination of CLEP general exams and subject exams, using as minimum standards a score at or above 500 on the general exams and 50 on the subject exams, and 50 for all CLEP computer-based exams. CLEP scores count toward graduation requirements at OCC under General Education Option 1 or Option 2 but are not used to certify general education requirements for transfer. CLEP credit granted at OCC does not transfer to other colleges. The respective college or university determines eligibility for CLEP units, according to their policies. CLEP scores must be submitted for evaluation directly to the college or university where the student requests credit. The University of California does not grant credit for CLEP exams. The California State University will accept some CLEP exams; however, policies including exams accepted and scores required, differ on each campus. CLEP policies for each four-year college can be found in their catalogs.

Students may request CLEP credit through the Records Office. Exam results and units granted are posted on the student’s transcript after completion of 12 units of course work at OCC. Credit for CLEP exams is granted as follows:

A. General Examinations:
   Option 1:
   - English Composition – 3 units in Area A1 and 3 units of elective credit
   - Humanities – 3 units in Area C1 and 3 units of elective credit
   - Mathematics – 3 units in Area A2 (also meets math graduation requirement) and 3 units of elective credit
   - Natural Science – 6 units in Area B
   - Social Science – 3 units in Area D2 and 3 units of elective credit

   Option 2:
   - English Composition – 3 units in A2 and 3 units of elective credit
   - Humanities – 3 units in Area C1 and 3 units in Area C2
   - Mathematics – 3 units in Area B3 and 3 units of elective credit
   - Natural Science – 3 units in Area B1 and 3 units in Area B2 (does not meet lab requirement)
   - Social Science – 3 units in Area D (does not meet American history and political science requirement) and 3 units of elective credit

B. Subject Examinations:
   3 units of credit are granted in the discipline for each Subject Examination and meet elective credit or subject area requirements in both Option 1 and Option 2 for graduation purposes.

Please see a counselor for other kinds of standardized college-level examinations. For more information, call the Testing Office, (714) 432-5789.

Credit by Advanced Placement
Orange Coast College grants academic credit towards an Associate Degree (A.A.) for successful completion of examinations of the Advanced Placement Program of the College Entrance Examination Board. Students may apply for this credit by presenting official test scores to the Records Office. Advanced Placement credit is granted at OCC according to the following policies:
1. Course credit granted for Advanced Placement Examinations can be used to meet OCC general education requirements for an A.A. degree under General Education Options 1, 2 or 3.

2. Course credit earned through Advanced Placement Examination can be used to certify general education requirements for transfer to UC under Option 3 (Intersegmental General Education Transfer Curriculum). AP credit can be used to certify general education for transfer to CSU under Option 2 (CSU General Education Breadth) or Option 3 (IGETC). Students certified using Option 3 can satisfy only one course requirement per exam on the IGETC.

3. Posting of Advanced Placement credit on the OCC transcript does not transfer to other colleges. The respective college or university determines eligibility for AP units, according to its policies. AP scores must be submitted for evaluation to the college or university where the students requests credit. Students planning to transfer should consult the catalog of the transfer institution to determine how AP credit is granted at that school.

4. Students are not given duplicate credit for college courses and exams.

Students should request Advanced Placement credit through the Student Records Office. Exams and courses for which credit is granted will be posted on the student’s transcript after completion of 12 units of course work at OCC as follows:

<table>
<thead>
<tr>
<th>EXAMINATION</th>
<th>SCORE</th>
<th>UNITS</th>
<th>COURSE</th>
</tr>
</thead>
<tbody>
<tr>
<td>ART (STUDIO)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>General Portfolio</td>
<td>3</td>
<td>3</td>
<td>Art 110</td>
</tr>
<tr>
<td>ART (HISTORY)</td>
<td>3</td>
<td>6</td>
<td>Art 100 &amp; 101</td>
</tr>
<tr>
<td>BIOLOGY</td>
<td>3</td>
<td>4</td>
<td>Biology 100</td>
</tr>
<tr>
<td>CHEMISTRY</td>
<td>3</td>
<td>5</td>
<td>Chemistry 110</td>
</tr>
<tr>
<td>ECONOMICS</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Macroeconomics</td>
<td>3</td>
<td>3</td>
<td>Economics 180</td>
</tr>
<tr>
<td>Microeconomics</td>
<td>3</td>
<td>3</td>
<td>Economics 185</td>
</tr>
<tr>
<td>ENGLISH</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Composition &amp; Lit</td>
<td>3</td>
<td>3</td>
<td>English 100</td>
</tr>
<tr>
<td>Language &amp; Comp</td>
<td>3</td>
<td>3</td>
<td>English 100</td>
</tr>
<tr>
<td>FOREIGN LANGUAGE</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>French Lang</td>
<td>3</td>
<td>5</td>
<td>Fren 185</td>
</tr>
<tr>
<td>German Lang</td>
<td>3</td>
<td>5</td>
<td>Ger 185</td>
</tr>
<tr>
<td>Spanish Lang</td>
<td>3</td>
<td>5</td>
<td>Span 185</td>
</tr>
<tr>
<td>GOVERNMENT/POLITICS</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Comparative</td>
<td>3</td>
<td>3</td>
<td>Pol Sci 185</td>
</tr>
</tbody>
</table>

HISTORY

|                      |       |       |                    |
| American             | 3     | 6     | Hist 170 & 175     |
| European             | 3     | 6     | Hist 180 & 185     |

MATHMATICS

|                      |       |       |                    |
| Calculus AB          | 5     | 5     | Math 180           |
| Calculus BC          | 3     | 5     | Math 180           |
| Calculus BC          | 5     | 5     | Math 185           |

MUSIC

|                      |       |       |                    |
| Listening & Literature | 3  | 3  | Music 100         |
| Theory                | 3     | 3     | Music 115          |

PHYSICS

|                      |       |       |                    |
| Physics B            | 3     | 4     | Phys 110 & 111     |
| Physics C1 (Mech.)   | 3     | 4     | Physics 120        |
| Physics C2 (Elect. & Magnetism) | 3 | 4 | Physics 125 |

PSYCHOLOGY

|                      |       |       |                    |
| Psychology           | 3     | 3     | Psychology 100     |

Assessment of Prior Learning (APL)

Prior Learning is learning acquired on the job, through self-study, in-service training, trade or private schools, self-employment, and home and community experience. Assessment means that Orange Coast College evaluates and may grant college credit for prior learning.

Before acceptance into the APL program, the student must have an educational goal toward which the credits will apply, such as earning a degree or a certificate, or transferring to a four-year college.

A strong background of skills and knowledge that encompasses several academic or vocational areas is essential.

The number of units received depends on the equivalent documented experience and learning evidence, as well as on the number of units required to graduate or to earn a certificate.

The transferability of APL credit is determined by four-year colleges and universities according to their policies.

Students may earn up to 30 units through APL.

After acceptance into the APL program, the student will prepare a portfolio detailing and documenting work, life and learning experiences. This portfolio ordinarily takes two semesters to complete. When the portfolio is complete, it is submitted to a faculty evaluation team who will make the final decision about awarding credits for prior learning. There is a $700 fee for this program, due after completion of the portfolio and upon submission for evaluation.

To apply for admission into the Assessment of Prior Learning Program, call the APL office in the Counseling Center, (714) 432-5959 or e-mail to apl@mail.occ.cccd.edu.

Learning Contract for Independent Study

This is an alternative method of college study. If the instructor and the Division Dean approve, a student may take any course in the Orange Coast College catalog on a contract basis. The number of units received and the prescribed hours of study follow the approved catalog description. Two kinds of independent study exist at Orange Coast College:

Contracted Studies

A student who, for one reason or another, cannot attend a class or classes may negotiate Independent Study Contract by following these procedures:

1. Get a Learning Contract from the particular division office.
2. Get the permission of the instructor and ask the instructor to specify in detail the context of the contract the way the student will master the study area and the criteria for evaluation.
3. Have the instructor and Division Dean approve the contract.
4. Take the contract personally to the Records Office if the contract is approved. The Records Office will officially enroll the student in the course.
5. After the student completes the coursework, the instructor will certify the earned grade. The Records Office will then record the grade on the student’s transcript.
Directed Studies

A student may take advanced coursework in a field of study after having completed the introductory courses. Most departments offer a set of directed study courses numbered 291AD-295AD. In unusual cases, students may enroll in directed studies without completing the pertinent beginning courses. Directed studies students must have the instructor fill out a Learning Contract for Independent Study and have it approved by the Division Dean. Follow the procedures given under contracted studies.

Course No. Units Clock hours per semester
291AD 1 054
292AD 2 108
293AD 3 162
294AD 4 216
295AD 5 270

A maximum credit of 3 units per term, 6 units total, in otherwise transferable subject areas is allowed. The granting of transfer credit for courses of this kind is contingent upon a review of the course outline by a University of California or California State University campus.

Study Abroad Program

As part of the curriculum, the Coast Community College District sponsors a study abroad program for students who would like to enroll in a full schedule of classes while exploring a foreign culture in a location abroad. These educational opportunities, led by district faculty, include studies in art, foreign language, humanities, literature and science with fully transferable college credit. Included are semester programs in Costa Rica, Spain, France, Italy, and England, as well as summer programs in France, Italy, Ireland, and Spain. The Study Abroad Program is administered by the District Office of International Education. For information call (714)438-4704.

Military Study Programs

Orange Coast College recognizes and grants academic credit to veterans for eligible service and training completed in the armed forces. Orange Coast College reserves the right to evaluate and grant credit based on the academic policies established at OCC. Veterans may apply for academic credit earned through military service and training by presenting authentic military service and training records, including a copy of discharge papers, to the Veteran’s Clerk. Awarded credit will be applied once the student has completed 12 units at Orange Coast College. Credit earned for military training may count toward satisfying requirements for the Associate of Arts (A.A.) Degree; however under no circumstances will OCC graduate a veteran who has not completed 12 units of Orange Coast College coursework.

Professional Secretarial Examination

Up to 30 units may be awarded for the following certificate holders: Certified Professional Secretary, Professional Legal Secretary, and Certified Medical Assistant, Administrative. Credits are posted to transcripts upon completion of 12 units at Orange Coast College.

Licensure Credit for Radiologic Technologist

Forty-five units may be awarded for holders of valid Certified Radiologic Technologist State License (or equivalent agency). Students must show the original license to the office of Admissions and Records in order to be eligible for this credit. Credits are posted to transcripts upon completion of 12 units of credit at Orange Coast College.
Other Licensure Credit

Other licenses issued by the State of California will be considered through the Academic Petition Council procedures as appropriate.

Grades and Grade Points

Performance in courses is indicated by one of seven grades. Five of these grades signify passing work. Each grade and its value in grade points follow:

<table>
<thead>
<tr>
<th>Grade</th>
<th>Significance</th>
<th>Grade Points</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>Failing</td>
<td>0</td>
</tr>
<tr>
<td>CR</td>
<td>Credit; at least satisfactory</td>
<td>(units awarded; not counted in GPA)</td>
</tr>
<tr>
<td>NC</td>
<td>No Credit; not satisfactory or failing</td>
<td>(not counted in GPA)</td>
</tr>
</tbody>
</table>

The grade point average is calculated by dividing the number of grade points by the number of units attempted for the grades of A, B, C, D, F. (CR and NC are not used in this calculation.)

The following non-evaluative abbreviations may be used as defined, but they will not be used when calculating grade point averages:

Abbreviation/Definition

W (Withdraw)
1. Withdrawing from a class is permitted by notifying the Student Records Office in writing or through the Touch-tone System through the last day of the 14th week of the semester or through 75 percent of a course, whichever is less.
2. No notation ("W" or otherwise) is made on the permanent record of a student who withdraws during the first four weeks of the semester or during the first 30 percent of a course, whichever is less.
3. The students are responsible for withdrawing from class within the appropriate time to avoid an unsatisfactory grade, and verifying receipt of withdrawal.

I (Incomplete)
1. If agreed upon between the instructor and the student or, if necessary, by the instructor alone, a student may receive an "I" grade when work in the class cannot be completed.
   a. Most of the academic work must be completed and there must be a justifiable reason for receiving the incomplete.
   b. The condition for removal of the incomplete shall be stated by the instructor in a written record and the college will mail the form to the student.
   c. An incomplete must be made up no later than one year following the end of the term in which it was assigned.
   d. An incomplete not made up within the one-year limit changes to the alternate grade assigned by the instructor when the "I" was given.
   e. A student may not re-enroll in a class in which an incomplete was awarded.

IP (In Progress)
1. The "IP" abbreviation is used only in those courses which extend beyond the usual academic term. The "IP" symbol remains on the student's academic record to document enrollment, but is not used in calculating grade points averages. If a student enrolled in an "open-entry, open-exit" course is assigned an "IP" at the end of a term and does not re-enroll in that course during the next term, the appropriate grade will be assigned.

RD (Report Delayed)
1. The "RD" abbreviation is used only by the Registrar. It signifies a delay in reporting the grade of a student because of circumstances beyond the student's control.

Students who enroll in courses designated "graded or credit option" may request the credit option instead of a letter grade only by completing a request form through the Records Office.

• Students must choose the credit/option no later than the fifth week of a semester-length course or before the completion of 30 percent of the course.
• Before selecting the credit option, students should consult with a counselor. Generally, it is recommended that students select a letter grade in courses satisfying requirements for majors, general education, or a high school course deficiency.
• A maximum of 15 units of credit option coursework earned at an accredited college or university is counted toward the degree requirements of this college.
• Grades of "NC" are considered unsatisfactory for progress probation or dismissal.
• In courses where one performance standard determines unit credit, only a "CR" or "NC" is given.

Grades for Repeated Courses

Students may repeat a course in which they received a NC, D, F or "W" one time only. Only the second grade and units in the repeated course will be counted when determining grade point average. If the course is repeated within the Coast Community College District, a student can request to have the first substandard grade for a repeated course removed from the grade point average calculation, by filling out the Petition to Line Out a "D" or "F" grade through the Records Office.
Course Repetition

For courses in which a "D", "F", "NC" or a "W" were awarded, students may repeat the course one time only at Orange Coast College, Goldenwest College or Coastline Community College, without any special approval. After two unsuccessful attempts, a student's registration in the course is automatically blocked. Students may petition the OCC Academic Petition Council for consideration of a third attempt. Petitions are available in the Counseling Office and should be filed at least two weeks prior to the semester start date.

If grades of "A", "B", "C", or "CR" were received for prior course completions, students may petition the Division Dean of the course discipline to determine if the course is eligible for audit.

If a course is repeated within the Coast Community College District, students may petition the Records Office for grade line-out to have their grade point averages re-calculated to omit the prior unsatisfactory grade(s) of "D" and "F". However, previously recorded coursework will not be removed or otherwise changed on the student's permanent record.

If a grade of "I" (incomplete) is received for a course, a student may not enroll in the course. That course is completed if the student meets the prescribed requirements as set forth by the faculty member issuing the "I" grade.

Repeatability

Courses designated A-B, A-C, A-D may be repeated for credit; however, they may not be taken concurrently. A-B designated courses may be taken twice for credit; A-C courses three time, and, A-D courses four times. A course may be designated as repeatable (AB, AC, or AD) only if,

1. the course content differs each time it is offered

   **AND**

2. the student who repeats the course is gaining an expanded educational experience for one of the two following reasons:

   a. Skills or proficiencies are enhanced by supervised repetition and practice within class periods; or
   
   b. Active participatory experience in individual study or group assignments is the basic means by which learning objectives are obtained.

3. Disabled students may repeat a special education class beyond the four semester limit if it is determined that continued success in other college courses is dependent on additional repetitions of the special education class. Also, students who exceed the four semester limit may do so only if they demonstrate measurable progress according to their educational plan. (Section 56029, Title 5 of the California Code of Regulations.)

Courses designated as repeatable shall show in the course outline how each A-B-C-D segment differs. Students who are unsuccessful (W, D, F, NC) in the first two enrollments in a course are automatically blocked from enrollment in that course.

Associate of Arts Degree

Orange Coast College awards the Associate of Arts degree to students who have met all the general education requirements for graduation. Check with your counselor to determine which general education option you should complete and to obtain a grad check before submitting your graduation petition. The Associate Degree is not automatically awarded. A petition must be filed in the Records Office at the beginning of the semester in which the student completes the final requirements.

Petitioning periods for the Associate Degree are:

- Summer - June 1 through July 15
- Fall - August 15 through October 15
- Spring - December 1 through March 1

Certificate Awards

Orange Coast College offers two types of certificate awards in career programs designed to prepare the graduate to enter a particular field of employment.

1. Certificate of Achievement: Requires 18 or more units in an approved program. Certificates of Achievement are not automatically awarded. A petition must be filed in the Records Office at the beginning of the semester in which you will be completing your final requirements. Petitioning periods are listed below.

2. Certificate of Completion: Approved programs of less than 18 units. Certificates of Completion are not awarded automatically. Petitions are submitted to the Division Office of each specific program. The procedures for each division will vary (please call for details.) Most Division Offices prefer that you complete all of your required courses and then provide them with a copy of your transcripts. Some divisions will allow applications for Certificates of Completion prior to finishing.

Petitioning periods for Certificates of Achievement are:

- Summer - June 1 through July 15
- Fall - August 15 through October 15
- Spring - December 1 through March 1

* A list of career programs and requirements can be found beginning on page 60. Check with your counselor to determine the requirements you should complete.

Waiver of A.A. and/or Certificate Requirements

Students wishing to substitute or waive courses which satisfy A.A. or Certificate of Achievement requirements must see a counselor and petition the Academic Petition Council.

Course Auditing

In accordance with the California Education Code Section 76370 and district policy, students may audit courses specifically designated by the college as eligible for audit (primarily certain dance/musical/theatrical performance or physical education laboratory courses). Students who audit classes will be
expected to participate in all class activities as required by the instructor. No credit is awarded. Further information can be obtained in the Division Deans’ Offices or in the office of the Administrative Dean of Admissions and Records.

**Academic Standards**

Standards of academic excellence are cornerstones of learning institutions and, therefore, should be maintained and promoted. It is the responsibility of all college community members to be familiar with ways to promote the highest standards of academic performance. The following guidelines are designed to clarify and facilitate attitudes and behavior consistent with standards of academic excellence.

**Attendance**

Please note that students who miss the first meeting of a class or who have too many absences MAY be dropped by the instructor at any time during the semester until the final deadline for withdrawal. However, it is the responsibility of the student to withdraw in order to meet all fee and withdrawal deadlines and grade penalties.

**Absences**

Instructors may allow absences for reasons of illness, emergencies, or college-sponsored activities including field trips, athletic events, speech tournaments, or other co-curricular activities. Those student activities should be scheduled to minimize absences from regularly scheduled classes. Instructors are responsible for sending Co-curricular Participation Lists to the office of the Dean of Students. Students, also, should inform instructors of upcoming co-curricular activities and ask for ways of making up the absences.

**Absence/Make-up Activities**

Instructors may require make-up activities equivalent to the lessons missed through absence. What constitutes an excused absence, and any required make-up activities, should be stated clearly, preferably in writing, by the instructor at the start of the course.

It is recommended that a student not be absent more than the number of course units in order to maintain a passing course grade/credit. That is, one hour of absence for each unit of class. State law requires an accurate attendance record in order for the college to receive funding.

**Working Students**

Working students should remember that taking 15 units of college coursework requires about the same amount of time as working 40 hours a week; therefore, full-time students should work no more than 20 hours a week. Students may contact the Financial Aid Office or call 432-5165 to determine their eligibility for financial assistance. No student should expect any instructor to lower course standards to accommodate them for not doing required coursework due to work.

**Academic Honors**

**President’s List**

Students are eligible for the President’s List after completing a semester of at least 12 units in courses awarding letter grades and a GPA of 4.0. You will be sent a letter of recognizing this achievement. For additional information, please contact the President’s Office in the Administration Building.

**Dean’s List**

Students are eligible to be included on the Dean’s List after completing a semester of at least 12 units in courses awarding letter grades and in which a GPA of 3.50 to 3.99 is earned. To request a letter recognizing this achievement or obtain additional information, please contact the Office of Instruction in the Administration Building.

**Honors List**

Students are eligible to be included on the Honors List after completing a semester of 6.0 to 11.9 units in courses awarding letter grades and in which a GPA of 3.75 to 4.0 is earned. To request a letter recognizing this achievement or obtain additional information, please contact the Office of Instruction in the Administration Building.

**OCC Honors Program**

The Orange Coast College Honors Program provides courses designed to challenge the highly motivated student. Instructors for honors courses enhance basic curriculum requirements of their classes by offering more intensive study than is possible in most regular course sections. Honors sections are listed in the fall and spring class schedules.

Honors Program benefits include the potential for priority transfer admission to several four-year institutions, interaction with highly motivated students, and honors designation on transcripts. Honors Program completion requirements include eighteen units of honors credit from three different campus departments with at least a 3.0 GPA in all college work.

Students who do not meet the general requirements for participation in the Honors Program are encouraged to become Honors students by improving their GPA’s while taking regular and honors courses. Students may enroll in honors sections without applying to the Honors Program. Please call (714) 432-5837 to learn more about honors courses and the Honors Program.

**Alpha Gamma Sigma**

Alpha Gamma Sigma is the California Community College Honor Society. It is an extension of the California Scholarship Federation at the secondary school level. Alpha Gamma Sigma was established in 1922. The Orange Coast Chapter is Alpha Kappa. The requirements for membership in this Chapter are:

**Initial Membership**

- Twelve (12) semester units in a maximum of three (3) semesters, for which letter grades are awarded
- Cumulative GPA of 3.50
- No grade lower than a “C”
Continuing Membership
- Enrolled in at least six (6) units of credit for which letter grades are awarded
- Achieved for previous semester not less than 3.50 GPA
- No grade lower than a “C”

Permanent Membership
- Completed a minimum of sixty (60) semester units with a minimum of thirty (30) units, for which letter grades are awarded, and earned at Orange Coast College.
- Course work from other colleges to be considered for permanent membership upon review
- Maintained a GPA of 3.50 or above
- No grade lower than a “C”
- Been a member of Alpha Gamma Sigma for at least one year
- Permanent members of Alpha Gamma Sigma are eligible for selection as candidates to receive a $500 scholarship award. Application is made under the General Scholarship in the Student Services Office.

Membership is not automatic. Students must petition through the Office of the Administrative Dean of Admissions and Records for membership, and pay semester dues.

Psi Beta
Psi Beta is the national honor society in Psychology for Community and Junior Colleges.

The purpose of the society is to stimulate, encourage and recognize students’ outstanding scholarship and interest in psychology. Psi Beta offers the experience of leadership, interaction with faculty outside the classroom, participation in community service, and meeting others with the same interests. It offers the opportunity to participate in national, regional and local programs.

Students must have completed at least 12 semester hours, 3 of which must be in psychology. The student’s overall GPA must be 3.0 or better; plus “B” or better grade must be received in psychology classes.

There is a one-time national registration fee of $25, plus semester dues of $5 to the campus chapter.

Academic Renewal Policy and Procedures
The academic renewal policy and procedure is under reviewed and pending on the Board approval. Please check with the Dean of Counseling Division Office for an update.

Policy
The academic renewal policy for Orange Coast College is issued pursuant to Sections 55764 and 55765 of the California Administrative Code (Title 5) regulations and Coast Community College District Board Policy No. 030-4-4. The purpose of this policy is to enable the student to have past substandard academic performance disregarded when such work is not reflective of the students current demonstrated ability. It is based on the recognition that due to unusual circumstances beyond the student’s control, past substandard work may negatively impact academic standing and unnecessarily prolong the rate at which the student is able to complete her/his current objectives.

IF SPECIFIC CONDITIONS ARE MET, ORANGE COAST COLLEGE MAY DISREGARD FROM ALL CONSIDERATION ASSOCIATED WITH THE COMPUTATION OF A STUDENT’S CUMULATIVE GRADE POINT AVERAGE, UP TO A MAXIMUM OF 30 SEMESTER UNITS OF COURSEWORK FROM A MAXIMUM OF 2 SEMESTERS OR 3 QUARTERS TAKEN AT ANY COLLEGE. THESE CONDITIONS ARE:

1. The coursework to be disregarded is substandard. The grade point average of the courses to be disregarded is less than 2.0.
2. A minimum of 12 semester units have been completed at a college in the Coast Community College District with a grade point average of at least 2.0, subsequent to the coursework to be disregarded.
3. At least 2 calendar years have elapsed since the most recent coursework to be disregarded.
4. All units taken during such a semester shall be disregarded, even satisfactory units; however, course credit may be recognized when required as a prerequisite or to satisfy a requirement in the student’s redirected educational objective.

NOTE: It is important to understand that even though renewal is granted, ALL COURSEWORK WILL REMAIN LEGIBLE on the student’s permanent record (transcript), ensuring a true and complete academic history. The student’s permanent record will be annotated, however, so that it is readily evident to all users of the records that the units, even if satisfactory, are to be disregarded. This notation will be made at the time that the academic renewal has been approved by the appropriate college office.

THE TRANSFER STATUS OF SUCH ACTION DEPENDS UPON THE POLICY OF THE COLLEGE TO WHICH A STUDENT TRANSFERS.

If another accredited college has acted to remove previous coursework from consideration in computing the grade point average such action shall be honored in terms of its policy. However, such units disregarded shall be deducted from the 30 semester unit maximum of coursework eligible to be disregarded at Orange Coast College.

Procedures
1. Students requesting removal of previous coursework for certificate or degree consideration shall file a petition with the Dean of Counseling. The petition shall indicate the semester(s) for coursework to be disregarded, and shall include evidence verifying the expiration of at least two years since the end of the last semester containing courses to be disregarded, and the subsequent completion of a minimum of 12 units with a 2.0 cumulative grade point average.
2. The Dean of Counseling, or his designee, upon verification of the conditions set forth in the policy statement, shall act to approve the petition and make the proper annotation on the student’s permanent record.

Interpretation of the academic renewal policy is the responsibility of the Dean of Counseling who may, for compelling reasons, make exceptions to the stated conditions provided the requirements of Title 5 (Sections 55764 and 55765) are observed.

Probation and Disqualification Policy

Probation

A student in the Coast Community College District shall be placed on probation whenever one of the two conditions listed below are met:

1. Academic Probation
   The student has attempted at least 12 semester units at a district college and
   a. has a grade point average of less than 2.0 in the most recent semester completed, or
   b. has a cumulative grade point average of less than 2.0 in all units attempted.

2. Progress Probation
   The student has attempted at least 12 semester units at a district college and the percentage of units in which the student has been enrolled for which entries of “W”, “I”, and “NC” are recorded reaches or exceeds 50 percent.

A student on probation from one district college shall be on probation at all three district colleges. All probationary students shall be notified of their status and provided with an opportunity for counseling services. (Title 5, Sections 55754, 55755)

Disqualification

A student in the Coast Community College District who is on academic or progress probation shall be disqualified whenever one of the two conditions listed below are met:

1. Academic Disqualification
   Any student on academic probation for two consecutive semesters shall be academically disqualified. However, any student on academic probation whose most recent semester grade point average equals or exceeds 2.0 or whose cumulative grade point average equals or exceeds 2.0 shall not be disqualified but shall be continued on academic probation.

2. Progress Disqualification
   Any student who is on progress probation for two consecutive semesters shall be disqualified for lack of satisfactory progress. However, any student on progress probation whose most recent semester demonstrated that fewer than 50 percent of his/her units were “W”, “I”, and “NC” shall not be disqualified but shall be continued on progress probation.

Appeal for reinstatement: When notified of disqualification, a student will be informed about appeal procedures, through the Counseling Division Office.

Any student disqualified from a college within the Coast Community College District may be dismissed for a minimum of one semester. A student dismissed from one district college shall not attend another district college during the semester of disqualification. (Title 5, Section 55756)

Middle College High School

Middle College High School provides high school juniors and seniors with a supportive and academically challenging atmosphere. It is designed specifically for students who, for a variety of reasons, may not be performing up to their full potential in a traditional high school setting. Classes are small, and individual attention is emphasized. High school classes are conducted from 7:50am until 1:00pm.

MCHS is a unique, full-time high school; students must enroll in five high school classes and one or two college courses (exceptions only with administrative approval).

Because students have access to a host of Orange Coast College resources, many will graduate from the program at the end of their senior year with a substantial number of college units to their credit. Those units will apply at OCC, or will transfer directly to another college or university.

For more information, please call Counselor, Michael diDonato or Principal, Joe Fox at (714) 432-5732.
CONTINUOUS ATTENDANCE AND CATALOG RIGHTS:

For graduation (AA Degree) students may follow the catalog requirements that were in effect for the academic year when their attendance began at Orange Coast College or follow the catalog requirements in effect during subsequent years of attendance provided that continuous enrollment has been maintained.

Continuous enrollment is defined as enrollment in a course at Orange Coast College for at least one semester in a calendar year. The student must receive a grade of A, B, C, D, F, CR, NC, W, I or IP for the course.

Exceptions: Absence due to an approved leave or to attend another accredited institution of higher education shall not be considered an interruption in attendance. This absence cannot exceed two calendar years.

The Academic Petition Council may authorize or require substitutions for discontinued courses.

Catalog rights do not apply to the certification of general education for transfer. Students must follow the GE pattern in effect when they petition for certification. Courses used for certification must be on the approved list at the time they are taken.
Graduation Requirements
Orange Coast College Graduation Requirements 2001-2002

Orange Coast College grants the degree of Associate in Arts. This degree may be conferred on students who complete their college work at Orange Coast College or who prepare to transfer to a 4-year institution.

In accordance with law and with rules and regulations of the Board of Governors of the California Community Colleges and the Board of Trustees of the Coast Community College District, the requirements for the degree of Associate in Arts include the following:

1. UNIT REQUIREMENT:
   60 UNITS, with at least a 2.0 grade point average. At least 12 of the units must be earned at OCC and a student must be enrolled at the time of application for graduation. Units earned at an accredited college or university on a credit/no credit basis will be counted toward the degree requirements of the college, to a maximum of 15 units.

2. MAJOR REQUIREMENT:
   This requirement can be satisfied in one of the following ways:
   A. All courses required in a career or certificate program, of at least 18 units, 12 of which must be lower division, offered at any accredited institution, OR
   B. At least 18 semester units of study taken from one of the following disciplines:
      Agriculture  History
      Anthropology  Humanities
      Architecture  Industrial Technology
      Art  Journalism
      Biology  Liberal Arts
      Business  Mathematics
      Chemistry  Music
      Communications  Natural Science
      Dance  Philosophy
      Economics  Photography
      Engineering  Physical Education
      English  Physics
      Family & Consumer Sciences  Political Science
      Film/Video  Psychology
      Food and Nutrition  Religious Studies
      Foreign Language  Sociology
      Geography  Speech
      Geology  Theatre Arts
      Health

   If a student chooses this option, a plan must be developed with a counselor and placed on file in the student’s counseling folder prior to petitioner for graduation. All courses must be numbered 100 or above, OR
   C. 40 units toward the completion of the general education requirements for any branch of the University of California or any accredited institution, OR
   D. Completion of the CSU General Education Breadth Requirements, OR
   E. Completion of the Intersegmental General Education Transfer Curriculum (IGETC).

3. GENERAL EDUCATION REQUIREMENT:
   Complete either Option 1, Option 2 or Option 3.

4. AMERICAN INSTITUTIONS REQUIREMENT:
   Some of the courses listed in this requirement can also be used to meet General Education Requirements in Options 1, 2 and 3.
   American Studies 100 OR
   Political Science 180 or 180H AND
   History 100 or 170 or 170H or 175 or 175H or 177

5. BEHAVIORAL SCIENCE REQUIREMENT:
   The courses listed in this requirement can also be used to meet General Education Requirements in Options 1, 2 and 3.
   Select one course from the following:
   Psychology 100, 220, 260, Sociology 280

6. MATHEMATICS REQUIREMENT:
   Some of the courses listed in this requirement can also be used to meet General Education Requirements in Options 1, 2 and 3.
   Place at the Math 030 level (or higher) on the math placement test administered by the OCC Assessment Center OR
   Successfully complete (grade of “C” or better or “credit”) one of the following courses:
   Electronics Technology 047, Psychology 160, Technology 040, any math course except N009, N013, N021 and 220

7. PHYSICAL EDUCATION AND DANCE REQUIREMENT:
   Some of the courses listed in this requirement can also be used to meet General Education Requirements in Options 1 and 2.
   A minimum of 1 unit of physical education, or dance, or marine activities (must be an activity course).

8. AMERICAN CULTURAL DIVERSITY REQUIREMENT:
   Some of the courses listed in this requirement can also be used to meet General Education Requirements in Options 1, 2 and 3.
   Select one or more courses from the following totaling 3 units:

PETITION FOR GRADUATION: Students are required to petition for graduation and Certificates of Achievement at the beginning of the semester in which they will be completing their final requirements as follows:

SUMMER GRADUATION  Petition June 1 through July 15

FALL GRADUATION  Petition August 1 through October 15

SPRING GRADUATION  Petition December 1 through March 1
General Education - Option 1
Orange Coast College General Education Requirements 2001-2002

A minimum of 24 units distributed among the following. One course may not be used to meet two separate requirements.

AREA A: LANGUAGE AND RATIONALITY

6 semester units (or 8-10 quarter units) to include English 100 and one course from Group 2. It is strongly recommended that students begin the composition requirement within their first 12 units of coursework.

1. Composition
   English 100 with a grade of “C” or better

2. Communication and Analytical Thinking
   Business 139
   Communications 100
   Computer Science 115, 118, 211
   Digital Media Arts 181
   Electronic Technology 047
   English 101, 101H, 102, 102H
   Any Math course except N005, N008, N009, N012, N021
   Office Information Systems 139
   Philosophy 150, 220
   Psychology 100, 101, 105
   Speech 100, 110, 120, 130, 140

AREA B: PHYSICAL AND BIOLOGICAL SCIENCE

4 semester units (or 6-8 quarter units) including a lab OR
6 semester or 9 quarter units of lecture-only courses. Lab courses are underlined.

Anthropology 185, 185A
Astronomy 100, 100H, 100&100L, 100H & 100L
  101, 102, 103
Biology 100, 114, 125, 181, 182, 182L, 183, 183A, 210, 220, 221
Chemistry 100, 100&100L, 101, 101A, 101L, 110, 130, 180
Ecology 100, 110, 120, 130
Food and Nutrition 195
Geography 180, 180H
Geology 100, 100H, 100&100L, 100H & 100L
  100 & 100L, 100H & 100L, 105, 106, 105H, 106H, 180, 185, 185A
Marine Science 100, 100A, 100B, 100L, 100&100L
  100 & 100L, 100H & 110L, 180, 180&180L
  185, 185A, 185L
Natural Science 100, 100&100L, 100H, 100L
  105, 105A, 105H, 105L, 106, 110
Ornamental Horticulture 100
Physics 110, 110A, 110H, 120, 130, 185
Psychology 250

AREA C: HUMANITIES

A minimum of 3 semester units (or 4-5 quarter units) to include one course from Group 1 and one course from Group 2.

1. Theory
   Anthropology 190
   Architectural Technology 290, 296
   Art 100, 100H, 101, 101H, 102, 103, 104, 107, 108
   Dance 160, 170, 200
   English - any literature course 140 through 285
   Film/Video 100, 103, 150
   Foreign Language - any course numbered 110 thru 290
   History 150, 180, 180H, 185, 185H
   Humanities 100, 101, 101H
   Interior Design 180, 190
   Music 100, 105, 109, 160, 165, 170, 173, 180
   Philosophy 110, 115, 118, 120, 130, 150, 165, 185
   Photography 101, 130
   Religious Studies 100, 110, 115, 120, 130, 140, 150, 190
   Speech 120
   Theater Arts 100, 101, 105

2. Active Participation
   Art 110, 115, 120, 120H, 125, 141, 142A, 145, 147, 149, 150, 263A, 269, 272A
   Digital Media Arts 181
   Film/Video 110
   Photography 120
   Speech 110, 120, 150A, 235
   Theater Arts 106, 110A, 170A, 235

AREA D: SOCIAL AND BEHAVIORAL SCIENCE

A minimum of 9 semester units (or 12-15 quarter units) to include one course from Group 2 and one course from Group 3.

1. U.S. History and Constitution and American Ideals
   A. American Studies 100 OR
   B. Political Science 160 or 180H AND one of the following courses: History 100 or 170 or 170H or 175 or 175H or 177

2. Social and Economic Institutions
   Anthropology 100, 100H, 102, 105, 110, 114, 140, 150, 150H, 150L
   Economics 100, 180, 185
   Ethnic Studies 100, 150, 190
   Geography 100, 100H, 150, 160, 185
   History 101, 102, 102H, 103, 103H, 110, 115, 120, 125, 128, 130, 140, 145, 150, 155, 176, 179, 180, 180H, 185, 185H, 187, 188, 190, 195, 197, 198
   International Studies 100
   Political Science 101, 110, 185
   Sociology 105, 115, 120, 150, 180, 180H, 185, 185H, 190, 296

3. Behavioral Science
   Psychology 100, 220, 260
   Sociology 280

AREA E: LIFE SKILLS - One course from:

Accounting 100
Allied Health 130
Anthropology 105
Business 100, 105, 120, 125
Computer Information Systems 100, 109
Computer Science 113
Construction Technology 110A
Counseling 102, 110, 120, 123, 135
Economics 110
Emergency Medical Technology 100
English 104, 124A
Family & Consumer Science 180
Fashion 170
Food & Nutrition 136, 140, 170, 185
Health Education 100, 102, 111, 112, 122, 132, 133, 134, 136
High Technology 100, 108, 109
Human Development 180
Interdisciplinary Studies 150A
Interior Design 100
Office Information Systems 109, 110, 111A, 113
Philosophy 120
Physical Education 132, 133, 134, 136
Psychology 110, 117, 140, 165, 215
Religious Studies 120
Sociology 105, 110, 186
Speech 100, 160, 170, 180, 220

* Does not meet requirement in mathematics for
General Education - Option 2
General Education Breadth Requirements for California State University (CSU) 2001-2002

To earn a Bachelor’s degree from the California State University, each student must complete 48-51 semester units in general education. 9-12 of these units must be taken as upper division course work after transfer. Orange Coast College will certify the extent to which the lower division General Education Breadth Requirements have been met for students meeting the following A-E pattern. Students seeking certification must complete at least 12 of these units at OCC. Any one course may be used to satisfy only one required sub-area (i.e. if Speech 110 is used to satisfy sub-area A1, it may not be used to satisfy sub-area C2), with the exception of Area B where lab courses taken to meet the B3 requirement will also count in B1 or B2. A cross-listed course (the same course listed under more than one department such as History 150 and Ethnic Studies 150) may be used to meet only one requirement.

IMPORTANT NOTE: Courses on this list are approved for a specific academic year which begins with the Fall semester. Students wishing to use a course to meet a CSU GE Breadth requirement must be sure that the course is approved for the academic year in which it is taken. THIS LIST IS VALID ONLY FOR COURSES TAKEN FALL 2001 THROUGH SUMMER 2002. For courses taken prior to Fall 2001, students should check the master list which shows the dates that courses were added or deleted since the original list was published in 1981. This list is available in the Counseling Center or Transfer Center.

AREA A: COMMUNICATION IN THE ENGLISH LANGUAGE AND CRITICAL THINKING
9 semester units (or 12-15 quarter units) including one course from each sub-area with a grade of “C” or better.

A1 Oral Communication
Speech 100, 110

A2 Written Communication
English 100

A3 Critical Thinking
English 101, 101H, 102, 102H
Mathematics 220
Philosophy 150, 220
Speech 130, 140

AREA B: PHYSICAL UNIVERSE AND ITS LIFE FORMS
A minimum of 9 semester units (or 12-15 quarter units) including at least one course from each sub-area. Must include at least one laboratory course. Lab courses are underlined. Natural Science 100, with a lab, (Natural Science 100LA or 100LG) will satisfy B1, B2 and B3.

B1 Physical Science
Astronomy 100, 100H, 100H & 100L, 101, 101H, 102, 103
Chemistry 100, 100H & 100L, 101, 101H & 100L, 110, 130, 180
Geography 180, 180H
Geology 100, 100H, 100H & 100L, 100H & 100LH, 100H & 100LH, 100H & 100L, 135, 160, 180, 185, 185H & 185L
Marine Science 185, 185H & 185L
Natural Science 100, 100H & 100L, 100H & 100LH, 100H & 100LH, 100H & 100L, 180, 180H, 185H & 185L
Physics 110, 110H & 111, 120, 130, 185

B2 Life Science
Anthropology 185, 185H & 185L
Biology 100, 125, 181, 182, 182 & 182L, 183, 183A, 183L, 210, 220, 220H, 221
Ecology 100, 110, 120, 130
Marine Science 100, 100H, 100H & 100L, 100H & 100LH, 100H & 100LH, 100H & 100L, 180, 180H & 180L
Natural Science 100
Ornamental Horticulture 100
Psychology 250

B3 Laboratory Activity
One of the courses taken in Area B1 or B2 must include a lab. Lab courses are underlined.

B4 Mathematical Concepts
One course from the following with a grade of “C” or better.
Psychology 160

AREA C: ARTS, LITERATURE, PHILOSOPHY AND FOREIGN LANGUAGE
A minimum of 9 semester units (or 12-15 quarter units) with at least one course in C1 and one course in C2.

C1 Arts
Architectural Technology 290, 296
Art 100, 100H, 101, 101H, 102, 103, 104, 107®, 108, 110, 120, 125, 141, 142A, 145, 147, 150, 263A, 269, 272A
Digital Media Arts 181
Film/Video 100, 103, 150
Humanities 100#
Interior Design 180, 190
Photography 101, 120, 130
Theatre Arts 100, 101, 105, 106, 110A, 170A
GRADUATION REQUIREMENTS

C2 Humanities
Anthropology 190
English 119, 140, 141, 143, 144, 147, 148, 149, 150, 151, 152, 156@,
Ethnic Studies 100
French 110, 120, 130, 180, 185, 280, 285
German 110, 120, 130, 180, 185,
280, 285
Hebrew 180, 185@
History 102, 102H, 103, 103H, 180,
180H, 185, 185H
Humanities 100#, 101, 101H
Italian 110, 120, 130, 180A,
180B, 185A, 185B, 280, 285,
289
Japanese 180, 180A, 180B, 181,
182, 185, 280, 285
Mathematics 220
Philosophy 100, 110, 115, 118, 120,
130, 165, 185, 220
Religious Studies 100, 110, 115, 120,
130, 140, 150, 180
Spanish 180, 180A, 180B, 180H, 185,
185A, 185B, 185H, 280, 280A,
280B, 280B, 285, 289, 290
Speech 110, 120, 150A, 235
Theatre Arts 235
# This course will satisfy either C1 or C2

AREA D: SOCIAL, POLITICAL AND ECONOMIC INSTITUTIONS AND BEHAVIOR; HISTORICAL BACKGROUND
A minimum of 9 semester units (or 12-15 quarter units) with courses from at least two sub-areas

D1 Anthropology
Anthropology 100, 100H, 102, 105,
110, 190, 280, 285

D2 Economics
Economics 100, 110, 180, 185

D3 Ethnic Studies
Anthropology 140@, 150
Ethnic Studies 100, 150, 190
History 150
Sociology 150, 190

D4 Gender Studies
History 176, 187

D5 Geography
Geography 100, 100H, 160, 185

D6 History
History 100, 101, 102, 102H, 103,
103H, 110, 115, 120, 125,
128, 130, 145, 160, 170, 170H,
175, 175H, 177, 179, 180, 180H,
185, 185H, 188, 190, 195, 197,
198

D7 Interdisciplinary
Health Education 122
Human Development 180
International Studies 100
Psychology 165 or Sociology 165
Social Science 100

D8 Political Science
Political Science 101, 110, 185

D9 Psychology
Psychology 100, 185, 220, 260

D10 Sociology
Sociology 105, 110, 115, 120, 180,
180H, 185, 185H, 280, 296

Note: Completion of one course from Behavioral Science (Psychology 100, 220, 260 or Sociology 280) is required for graduation from OCC.

AREA E: LIFE-LONG UNDERSTANDING AND SELF-DEVELOPMENT
3 semester units (or 4-5 quarter units); no more than 1 unit of activity courses.

Non-Activity
Anthropology 105
Counseling 110, 120, 135
Economics 110
Emergency Medical Technology 100
English 124A
Family & Consumer Science 180
Food & Nutrition 136, 140, 170
Health Education 100, 112, 132,
134, 136
Physical Education 132, 134, 136
Psychology 110, 117, 140, 165, 215
Sociology 105, 165
Speech 100, 160, 170, 220

Activity
Marine Activities 147A, 148A, 149A
Physical Education 102A, 104A, 105A,
111A, 112A, 113A, 114A, 115A,
119A, 120A, 122A, 123A, 125A,
140A, 142A, 143A, 146A, 147A,
148A, 149A, 150A, 154A, 155A,
157A, 167A, 173A, 174A, 177A,
178A, 179A, 190A, 191A, 192A,
194A, 195A, 196A, 197A, 198A,
221A, 222A, 235A, 236A, 238A,
239A, 240A, 241A, 242A, 243A,
244A, 245A, 246A, 250A, 251A,
252A, 253A, 254A, 257A, 258A,
259A, 260A, 261A, 263A

AMERICAN INSTITUTIONS REQUIREMENT
(Not part of CSU GE Breadth. May be completed prior to transfer.)

In addition to the General Education Requirements listed above, all students must complete coursework in American History and Constitution for graduation from CSU. Completion of History 100, 170, 170H, 175, 175H, or 177 in Area D6 will fulfill part of this requirement. To complete this requirement students must also take:

Political Science 180 or 180H

approval for this course is pending. It has been submitted to CSU for inclusion on the list. Check in the Counseling Center or Transfer Center for a copy of the finalized list which will indicate if the course has been approved. If the course is approved, it can only be used if it is taken Fall, 2001 or later.
Completion of the Intersegmental General Education Transfer Curriculum (IGETC) will permit a student to transfer from Orange Coast College to a campus in either the California State University or University of California system without the need, after transfer, to take additional lower-division general education courses to satisfy campus general education requirements. The IGETC should be completed in its entirety before transferring or the student may be subject to the general education requirements of the campus to which they have been admitted.

All courses must be completed with grades of “C” or better. Grades of “credit” can be used if “credit” is equal to a “C” or better. There are limits to the number of units that can be taken CR/NC.

Courses used to meet IGETC requirements must be at least 3 semester units or 4 quarter units.

IMPORTANT NOTE: Courses on this list are approved for a specific academic year which begins in the Fall. Students wishing to use a course to meet an IGETC requirement must be sure that the course is approved for the academic year in which it is taken. THIS LIST IS VALID ONLY FOR COURSES TAKEN FALL 2001 THROUGH SUMMER 2002. For courses taken prior to Fall 2001, students should check the master list which shows the dates that courses were added or deleted since the original list was published in 1991. This list is available in the Counseling Center or Transfer Center.

AREA 1: ENGLISH COMMUNICATION
CSU: Three courses (one from each group). 9 semester units (or 12-15 quarter units).
UC: Two courses (one from Group A and one from Group B). 6 semester units (or 8-10 quarter units).

Group A: English Composition
English 100

Group B: Critical Thinking-English Composition
English 101 or 101H, 102 or 102H
Philosophy 150

Group C: Oral Communication (CSU ONLY)
Speech 110

AREA 2: MATHEMATICAL CONCEPTS AND QUANTITATIVE REASONING
One course. At least 3 semester units (or 4-5 quarter units).

Math 130, 154, 157, 160 or 160H, 170, 180 or 180H@, 182H, 185 or 185H@, 230, 235, 260, 280 or 280H, 285 or 285H, 290H

AREA 3: ARTS AND HUMANITIES
Three courses, with at least one course from Group A and one from Group B. 9 semester units (or 12-15 quarter units).

Group A: Arts
Architectural Technology 290 or 296
Art 100 or 100H, 101 or 101H, 102, 103, 104, 107#, 108, 110
Dance 200
Film 100
Music 100, 105, 109, 115, 170, 173, 180
Photography 130
Theatre Arts 100 or 101, 105

Group B: Humanities
English 140, 141, 143, 144, 147, 148, 149, 150, 151, 152, 156#, 157, 160, 161, 170, 173, 175, 176, 280, 285
Ethnic Studies 150
French 185, 280, 285
German 185, 280, 285
Hebrew 185#
History 100#, 101, 102 or 102H, 103 or 103H, 110, 115, 120, 125, 128, 130, 145, 150, 160, 170# or 170H#, 175# or 175H#, 176, 177#, 179, 180 or 180 H, 185 or 185H, 187, 188, 190, 195
Humanities 100, 101 or 101H
Italian 185, 280, 285, 289
Japanese 185, 280, 285
Philosophy 100, 110, 115, 118, 120, 130, 165, 185
Religious Studies 100, 110, 115, 120, 130, 140, 150, 180
Spanish 185 or 185H, 280 or 280H, 285, 289, 290

# If this course is being used to meet CSU American Institutions Requirement, it cannot be used to satisfy this area.

AREA 4: SOCIAL AND BEHAVIORAL SCIENCES
Three courses from at least two disciplines. 9 semester units (or 12-15 quarter units).

4A Anthropology
Anthropology 100 or 100H, 102, 110, 150, 190, 280, 285

4B Economics
Economics 100, 180, 185

4C Ethnic Studies
Ethnic Studies 100, 190

4D Gender Studies
OCC does not have any courses approved in this area

4E Geography
Geography 100 or 100H, 160, 185

4F History
OCC does not have any courses approved in this area. History courses can be used to satisfy Area 3B

4G Interdisciplinary Studies
Human Development 180
Psychology 165 or Sociology 165

4H Political Science
Political Science 101, 110, 180# or 180H#, 185

4I Psychology
Psychology 100, 185, 220, 260

4J Sociology
Sociology 110, 115, 120, 150, 180 or 180H, 185 or 185H, 190, 280

# If this course is being used to meet CSU American Institutions Requirement, it cannot be used to satisfy this area.

NOTE: Completion of one course from Behavioral Science (Psychology 100, 220, 260 or Sociology 280) is required for graduation from OCC.
AREA 5: PHYSICAL AND BIOLOGICAL SCIENCES
Two courses, with one from Group A and one from
Group B. One of the courses must include a lab. Lab courses are underlined. 7-9 semester units (or
9-12 quarter units).

Group A: Physical Science
Astronomy 100 or 100H, 100&100L or
100 & 100LH, 101, 102, 103
Chemistry 100, 100&100L, 101&100L,
110, 130, 180
Geography 180 or 180H
Geology 100 or 100H, 100&100L or
100H&100LH or 100 & 100LH
or 100H & 100L, 160, 180, 185,
165&185L
Marine Science 185, 165&185L
Natural Science 100#, 100&100LA,
100 &100LG
Physics 110, 110&111, 120, 130, 185

Group B: Biological Science
Anthropology 185, 185&185L
Biology 100, 125, 181, 182, 182&182L,
183, 183&183L, 210, 220 or 220H,
221
Ecology 100
Marine Science 100 or 100H, 100&100L
or 100H&100LH or 100&100LH or
100H&100LH or 100&100LH
Natural Science 100#
Psychology 250
# This course will satisfy either Group A or Group B.

LANGUAGE OTHER THAN ENGLISH (UC ONLY)
A. Complete two years of a single high school
foreign language with grades of “C” or better
(high school transcripts must be
on file at OCC). OR
B. Complete French, German, Hebrew, Italian,
Japanese or Spanish 180. Advanced courses
will validate this requirement. OR
C. Earn a satisfactory score on one of the fol-
lowing tests (results must be on file at OCC):

1. SAT II Subject Test in a language
other than English (Before 5/95 -
score: 500. After 5/95 - Chinese:
520, French: 540, German: 510,
Hebrew: 470, Italian: 520, Japanese:
510, Korean: 500, Latin: 530,
Spanish: 520).

2. College Board Advanced Placement
Examination in a language other
than English (score: 3 or better)

3. International Baccalaureate Higher
Level Examination in language
other than English (score: 5 or
better)

4. An achievement test administered by
a college or university
(score: proficiency equivalent to
at least two years of high school
language). OR

D. Complete, with grades of “C” or better,
two years of formal schooling at the sixth grade level
or higher in an institution where the language of
instruction is not English (documentation must be
on file at OCC).

AMERICAN INSTITUTIONS REQUIREMENT
(Not part of IGETC. May be completed prior to
transfer.)

CSU has an American Institutions requirement that
is separate from IGETC. Courses used to meet the
CSU requirement cannot be used in Area 3 or 4. To
meet the CSU requirement, students should take
Political Science 180 or 180H AND one of the
following courses: History 100, 170, 170H, 175
175H or 177.

UC requires the completion of a college course or
courses with a grade of “C” or better OR a one-year
course in high school in U.S. history or a half-year
course in U.S. history and a half-year course in
American government with grades of “C” or better
(UCLA requires grades of “B”). UCSB requires the
completion of a college course. If you are using col-
lege coursework to satisfy this requirement, check
the appropriate UC catalog to determine which
course(s) to take.

NOTE: Transfer credit for some courses may be
limited by the University of California. Please see the
UC Transferable Course List available in the Counse-
iling Center or Transfer Center, or the Transfer Center
home page on the Internet for these limitations.

@ Approval for this course is pending. It has been
submitted to UC and CSU for inclusion on the list.
Check in the Counseling Center or Transfer Center
for a copy of the finalized list which will indicate
if the course has been approved. If the course is
approved, it can only be used if it is taken Fall,
2001 or later.
For the past decade, Orange Coast College has transferred more students to four-year-colleges and universities than any other community college in Southern California.

This section of the catalog is designed to help students plan an academic program for transfer to a four-year college or university. It includes information about the transfer process as well as general education and lower division major requirements.

Since transfer requirements change frequently, students should meet with a counselor regularly to plan an academic program which will assure a smooth transition to the transfer institution of their choice.

Four year colleges and universities often make changes in their requirements. The requirements listed in this section were updated at the time of publication; however, changes may have occurred after publication. Current Transfer Curriculum Guides and official articulation agreements are available in the Transfer Center, the Counseling Center and on the Internet.
Transfer to a Four Year College or University

Orange Coast College provides the first two years of a four-year college or university program. Students enrolled in a transfer program will complete most of their general education and lower division major requirements before transferring. Students who are planning to transfer to a four-year college or university should meet with a counselor in the Counseling Center to develop a Student Educational Plan which will identify the courses needed to transfer.

Transfer Center

The Transfer Center which is located in the Counseling and Admission Annex provides information and assistance to students who are preparing to transfer to four-year colleges and universities. Representatives from four-year schools are available in the Transfer Center to meet with students individually and provide information about their programs, requirements, and procedures. The Center maintains a complete resource library containing college catalogs and other information on transfer programs. Applications for CSU, UC, and several independent colleges and universities are available in the Center. The Transfer Center also sponsors a Transfer Day in the fall semester with representatives on campus from over fifty colleges and universities. College Fairs are held each semester with representatives from Southern California colleges and universities providing information to potential students. Transfer planning workshops are offered throughout the academic year. Organized tours to various four-year campuses are also available through the Transfer Center each semester.

The World Wide Web

The Transfer Center web page on the Internet is a rich source of information for potential transfer students. Information at this site includes: a listing of scheduled events and rep visits, transfer course requirements, articulation agreements, transfer planning guides, ratings and evaluations of colleges, financial aid resources, and college search engines. There is also a complete application center which allows students to apply to colleges throughout the country electronically. The site can be reached by going to the Student Services icon on the OCC home page at www.orange.coastcollege.com.

Transferability of Courses

Many courses offered at Orange Coast College will transfer to meet general education, major, or elective requirements at four-year colleges and universities. All courses numbered 100 or above will transfer to CALIFORNIA STATE UNIVERSITY. Courses which are transferable to the UNIVERSITY OF CALIFORNIA will be designated in the Courses section of the catalog with a UC at the end of the course description. Some of the courses which are transferable to the University of California have credit limitations. Check the UC Transferable Course List to determine these limitations. This list is available in the Counseling Center and the Transfer Center.

INDEPENDENT AND OUT-OF-STATE COLLEGES AND UNIVERSITIES usually accept most courses which are transferable to the University of California and many of the courses acceptable at CSU. Articulation agreements are available for selected colleges in the Counseling Center and the Transfer Center.

Transfer Opportunity Program (TOP)

Historically, underrepresented students (African Americans, Latinos and Native Americans) have made up a small percentage of transfer students. The Transfer Opportunity Program at Orange Coast College seeks to increase the pool of eligible underrepresented students and close the gap between minority and majority transfer students. TOP is designed to assist historically underrepresented students transfer to four-year colleges and universities. The primary goal of the program is to retain these students and increase the probability of their transfer. Through the program these students are provided with support services including a college success course, information workshops, personal advisement and counseling, tutoring, and group study sessions.
California Articulation Number (CAN)

The California Articulation Number (CAN) System identifies many of the transferable, lower division, introductory courses commonly taught on California college campuses.

The system assures students that CAN courses at one participating college will be accepted in lieu of the comparable CAN courses on another participating campus. For example: CAN ECON 2 at one college will be accepted for CAN ECON 2 at every other participating college. Each college retains its own numbering system, but adds the CAN designation parenthetically in its publications.

Most colleges throughout the state have qualified courses to use the California Articulation Numbers. Check in the Counseling Center or Transfer Center for current listings of CAN courses and colleges participating in the CAN system.

Course Requirements for Transfer Students

A student can transfer from Orange Coast College to a four-year college or university as a junior without loss of time or credits by completing the following:

1. Lower Division Major Requirements. These courses should be completed before transferring. They provide background and preparation in order to concentrate on the major beginning in the junior year. Course requirements for specific majors and schools are listed in the Transfer Curriculum Guides. These Guides are available in the Counseling Center and Transfer Center.

2. General Education Requirements. These are the courses required of everyone to obtain a degree regardless of major. They are designed to provide students with the knowledge, skills and understanding which will enable them to function as intelligent and creative members of the community. Courses in writing, critical thinking, mathematics, sciences, arts and humanities and the social sciences are included in general education.

3. Electives. These are courses of choice taken in addition to courses for the major and general education requirements.

Lower Division Major Requirements

Most majors at four-year colleges and universities require the completion of one or more lower division courses as preparation for upper division course work. Orange Coast College offers courses to meet the lower division requirements for most majors at most four-year schools.

Transfer Curriculum Guides are available that list the requirements for specific majors at UC Berkeley, UC Irvine, UC Los Angeles, UC Santa Barbara, CSU Fullerton, CSU Long Beach, Cal Poly Pomona, San Diego State, San Francisco State, Cal Poly San Luis Obispo, Chapman and USC. Additional schools are included on most of the Guides. The Guides are available in the Counseling Center, the Transfer Center and on the Transfer Center website. The Transfer Center website can be located by clicking on the Student Services icon on the OCC home page at www.orangecoastcollege.com. Students should check the catalog of the transfer college and meet with their counselor for additional information about major programs and requirements.

The courses listed below are required for the major at most four-year schools; however, many colleges require additional course work to complete the lower division major requirements. The course information given below has been edited for catalog publication purposes and may not accurately reflect recent changes or total course requirements for particular programs or schools. Check the Transfer Curriculum Guides to obtain a complete and updated course listing for each school.

Advertising
Communications 100
Additional course work may be required in Communications, Economics, Marketing and/or Political Science.

Anthropology
Anthropology 100(or 100H), 185/185L, 280
Additional course work may be required in Biology, Chemistry, Computer Science and/or Physics.

Architecture/Landscape Architecture
Architecture 105, 110, 115, 130, 180, 185, 270
Additional course work may be required in Architecture, Art, Drafting, Engineering, English, Mathematics and/or Physics. Landscape Architecture requires coursework in Ornamental Horticulture.

Art
Art 100(or 100H), 101(or 101H), 110, 111, 120(or 120H)
Additional course work may be required in Art, Film and/or Photography

Biology
Biology 181, 182/182L, 183/183L, Chemistry 180, 185, 220/221, 225/226, Physics 130, 135, Math 180(or 180H), 185(or 185H)
Additional course work may be required in Biology and/or Mathematics. Some schools will accept Physics 120 & 125 instead of 130 & 135.

Business
Accounting 101, 102, Business 110, Economics 180, 185, Computer Science 111, Math 130 or 154, 157
Additional course work may be required in Accounting, Business, Computer Science, Mathematics and/or Philosophy. CSU Fullerton requires Accounting 110 in addition to 101 & 102.

Chemistry
Chemistry 180, 185, 220/221, 225/226, Mathematics 180(or 180H), 185(or 185H), 280(or 280H), Physics 185, 280, 285
Additional course work may be required in Biology, Chemistry and/or Mathematics.
Child Development
Human Development 180
Additional course work may be required in Biology, Early Childhood, Food and Nutrition, Human Development, Psychology and/or Sociology.

Communications
See Transfer Curriculum Guide for requirements.

Computer Science
CS 115, 150, 200, 250, Mathematics 180(or 180H), 185(or 185H)
Additional course work may be required in Computer Science, Engineering, Mathematics and/or Physics.

Criminal Justice and Law
Mathematics 160(or 160H), Political Science 180(or 180H)
Additional course work may be required in Anthropology, Economics, History, Political Science, Psychology and/or Sociology.

Dance
See Transfer Curriculum Guide for requirements.

Economics
Economics 180, 185, Mathematics 180(or 180H), 185(or 185H)
Additional course work may be required in Accounting, Business and/or Mathematics.

Engineering
See Transfer Curriculum Guide for requirements.

English
English 100, 101(or 101H), 280, 285
Additional course work may be required in Communications, English, Foreign Language, History, Philosophy and/or Speech.

Environmental Studies
See Transfer Curriculum Guide for requirements.

Family and Consumer Science
See Transfer Curriculum Guide for requirements.

Film
See Transfer Curriculum Guide for requirements.

Food Science and Nutrition
Chemistry 180, 185, 220/221, 225/226, Food and Nutrition 170
Additional course work may be required in Biology, Computer Science, Economics, Food and Nutrition, Mathematics, Physics, Psychology and/or Sociology.

Foreign Languages
Foreign Language through 285.

Forestry/Natural Resources Management
Biology 181, 182/182L, 183/183L, Chemistry 180, Mathematics 180(or 180H)
Additional course work may be required in Anthropology, Biology, Computer Science, Chemistry, Ecology, Economics, Geology, History, Mathematics, Physics and/or Political Science.

Geography
Geography 180(or 180H), 185
Additional course work may be required in Biology, Chemistry, Economics, Geography, Marine Science, Mathematics and/or Political Science.

Geology
Chemistry 180, 185, Geology 180, 185/185L, Mathematics 180(or 180H), 185(or 185H), Physics 185, 280, 285
Additional course work may be required in Biology, Chemistry, Geology and/or Mathematics.

Health Sciences
See Transfer Curriculum Guide for requirements.

History
See Transfer Curriculum Guide for requirements.

Hotel and Food Service Management
Accounting 101, 102, Computer Science 111, Culinary Arts/Food Service Management/Hotel 100, Economics 180, 185
Additional course work may be required in Biology, Business, Chemistry, Culinary Arts, Food and Nutrition, Food Service Management, Mathematics, Philosophy, Psychology, Sociology and/or Speech.

Interior Design
See Transfer Curriculum Guide for requirements.

Journalism
Communications 100, 110
Additional course work may be required in Computer Information Systems, Economics, Film and/or Photography.

Liberal Studies
See Transfer Curriculum Guide for requirements.

Marine Science/Oceanography
Biology 181, 182/182L, 183/183L, Chemistry 180, 185, Mathematics 180(or 180H), 185(or 185H), Physics 130, 135
Additional course work may be required in Biology, Chemistry, Computer Science, Geology, Marine Science and/or Mathematics.

Mathematics
Mathematics 180(or 180H), 185(or 185H), 280(or 280H, 285(or 285H)
Additional course work may be required in Chemistry, Computer Science, Mathematics and/or Physics.
Music
Music 180, 185, 280, 285
Majors must demonstrate keyboard proficiency.
Additional course work may be required in Foreign Language and/or Music.

Ornamental Horticulture
Biology 183/183L, Chemistry 180, 185, Ornamental Horticulture 181, 182, 183
Additional course work may be required in Biology, Business, Chemistry, Computer Science and/or Mathematics.

Philosophy
See Transfer Curriculum Guide for requirements.

Physical Education and Recreation
See Transfer Curriculum Guide for requirements.

Physics/Astronomy
Mathematics 180(or 180H), 185(or 185H), 280(or 280H), Physics 185, 280, 285
Additional course work may be required in Astronomy, Chemistry, Computer Science and/or Mathematics.

Political Science
Political Science 180(or 180H), 185
Additional course work may be required in Computer Science, Economics, History, Mathematics and/or Political Science.

Psychology
Psychology 100, 185, 280, Psychology 160 or Mathematics 160(or 160H)
Additional course work may be required in Anthropology, Biology, Computer Science, Chemistry, Mathematics, Philosophy, Physics, Psychology and/or Sociology.

Public Relations
Communications 100, 110
Additional course work may be required in Computer Information Systems, Economics, Film, Marketing, Photography and/or Political Science.

Religious Studies
See Transfer Curriculum Guide for requirements.

Social Ecology
Mathematics 160(or 160H), Psychology 100, 280, Sociology 180(or 180H)

Social Science
See Transfer Curriculum Guide for requirements.

Social Work
Mathematics 160(or 160H), Psychology 100, Sociology 180(or 180H)
Additional course work may be required in Anthropology, Economics, History, Philosophy, Political Science, Psychology, Sociology and/or Speech.

Sociology
Sociology 180(or 180H)
Additional course work may be required in Anthropology, Computer Science, History, Mathematics, Psychology and/or Sociology.

Speech and Communicative Disorders
See Transfer Curriculum Guide for requirements.

Teaching
Students wishing to teach in the public schools in California must obtain the appropriate credential. Both the Multiple Subjects Credential and the Single Subject Credential require the completion of specific course work. The completion of a teaching credential program usually requires five years of college. Most of the lower division course work required for these programs is offered at OCC.

Teach 3
In conjunction with CSU Long Beach, OCC offers the first two years of the Integrated Teacher Education Program (ITEP). This is a fast track program which allows students to complete the requirements for the Multiple Subjects Teaching Credential in four years rather than five. Students in this program will earn their Bachelor of Arts degree and California Teaching Credential by taking courses designed especially for future elementary school teachers. Students will have the opportunity to participate learning communities with their peers and college faculty and gain real classroom experience from the beginning. In addition they will be given specialized academic and professional advising. Further information about this innovative program is available in the Teach 3 Office.

Technology
See Transfer Curriculum Guide for requirements.

Theatre Arts
Theatre Arts 106, 107
Additional course work is required in Theatre Arts.

Certification of General Education for Transfer to UC or CSU
Upon a student’s request Orange Coast College will verify the completion of lower division general education requirements for transfer to the University of California (Intersegmental General Education Transfer Curriculum) or the California State University (either the CSU General Education Breadth Requirements or the Interssegmental General Education Transfer Curriculum). Students who transfer without certification will have to meet the general education requirements of the specific UC or CSU campus to which they are transferring. Meeting these requirements usually necessitates taking additional courses.
Both CSU GE Breadth and the IGETC should be completed in their entirety prior to transfer. Students can request partial certification of
CSU GE Breadth sub-areas if all requirements within the sub-area are met. Students using the IGETC who are unable to complete one or two courses, may be eligible to complete it after transferring if they have good cause. Typical situations which constitute good cause include illness, unavailable or cancelled courses, military services and unexpected hardships.

Students who have taken courses at other colleges can have these courses “passed along” in the certification process. Orange Coast College will certify courses taken at other California community colleges and CSU in the areas designated by the offering college.

Courses taken at California four year colleges or out-of-state two year or four year colleges will be certified if they are equivalent to courses on the IGETC or CSU GE Breadth list. Courses from foreign institutions cannot be used in the certification process.

Students requesting CSU GE Breadth certification must complete at least 12 of the 39 required units at OCC.

OCC will certify courses only once. Certification is not automatic and must be requested after the completion of the last term prior to transfer. This request should be made in the Records Office when final transcripts are sent to UC or CSU. Courses taken at other colleges after a student has left OCC will not be certified.

A course used in the certification process must be on either the IGETC or the CSU GE Breadth list during the term in which it is taken. If a course is taken before it is approved for inclusion on the list, it cannot be certified. Similarly, a course which is taken after it has been removed from the list cannot be certified.

OCC will also certify the completion of the CSU American Institutions Requirement for students following either IGETC or CSU GE Breadth.

**Admission Procedures for Four-Year Colleges and Universities**

Students should take the following steps in applying for admission:

1. Request application forms from the admissions office of the transfer college approximately one year in advance of transfer. Applications for the University of California, the California State University and local independent colleges and universities are available in the Transfer Center or Counseling Center.

2. Submit completed application forms during the filing period. Do not send them early as they will not be accepted before the initial filing date. Sending them early will only delay processing.

3. If entrance exams (SAT, ACT) are required, register for them as soon as possible and at least six months in advance of transfer. Registration forms are available from the Assessment Center located in OCC’s Special Services Building. Most four year schools do not require entrance exams for transfer students.

4. Have the OCC Records Office send a copy of your Orange Coast College transcript to the transfer college as requested.

**Lower Division Transfer Admission Requirements:**

You are eligible if you:

1. Have a college GPA of 2.0 or better in all transferable course work.

2. Are in good standing at the last college attended.

3. Meet the admission requirements for a first-time freshman or have successfully completed necessary courses to make up the deficiencies you had in high school if you did not complete the 15-unit pattern of college preparatory courses.

4. Meet the eligibility index (GPA and SAT/ACT scores) required for a freshman.

**Upper Division Transfer Admission Requirement**

You are eligible for admission if you:

1. Have a college GPA of 2.0 or better (2.4 for non-California residents) in all transferable course work.

2. Are in good standing at the last college attended.

3. Have completed or will complete prior to transfer at least 30 semester units of courses equivalent to general education requirements with a grade of C or better in each course. The 30 units must include the general education requirements in communication in the English language (English composition, oral communication and critical thinking) and one course of at least 3 units in college level mathematics.

**California State University**

California State University has 23 campuses located throughout the state. While each campus within the system has its own unique geographic and curricular character, all campuses offer undergraduate and graduate instruction for professional and occupation goals as well as broad liberal education. The CSU offers more than 1,500 bachelor’s and master’s degrees in some 200 subject areas. Campuses are located at Bakersfield, Channel Islands, Chico, Dominguez Hills, Fresno, Fullerton, Hayward, Humboldt, Long Beach, Los Angeles, Monterey Bay, Northridge, Pomona (Cal Poly), Sacramento, San Bernardino, San Diego, San Francisco, San Jose, San Luis Obispo (Cal Poly), San Marcos, Sonoma and Stanislaus and Vallejo (California Maritime Academy).
General Education Requirements for California State University

To earn a bachelor's degree from the California State University, each student must complete a program of general education. Orange Coast College offers two general education programs which will enable students to meet the lower division general education requirements for all CSU campuses prior to transfer. Students can complete either the Intersegmental General Education Transfer Curriculum (OCC GE Option 3) or the CSU General Education breadth Requirements (OCC GE Option 2). Students transferring to a specific CSU campus can also meet the general education requirements of that campus.

CSU General Education Breadth Requirements

See the Graduation Requirements section of the Catalog for specific courses which meet these requirements.

A. Communication in the English Language and Critical Thinking - 9 units
B. Physical Universe and its Life Forms - 9 units
C. Arts, Literature, Philosophy, Foreign Language - 9 units
D. Social, Political and Economic Institutions & Behavior; Historical Background - 9 units
E. Life-long Understanding and Self Development - 3 units

California State University in addition has an American Institutions requirement which can be satisfied prior to transfer by taking Political Science 180 or 180H and one of the following courses: History 100, 170, 170H, 175, 175H or 177.

The IGETC should be completed in its entirety prior to transfer. Students who do not complete the entire program before transfer may be subject to the regulations regarding breadth and general education of the school or college of the campus to which they have been admitted.

INTERSEGMENTAL GENERAL EDUCATION TRANSFER CURRICULUM (IGETC) FOR CSU

See the Graduation Requirements section of the Catalog for specific courses which meet these requirements.

1. English Communication - 9 units
2. Mathematical Concepts - 3 units
3. Arts and Humanities - 9 units
4. Social and Behavioral Science - 9 units
5. Physical and Biological Sciences - 7-9 units

California State University in addition has an American Institutions requirement which can be satisfied prior to transfer by taking Political Science 180 or 180H and one of the following courses: History 100, 170, 170H, 175, 175H or 177.

The IGETC should be completed in its entirety prior to transfer. Students who do not complete the entire program before transfer may be subject to the regulations regarding breadth and general education of the school or college of the campus to which they have been admitted.

UNIVERSITY OF CALIFORNIA

The University of California has 9 campuses located throughout the state. Each campus within the system has its own unique geographic and academic character. The university offers bachelor's, master's and doctoral degrees in a variety of subject areas. Campuses of the university are located at Berkeley, Davis, Irvine, Los Angeles, Riverside, San Diego, San Francisco (Schools of Medicine, Dentistry and Pharmacy), Santa Barbara and Santa Cruz.

University of California – Admission Requirements

Students planning to transfer to the University of California must follow the requirements listed below:

1. Applicants eligible for admission to the University as freshman, meaning they satisfied the Subject, Scholarship, and Examination Requirements, are eligible to transfer after they have a "C" (2.0) average in their transferable college coursework.

2. Applicants who met the Scholarship Requirement but did not satisfy the A-F Subject requirements must take transferable college courses in the missing high school subjects to be eligible to transfer. Students who met the Scholarship Requirement but did not meet the Examination requirement will need to complete a minimum of at least 12 semester units of transferable work to remedy this omission. All such applicants will need to earn a grade of "C" or better in each of these required courses and an overall "C" (2.0) average in all transferable college coursework completed.

3. Applicants not eligible for admission to the University as freshmen because they did not meet the Scholarship Requirement must:
   A. Complete 60 semester units of transferable college work with a grade pint average of at least 2.4. Some campuses and majors require higher grade point averages.
   B. Complete a course pattern requirement to include:
      1. Two transferable college courses (3 semester or 4-5 quarter units each) in English Composition;
      2. One transferable college course (3 semester or 4-5 quarter units each) in Mathematical Concepts and Quantitative Reasoning; and
      3. Four transferable college courses (3 semester or 4-5 quarter units each) chosen from at least two of the following subject areas: the Arts and Humanities; the Social and Behavioral Sciences; and the Physical and Biological Sciences.

55
Community College Honors Transfer Program - UCI

The Community College Honors Transfer Program gives students priority consideration for admission to UCI. Students in this program may use the UCI library and attend selected cultural activities on the UCI campus. Students wishing to participate in this program must first apply to and be accepted into the OCC Honors Program. Additional information about this program is available in the Transfer Center.

Transfer Alliance Program - UCLA

The Transfer Alliance Program (TAP) gives students priority consideration for admission to UCLA's College of Letters and Science. Students participating in TAP learn more about UCLA through meetings with UCLA counselors, faculty and students. TAP students may use the UCLA library and participate in cultural and sports events on the UCLA campus. TAP students must complete the OCC Honors Program. Students wishing to participate in TAP must first apply to and be accepted into the OCC Honors Program. Additional information about this program is available in the Transfer Center.

CAP – Transfer Agreement with UC Berkeley

The Cooperative Admission Program with the University of California at Berkeley provides UC-eligible high school applicants who are not admitted to the College of Letters and Science or the College of Environmental Design with the option to attend Orange Coast College and transfer to Berkeley in junior standing. Students in CAP must meet all program requirements and maintain a 3.3 GPA in transferable coursework taken at Orange Coast College. Students are selected by UC Berkeley to participate in this program prior to attending Orange Coast College.

TAG-Transfer Agreement with UC Riverside

UCR's Transfer Admission Guarantee (TAG) program encourages students to begin their work on their bachelor's degree at Orange Coast College and then transfer to UCR to complete it. TAG benefits include course planning assistance while you are at Orange Coast College by a UCR counselor, workshops on financial aid, housing and the application, and guaranteed admission to UCR. OCC also has an honors transfer agreement with UCR (HART). Information about the program is available in the Transfer Center.

General Education Requirements for the University of California

To earn a bachelor’s degree from the University of California, each student must complete a program of general education. To meet the general education requirements of the university, students can complete either the Intersegmental General Education Transfer Curriculum (Orange Coast College GE Option 3) or individual campus general education requirements. Orange Coast College strongly recommends that students follow the IGETC rather than the individual campus requirements as this will provide more flexibility when applying to transfer. IGETC should not be used for the following: Business Administration, Chemistry, Environmental Design and Natural Resources at UC Berkeley, Nursing at UCLA, Revell and Roosevelt College at UCSD. Engineering at all UC campuses, and other high unit majors at UC campuses (e.g. biological and physical sciences). Students who began at a UC campus and who intend to transfer back to the same campus cannot use IGETC. Some UC campuses do not allow students who began at another UC campus to use IGEC. Students in the above categories should follow the GE requirements of the UC campus they are transferring to.

INTERSEGMENTAL GENERAL EDUCATION TRANSFER CURRICULUM (IGETC) FOR UC

See the Graduation Requirements section of the Catalog for specific courses which meet these requirements.

1. ENGLISH COMMUNICATION - 6 units
2. MATHEMATICAL CONCEPTS - 3 units
3. ARTS AND HUMANITIES - 9 units
4. SOCIAL AND BEHAVIORAL SCIENCES - 9 units
5. PHYSICAL AND BIOLOGICAL SCIENCES - 7-9 units
6. LANGUAGE OTHER THAN ENGLISH - 0-5 units

The IGETC should be completed in its entirety prior to transfer. Students who do not complete the entire program before transfer may be subject to the regulations regarding general education of the school or college of the campus to which they have been admitted.

INDIVIDUAL CAMPUS GENERAL EDUCATION REQUIREMENTS

Each campus of the university has its own general education requirements. Students transferring to a specific UC campus can meet the general education requirements of that campus rather than follow the IGETC.

Orange Coast College has articulated individual general education requirements with several UC campuses.

Copies of these agreements are available in the Transfer Center and the Counseling Center.

INDEPENDENT AND OUT-OF-STATE COLLEGE AND UNIVERSITIES

In addition to state supported colleges and universities in California, there are many outstanding independent institutions in the state. There are also many colleges, both private and public, located throughout the United States which Orange Coast College students can transfer to. Each of these institutions has its own unique requirements for admission. In order to determine eligibility, students should obtain a copy of the school catalog and consult with their counselor.
General Education Requirements for Independent and Out-Of-State Colleges and Universities

Orange Coast College has articulated general education requirements with Biola University, Brigham Young University, Chapman University, Concordia University, Golden Gate University, Loma Linda University, Loyola Marymount University, Mount St. Mary’s College, National University, Occidental College, Pepperdine University, Oregon State, Scripps College, Vanguard University, Westmont College, Woodbury University, University of San Francisco and the University of Southern California. Students transferring to other independent or out-of-state institutions should obtain a catalog and meet with a counselor in order to determine appropriate general education requirements.

Transfer Agreements

Orange Coast College has transfer agreements with the following institutions:

- Chapman University (honors)
- Pepperdine University (honors)
- Pomona College (honors)
- University of Northern Colorado
- Rensselaer Polytechnic Institute
- University of Southern California (honors)

Information about these programs is available in the Transfer Center.
As never before in its history, America needs people who are trained in scientific; pro-
fessional and technical fields. Orange Coast College can provide that training.

Thousands of students enroll annually in OCC’s highly acclaimed career programs. We offer more than 50 programs which lead to exciting, well-paying careers within two years or less.

Our comprehensive programs, which grant certificates of achievement and/or the associate in arts degree, prepare students to become qualified employees as well as educated citizens. A number of programs offer transfer options to four-year colleges and universities. Our career courses are both professional and high tech. They are fully accredited and feature industry advisory committees which meet annually to ensure the course curriculum accurately reflects current industry standards.

Majors leading to technical competence in a variety of occupational areas are available at Orange Coast College. Business and industry are making ever increasing demands for education beyond high school level. These career programs are designed to prepare the graduate to enter a particular field of employment.

Students should refer to the Graduation Requirements section of this catalog for general education and elective courses for the associate in arts degree.

Students may follow the catalog requirements that were in effect for the academic year when their attendance began at Orange Coast College or follow the catalog requirements in effect during subsequent years of attendance provided that continuous enrollment has been maintained. Continuous enrollment is defined as enrollment in a course at OCC for at least one semester in a calendar year.

Students must maintain at least a 2.0 overall GPA using transcripts from all colleges attended, except where there are specific certificate requirements indicated. At least 12 units must be completed at Orange Coast College. At least 3 units in an advanced course from the program must be completed at Orange Coast College. Credit by ex-
amination may be required to determine extent of knowledge.
Career Programs

ACCOUNTING —
Accounting
Entry-Level Accounting
(Certificate of Completion)

AIRFRAME AND POWERPLANT TECHNOLOGY —
Airframe
Powerplant
Airframe and Powerplant
Avionics
Helicopter Theory and Maintenance
(Certificate of Completion)

AIRLINE TRAVEL CAREERS —
Flight
Ground

ARCHITECTURAL TECHNOLOGY

BIOTECHNOLOGY

AVIATION AND SPACE

CARDIOVASCULAR TECHNOLOGY —
Electrocardiography Technician
Echocardiography & Vascular Ultrasound
(Associate Degree)

COMMERCIAL ART —
Advertising Design
Illustration Design
Jewelry Design

COMPUTER INFORMATION SYSTEMS —
Business Application Development
Technical Computer Programming
CIS Certificates of Completion
C++ Programming
Visual Basic Programming
Web Design
Web Development

COMPUTERIZED OFFICE TECHNOLOGY —
(Formerly Office Information Systems)
Core Curriculum
(Certificate of Completion)
Electronic Office
General Office
Word Processing Management

CONSTRUCTION TECHNOLOGY —
Basic Construction Practices
Master Construction Specialist
Residential Construction Development
Residential Construction Professional
Upgrade (Certificate of Completion)

COSTUME CAREERS —
Costume Dresser
Costume Stitcher
Costume Cutter/Draper
Assistant Costume Designer (Associate Degree)

CULINARY ARTS —
Cook Apprentice
Culinary Arts
Advanced Culinary Arts

DANCE —
Dance Instructor
World Dance
Dance Conditioning/Pilates Instructor
(Certificate of Completion)

DENTAL ASSISTING —
REGISTERED

DIAGNOSTIC MEDICAL SONOGRAPHY —
(Associate Degree)

DIETETIC TECHNOLOGY
(See: NUTRITION CARE)

DIGITAL MEDIA ARTS —
Computer Graphics
Multimedia

DISPLAY AND VISUAL PRESENTATION

DRAFTING TECHNOLOGY —
Computer Aided Design/Drafting
Electro-Mechanical Design/Drafting
Mechanical Design/Drafting
Professional Upgrade Certificates of Completion:
Electro-Mechanical CADD
Dimensioning

EARLY CHILDHOOD EDUCATION —
Early Childhood Education
Early Childhood Administration
In-Home Caregiver
(Certificate of Completion)
School-Age Child Care
(Certificate of Completion)

ELECTRONICS TECHNOLOGY —
Electronics
Electronic Equipment Engineering
Services Technician
(Associate Degree)
Professional Upgrade Certificates of Completion:
Microcomputers
Test & Troubleshooting

EMERGENCY MEDICAL TECHNOLOGY —
Emergency Medical Technician – 1
(Certificate of Completion)

ENTERTAINMENT TECHNOLOGY —
Scenic Artist
Scenic Carpenter
Lighting Technician
Audio Technician

FASHION —
Costume (Associate Degree)
Design (Associate Degree)
Production (Associate Degree)
Apparel Construction (Associate Degree)
Fashion Merchandising
(Associate Degree)
Industrial Sewing
(Certificate of Completion)
PROGRAMS

FILM/VIDEO
FITNESS SPECIALIST —
Health Fitness Instructor/Personal Trainer
Group Fitness Instructor Training
(Certificate of Completion)

FOOD AND NUTRITION —
Food Science (Associate Degree)
Food Science Technician
Community Nutrition Assistant

FOOD SERVICE MANAGEMENT —
Child Nutrition Programs
Institutional – Dietetic Service Supervisor
Institutional – Dietetic Service Manager
Institutional – Dietetic Technician
(Associate Degree)
Restaurant (Associate Degree)
Restaurant Supervision
Catering
(Certificate of Completion)
Fast Food Services
(Certificate of Completion)

HEATING AND AIR CONDITIONING —
HVAC Technology

HOTEL MANAGEMENT —
Financial Management Specialist
Guest Service Specialist
Human Resources Specialist
Room Operations Specialist
Sales, Marketing & Event Specialist
Hotel Housekeeping & Maintenance Specialist
(Certificate of Completion)

INTERIOR DESIGN
(Associate Degree)

LEADERSHIP STUDIES
(Certificate of Completion)

MACHINE TECHNOLOGY —
Machinist
Tooling
CNC Machine Operator
CNC Machine Programmer
Professional Upgrade Certificates of Completion:
CNC Operator
CNC Programmer

MANAGEMENT —
Management
Management–Retail
Management Institute
(Certificate of Completion)

MARKETING (Merchandising) —
Advertising
International
Retail
Sales
International Studies
(Certificate of Completion)

MEDICAL ASSISTING —
Administrative/Clinical
Administrative
Clinical
Medical Insurance
(Certificate of Completion)

MEDICAL TRANSCRIPTION

MUSIC
Business Employee
Concert Sound Engineer
Composer/Orchestrator/Copyist
MIDI Applications
Musical Entertainer – Instrumental
Musical Entertainer – Vocal
Private Music Teacher
Studio Guitar Performer
Instrument Repair
(Certificate of Completion)

NEURODIAGNOSTIC TECHNOLOGY
(Associate Degree)
NDT Upgrade (Certificate of Completion)

NUTRITION CARE (Dietetic Technician)
(Associate Degree)

NUTRITION EDUCATION

ORNAMENTAL HORTICULTURE

PHOTOGRAPHY —STILL

POLYSOMNOGRAPHY

RADIOLOGIC TECHNOLOGY
(Diagnostic)
(Associate Degree)

RESPIRATORY CARE
(Associate Degree)

SPEECH-LANGUAGE PATHOLOGY ASSISTANT
(Associate Degree)

TECHNICAL WRITING
(Certificate of Completion)

WELDING TECHNOLOGY —
Welding
Weld Testing Certificates of Completion:
Basic Welding (SMAW)
Intermediate Welding (SMAW)
Advanced Welding (SMAW)
Advanced I Welding (FCAW)
Advanced II Welding (FCAW)
Gas Tungsten Arc Welding (GTAW)
Gas Metal Arc Welding (GMAW)
Pipe

Additional Nonvocational Programs —

COMPUTER INFORMATION SYSTEMS
(Four-Year College Transfer)

ETHNIC STUDIES —
Ethnic Studies
Ethnic Studies
(Certificate of Completion)

FAMILY AND CONSUMER SCIENCES
(formerly Home Economics)
(Associate Degree)
Personal Resource Management
(Certificate of Completion)

HOME MANAGEMENT

RELIGIOUS STUDIES
ACCOUNTING

The Accounting Certificate program contains coursework in principles of accounting, computer processing, data entry techniques, and intermediate and cost accounting. Completing the program will provide students with skills necessary for employment as public, private, or governmental bookkeepers.

Employment possibilities include:
- Account Clerk
- Cost Clerk
- Bookkeeper
- Accountant Trainee
- Junior Accountant
- Income Tax Form Clerk

CERTIFICATE OF ACHIEVEMENT

<table>
<thead>
<tr>
<th>Course</th>
<th>Required Courses</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Introduction to Business</td>
<td>Bus 100</td>
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<tr>
<td>Financial Accounting</td>
<td>Acct 101</td>
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<tr>
<td>Beg Computer Keyboarding</td>
<td>COT 109</td>
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<td>Managerial Accounting</td>
<td>Acct 102</td>
<td>(4)</td>
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<tr>
<td>Microcomputer Accounting</td>
<td>Acct 110</td>
<td>(3)</td>
</tr>
<tr>
<td>Intermediate Accounting</td>
<td>Acct 211</td>
<td>(4)</td>
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<tr>
<td>Intro to Info Sys &amp; Prog</td>
<td>C S 111</td>
<td>(4)</td>
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<tr>
<td>Federal Income Tax</td>
<td>Acct 111</td>
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<tr>
<td>Cost Accounting</td>
<td>Acct 210</td>
<td>(3)</td>
</tr>
</tbody>
</table>

Total: (29.5)

Suggested electives:
- Volunteer Income Tax Assist       | Acct 114         | (3)   |
- Business Law                      | Bus 110          | (3)   |
- Business Math                     | Bus 125          | (3)   |
- Business Communication            | Bus 139          | (3)   |
- Small Business Ownership          | Bus 240          | (3)   |
- Applied Management                | Mgmt 100         | (3)   |
- Human Relations & Supervision     | Mgmt 115         | (3)   |
- Introduction to Statistics        | Math 160         | (3)   |

ENTRY-LEVEL ACCOUNTING

This certificate, issued through the Business Division, provides students with basic accounting and computer accounting coursework. Completion of the certificate will enable students to apply for entry-level positions in accounting.

Students are required to obtain a grade of “C” or better in all required courses.

CERTIFICATE OF COMPLETION

<table>
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<th>Course</th>
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<tr>
<td>Managerial Accounting</td>
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<td>(4)</td>
</tr>
<tr>
<td>Microcomputer Accounting</td>
<td>Acct 110</td>
<td>(3)</td>
</tr>
</tbody>
</table>

Total: (11)

APPRENTICESHIP

The only apprenticeship program offered at Orange Coast College is the Cook Apprentice (see Culinary Arts).

Complete Certificate of Achievement and Graduation Requirements as outlined in the Graduation Requirements section of the catalog.
ARCHITECTURAL TECHNOLOGY

The program in architecture at Orange Coast College offers coursework in drafting, design, building materials and construction, graphics, building codes, site design, and computer-assisted design and drafting. Our comprehensive program provides students with the training and background necessary to transfer to a broad range of universities or to become employed by one of the more than 100 firms in this area which hire our graduates.

Orange Coast College has earned an unparalleled reputation for its program in architecture. One university’s spokesman called our program “one of the top three community college programs in the state.” Projected construction activity over the next several years should assure one of excellent employment opportunities in this field.

CERTIFICATE OF ACHIEVEMENT

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
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<tr>
<td>Intro to Architectural Graphics</td>
<td>Arch</td>
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<tr>
<td>Intro to Architecture</td>
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<td>Arch Draft &amp; Const Documents</td>
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<td>SPRING</td>
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<tr>
<td>Intro to Arch Design/Theory</td>
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<td>Arch Plan &amp; Const Documents</td>
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<td>Architectural Design Graphics</td>
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<td>FALL</td>
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<td>Architectural Design 2</td>
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<tr>
<td>Building Materials &amp; Systems</td>
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<td>Basic Comp Aided Dsgn/Draft</td>
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<td>History of Arch 1</td>
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<tr>
<td>History of Arch 2</td>
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<td>Freehand Drawing</td>
<td>Art</td>
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<td>Land &amp; Building Development</td>
<td>Arc/Const</td>
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<tr>
<td>Residential Energy Strds</td>
<td>Const</td>
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<tr>
<td>Computer Use in Technology</td>
<td>Comp HT</td>
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<tr>
<td>Fund of Interior Design</td>
<td>I D</td>
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<tr>
<td>Space Planning</td>
<td>I D</td>
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<tr>
<td>Technical Math</td>
<td>Tech</td>
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<tr>
<td>ASSOCIATE DEGREE</td>
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<tr>
<td>Complete Certificate of Achievement and Graduation Requirements as outlined in the Graduation Requirements section of the catalog.</td>
<td></td>
</tr>
</tbody>
</table>

ART

—See COMMERCIAL ART

63
AVIATION TECHNOLOGY

The Aviation Technology programs at OCC are divided into three areas: Airframe and Powerplant Technology, Aviation and Space, and Airline Travel Careers. The Airframe and Powerplant and Aviation and Space programs can be completed in approximately four semesters, while Airline Travel Careers can be completed in two semesters.

Students must complete the required courses for the specific program in which they are enrolled to qualify for that program’s Certificate of Achievement. Completion of a specific certificate program also satisfies the major requirement for the Associate in Arts degree. A minimum of 60 units is required for completion of the AA degree as specified in the Graduation Requirements section of this catalog.

The curriculum was developed by educators and industry representatives to ensure that course offerings accurately reflect current industry standards.

AVIATION TECHNOLOGY—AIRFRAME

The Airframe and Powerplant Technology program is divided into four areas: Airframe and Powerplant, Airframe, Powerplant, and Helicopters.

Students must complete the required courses for the specific program in which they are enrolled to qualify for that program’s Certificate of Achievement. Completion of a specific certificate program also satisfies the major requirement for the Associate in Arts degree. A minimum of 60 units is required for completion of the AA degree as specified in the Graduation Requirements section of this catalog.

The curriculum was developed by educators and industry representatives to ensure that course offerings accurately reflect current industry standards.

AIRFRAME AND POWERPLANT TECHNOLOGY

The Airframe and Powerplant Technology program is divided into four areas: Airframe and Powerplant, Airframe, Powerplant, and Helicopters.

Students must complete the required courses for the specific program in which they are enrolled to qualify for that program’s Certificate of Achievement. Completion of a specific certificate program also satisfies the major requirement for the Associate in Arts degree. A minimum of 60 units is required for completion of the AA degree as specified in the Graduation Requirements section of this catalog.

The curriculum was developed by educators and industry representatives to ensure that course offerings accurately reflect current industry standards.

The following job titles include senior positions earned after beginning in an entry-level position and advancing upward:

- Airframe & Powerplant Technician
- Airframe Mechanic
- Powerplant Mechanic
- Airline Maintenance Mechanic
- General Aviation Maintenance Mechanic
- Aircraft Manufacturer Flight Test Mechanic
- Civil Defense Aircraft Mechanic
- U.S. Military Aircraft Mechanic
- FAA Repair Station Technician
- Helicopter Mechanic
- Executive Aviation Mechanic
- Aircraft Inspector
- Engine Overhaul Mechanic (Turbine or Recips.)
- Aircraft Hydraulic, Pneumatic, Electrical Technician

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>General 1 Av T</td>
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<tr>
<td>General 2 Av T</td>
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<td>Gen-Airframe &amp; Powerplant 1 Av T</td>
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<td>General 3 Av T</td>
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<td>General 4 Av T</td>
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<td>General 5 Av T</td>
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<tr>
<td>Airframe 3 Av T</td>
<td>163</td>
</tr>
<tr>
<td>Commn/Navigation Systems</td>
<td>181</td>
</tr>
</tbody>
</table>

Program approved by the Federal Aviation Administration (FAA).

Completion of the above enables the student to take the FAA Airframe written examination.

ASSOCIATE DEGREE

Complete Certificate of Achievement and Graduation Requirements as outlined in the Graduation Requirements section of the catalog.
AIRFRAME AND POWERPLANT TECHNOLOGY—POWERPLANT

This program provides training for the student who desires to be only a Powerplant Technician. The training received enables the technician to return to service an aircraft powerplant and propeller after performing, supervising or inspecting its maintenance, overhaul or alterations.

The Certificate of Achievement can be acquired in three semesters.

This certificate would enable a student to achieve employment in local powerplant and propeller overhaul facilities and repair stations.

CERTIFICATE OF ACHIEVEMENT

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
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<tbody>
<tr>
<td>General 1 Av T</td>
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<tr>
<td>General 2 Av T</td>
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<td>General Airframe/Powerplant 1 Av T</td>
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<td>General 3 Av T</td>
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<td>Airframe &amp; Powerplant Instrumentation Av T</td>
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Total: (48.5)

Program approved by the Federal Aviation Administration (FAA).

Completion of the above enables the student to take the FAA Powerplant written examination.

ASSOCIATE DEGREE

Complete Certificate of Achievement and Graduation Requirements as outlined in the Graduation Requirements section of the catalog.

AIRFRAME AND POWERPLANT TECHNOLOGY

This program provides students with the technical skills and systems analysis necessary for entry-level positions as Airframe and Powerplant Certificated Mechanics in the aviation industry, such as airframe inspection, powerplant inspection, maintenance, and return-to-flight status of all types of U.S. Certificated aircraft.

Trained technicians are also successful in related fields of aircraft manufacturing, electronics, hydraulics, pneumatics, welding, sheet metal, quality control, civil and military defense. Additionally, students who have followed this program may earn an engineering degree at any one of several four-year institutions.

CERTIFICATE OF ACHIEVEMENT

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>General 1 Av T</td>
<td>150</td>
</tr>
<tr>
<td>General 2 Av T</td>
<td>151</td>
</tr>
<tr>
<td>General Airframe/Powerplant 1 Av T</td>
<td>152</td>
</tr>
<tr>
<td>General 3 Av T</td>
<td>153</td>
</tr>
<tr>
<td>General 4 Av T</td>
<td>154</td>
</tr>
<tr>
<td>General 5 Av T</td>
<td>155</td>
</tr>
<tr>
<td>Airframe &amp; Powerplant Instrumentation Av T</td>
<td>180</td>
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<tr>
<td>Fall</td>
<td>(61.5)</td>
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<tr>
<td>Spring</td>
<td></td>
</tr>
<tr>
<td>Airframe &amp; Powerplant Av T</td>
<td>160</td>
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<tr>
<td>Electricity 1 Av T</td>
<td>161</td>
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<tr>
<td>Airframe 2 Av T</td>
<td>162</td>
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<tr>
<td>Airframe 3 Av T</td>
<td>163</td>
</tr>
<tr>
<td>Commun/Navigation Systems Av T</td>
<td>181</td>
</tr>
<tr>
<td>Fall</td>
<td>(61.5)</td>
</tr>
<tr>
<td>Spring</td>
<td></td>
</tr>
<tr>
<td>Powerplant Systems 2 Av T</td>
<td>172</td>
</tr>
<tr>
<td>Powerplant Theory &amp; Maint 2 Av T</td>
<td>173</td>
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<tr>
<td>Powerplant Systems 3 Av T</td>
<td>174</td>
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</table>

Total: (61.5)

Program approved by the Federal Aviation Administration (FAA).

ASSOCIATE DEGREE

Complete Certificate of Achievement and Graduation Requirements as outlined in the Graduation Requirements section of the catalog.
AIRFRAME AND POWERPLANT TECHNOLOGY—AVIONICS

The Avionics program is designed to prepare students for entry-level positions as installation, maintenance and repair technicians for avionic equipment in private, corporate and commercial aircraft.

The aircraft industry is quickly evolving its level of sophisticated navigational and communications systems to include microprocessor-based systems in all areas of the airframe. This requires a new competent work force capable in the state-of-the-art technology of the future.

This two-semester certificate program combines theory and laboratory practices with hands-on application in actual aircraft. Upon completion, the student will be ready for employment in this fast growing and exciting field.

CERTIFICATE OF ACHIEVEMENT

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Airframe &amp; Powerplant Instrumentation</td>
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<tr>
<td>General 2</td>
<td>151</td>
</tr>
<tr>
<td>Aircraft Avionics Circuits</td>
<td>182</td>
</tr>
<tr>
<td>Commun/Navigation Systems</td>
<td>181</td>
</tr>
<tr>
<td>Aircraft Avionics Systems</td>
<td>184</td>
</tr>
<tr>
<td>Avionics Rules &amp; Regulations</td>
<td>188</td>
</tr>
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<td>Total</td>
<td>19.5</td>
</tr>
</tbody>
</table>

ASSOCIATE DEGREE

Complete certificate of achievement and graduation requirements as outlined in the Graduation Requirements section of the catalog.

HELICOPTER THEORY AND MAINTENANCE

This course provides students with the general knowledge of rotary wing development, technology, construction, and a general survey of the helicopter industry.

This course also provides a good understanding of the helicopter type aircraft to interested individuals, technicians and pilots.

CERTIFICATE OF COMPLETION

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Theory and Operations</td>
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</tr>
<tr>
<td>Helicopter Maintenance</td>
<td>290</td>
</tr>
<tr>
<td>Total</td>
<td>(7)</td>
</tr>
</tbody>
</table>

AIRLINE TRAVEL CAREERS

This program prepares men and women of all ages for the highly competitive customer service careers including Flight Attendant in the airline and travel industry. Classes include a career survey, hiring qualifications and requirements, communication skills, appearance and image standards, oral interviewing techniques, written employment seeking skills, airline, airport and travel terminology and codes, and airline reservations systems. Students will work at campus, John Wayne Airport, charity and community events to gain the public contact experience considered valuable in the travel industry. Most courses are nine weeks except those indicated by an asterisk.

CERTIFICATE OF ACHIEVEMENT

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Public Serv-AirLn/Trav Careers*</td>
<td>4</td>
</tr>
<tr>
<td>Personal Development, Appearance,</td>
<td>1.5</td>
</tr>
<tr>
<td>Flight Attendant Qualifications and</td>
<td>1.5</td>
</tr>
<tr>
<td>Travel Industry Operations and</td>
<td>1.5</td>
</tr>
<tr>
<td>Travel Safety Inflight/Ground</td>
<td>1.5</td>
</tr>
<tr>
<td>Service Excellence Inflight/Ground</td>
<td>1.5</td>
</tr>
<tr>
<td>Computer Reservation Systems 1*</td>
<td>3</td>
</tr>
<tr>
<td>Intercultural Awareness/ Etiquette</td>
<td>1.5</td>
</tr>
<tr>
<td>First Aid/CFR*</td>
<td>2</td>
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<tr>
<td>Select at least four and one half (4.5) units from the following:</td>
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</tr>
<tr>
<td>Travel Geography-United States</td>
<td>1.5</td>
</tr>
<tr>
<td>Travel Geography-Northern Europe</td>
<td>1.5</td>
</tr>
<tr>
<td>Travel Geography-Africa</td>
<td>1.5</td>
</tr>
<tr>
<td>Travel Geography-The Americas</td>
<td>1.5</td>
</tr>
<tr>
<td>Travel Geography-Southern Europe</td>
<td>1.5</td>
</tr>
<tr>
<td>Travel Geography-Eastern Europe</td>
<td>1.5</td>
</tr>
<tr>
<td>Travel Geography-Pacific Rim</td>
<td>1.5</td>
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<tr>
<td>Total</td>
<td>(27)</td>
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</table>

Suggested electives:

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Conversational Language*</td>
<td>3</td>
</tr>
<tr>
<td>Management-Travel/Aviation</td>
<td>1.5</td>
</tr>
<tr>
<td>Beg Computer Keyboarding</td>
<td>1.5</td>
</tr>
<tr>
<td>Consumer Economics*</td>
<td>3</td>
</tr>
<tr>
<td>Interpersonal Communication*</td>
<td>3</td>
</tr>
</tbody>
</table>

ASSOCIATE DEGREE

Complete Certificate of Achievement and Graduation Requirements as outlined in the Graduation Requirements section of the catalog.
# Airline Travel Careers—Ground

**Certificate of Achievement**

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Course</strong></td>
<td></td>
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<tr>
<td>Public Serv-AirLn/Trav Careers*</td>
<td>105AC (4)</td>
</tr>
<tr>
<td>Personal Development, Appearance, Image, Attitude</td>
<td>110 (1.5)</td>
</tr>
<tr>
<td>Travel Careers Survey</td>
<td>111 (1.5)</td>
</tr>
<tr>
<td>Employment Skills Written</td>
<td>114 (1.5)</td>
</tr>
<tr>
<td>Interviewing Skills</td>
<td>115 (1.5)</td>
</tr>
<tr>
<td>Travel Industry Operations, Terminology, History</td>
<td>116 (1.5)</td>
</tr>
<tr>
<td>Travel Safety Inflight/Ground</td>
<td>119 (1.5)</td>
</tr>
<tr>
<td>Service Excellence Inflight/Gmd</td>
<td>120 (1.5)</td>
</tr>
<tr>
<td>Computer Reservation Systems 1*</td>
<td>129 (3)</td>
</tr>
<tr>
<td>Computer Reservation Systems 2</td>
<td>131 (1.5)</td>
</tr>
<tr>
<td>Intercultural Awareness/Etiquette</td>
<td>132 (1.5)</td>
</tr>
<tr>
<td>First Aid/CPR*</td>
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</table>

Select at least four and one half (4.5) units from the following:

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
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</thead>
<tbody>
<tr>
<td>Travel Geography-United States</td>
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<tr>
<td>Travel Geography-Northern Europe</td>
<td>123 (1.5)</td>
</tr>
<tr>
<td>Travel Geography-Africa</td>
<td>124 (1.5)</td>
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<tr>
<td>Travel Geography-The Americas</td>
<td>125 (1.5)</td>
</tr>
<tr>
<td>Travel Geography-Southern Europe</td>
<td>126 (1.5)</td>
</tr>
<tr>
<td>Travel Geography-Eastern Europe</td>
<td>127 (1.5)</td>
</tr>
<tr>
<td>Travel Geography-Pacific Rim</td>
<td>128 (1.5)</td>
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<tr>
<td><strong>Total:</strong></td>
<td>26</td>
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</table>

**Suggested electives:**

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
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</thead>
<tbody>
<tr>
<td>Management-Travel/Aviation</td>
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<tr>
<td>Beg Computer Keyboarding</td>
<td>109 (1.5)</td>
</tr>
<tr>
<td>Consumer Economics*</td>
<td>110 (3)</td>
</tr>
<tr>
<td>Interpersonal Communication*</td>
<td>100 (3)</td>
</tr>
<tr>
<td>Conversational Language*</td>
<td></td>
</tr>
</tbody>
</table>

*Eighteen-week courses

## Aviation and Space

This program offers training in areas such as corporate piloting, commuter airline piloting, aerial photography, and flight instruction. The curriculum also exposes students to space systems and employment opportunities in local aerospace corporations.

**Certificate of Achievement**

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>FALL</strong></td>
<td></td>
</tr>
<tr>
<td>Aviation Ground School</td>
<td>Av Spc 130 (5)</td>
</tr>
<tr>
<td>Basic Air Transportation</td>
<td>Av Spc 180 (3)</td>
</tr>
<tr>
<td>Aviation-Meteorology</td>
<td>Av Spc 133 (3)</td>
</tr>
<tr>
<td><strong>SPRING</strong></td>
<td></td>
</tr>
<tr>
<td>Aviation-Navigation</td>
<td>Av Spc 132 (3)</td>
</tr>
<tr>
<td>Instrument Ground School</td>
<td>Av Spc 134 (3)</td>
</tr>
<tr>
<td>Astronautics/Spacecraft Design</td>
<td>Av Spc 195 (3)</td>
</tr>
<tr>
<td><strong>FALL</strong></td>
<td></td>
</tr>
<tr>
<td>Aviation Ground School</td>
<td>Av Spc 139 (3)</td>
</tr>
<tr>
<td>GPS Nav &amp; Elect Flite Planning</td>
<td>Av Spc 191 (3)</td>
</tr>
<tr>
<td><strong>Total:</strong></td>
<td>26</td>
</tr>
</tbody>
</table>

**Suggested electives:**

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Air Traffic Control for Pilots</td>
<td>Av Spc 125 (1.5)</td>
</tr>
<tr>
<td>Seating-Glider Ground School</td>
<td>Av Spc 136 (3)</td>
</tr>
<tr>
<td>Aircraft Engines</td>
<td>Av Spc 135 (3)</td>
</tr>
<tr>
<td>Aircraft Preventive Maintenance</td>
<td>Av Spc 137 (1.5)</td>
</tr>
<tr>
<td>Aerodynamics</td>
<td>Av Spc 138 (3)</td>
</tr>
<tr>
<td>Flight Instructor Ground School</td>
<td>Av Spc 140 (3)</td>
</tr>
<tr>
<td>Flight Simulator Course</td>
<td>Av Spc 141AB (2)</td>
</tr>
<tr>
<td>Turbine Aircraft Systems</td>
<td>Av Spc 145 (3)</td>
</tr>
<tr>
<td>Space Station</td>
<td>Av Spc 196 (1.5)</td>
</tr>
<tr>
<td>Advanced Space Systems</td>
<td>Av Spc 197 (1.5)</td>
</tr>
</tbody>
</table>

**Associate Degree**

Complete Certificate of Achievement and Graduation Requirements as outlined in the Graduation Requirements section of the catalog.
AVIATION AND SPACE
Professional Upgrade Certificates

The following Professional Upgrade Certificates of Completion are intended for the advanced student or the employed aerospace professional who desires advanced or recurrent training in a specific area. Certificates may be obtained from the Technology Division office by bringing in official records showing the successful completion of required courses.

Space Systems
A program of study which covers current topics in the aerospace industry for the advanced student or working professional employed at a government agency or private contractor. Topics include space shuttle systems, mission operations and support, flight crew selection and training, International Space Station components and systems, commercial satellites and launch services, and local industry employment opportunities supporting America’s space program.

CERTIFICATE OF COMPLETION
Required Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Astronautics &amp; Spacecraft Design</td>
<td>195</td>
</tr>
<tr>
<td>Space Station</td>
<td>196</td>
</tr>
</tbody>
</table>

(4.5)

Turbine Transition
A program of study which covers turbine aircraft systems and cockpit resource management. The courses are intended to explore those topics that a student would cover in obtaining a type rating in a Cessna Citation or Boeing 737-200. The student will also become familiar with CRM and how it is utilized in the cockpits of commuter, corporate, and airline flightdecks.

CERTIFICATE OF COMPLETION
Required Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Turbine Aircraft Systems</td>
<td>145</td>
</tr>
<tr>
<td>Human Factors &amp; Cockpit Resource Management</td>
<td>192</td>
</tr>
</tbody>
</table>

(4.5)

The following Biotechnology program is pending State Chancellor’s office approval.

BIOTECHNOLOGY

The Biotechnology Research Assistant program is a four semester (two year) program offering a certificate in Biotechnology. It provides a broad-based education in biotechnology. The program offers hands-on training using methods involving DNA manipulation such as PCR, gene cloning, and subcloning. Protein purification and manipulation, as well as plant and animal cell culture techniques, will also be emphasized. The certificate is designed to prepare the student for entry-level positions in the biotechnology industry, as well as technician positions at research laboratories. The program includes a summer internship in local industry or at the University of California, Irvine.

CERTIFICATE OF ACHIEVEMENT

Required prerequisites:
- Math 030 or qualifying mathematics placement score for Math 120 or higher (4)
- Chemistry 130 or placement in Chemistry 180 based on chemistry assessment (4)
- Eligibility to enroll in English 100 (3)

Subtotal: (11)

Required Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
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<tbody>
<tr>
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<tr>
<td>Cell &amp; Molecular Biol</td>
<td>Biol 181 (4)</td>
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<tr>
<td>General Chemistry</td>
<td>Chem 180 (5)</td>
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<tr>
<td>Freshman Composition</td>
<td>Engl 100 (3)</td>
</tr>
<tr>
<td>SPRING</td>
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</tr>
<tr>
<td>General Microbiology</td>
<td>Biol 210 (5)</td>
</tr>
<tr>
<td>General Chemistry</td>
<td>Chem 185 (5)</td>
</tr>
<tr>
<td>Intro to Statistics</td>
<td>Math 160 (3)</td>
</tr>
<tr>
<td>FALL</td>
<td></td>
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<tr>
<td>Special Topics-Biotech</td>
<td>Biol 199 (1)</td>
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<tr>
<td>Structure &amp; Function Cells</td>
<td>Biol 230 (3)</td>
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<tr>
<td>Lab Methods Biotechnology</td>
<td>Biol 250 (5)</td>
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<tr>
<td>Technical Report Writing</td>
<td>Engl 105 (3)</td>
</tr>
<tr>
<td>SPRING</td>
<td></td>
</tr>
<tr>
<td>Adv Lab Methods Biotech</td>
<td>Biol 251 (5)</td>
</tr>
<tr>
<td>Molecular Biol 1: Biochem</td>
<td>Biol 281 (2)</td>
</tr>
<tr>
<td>Protein Chemistry Lab</td>
<td>Biol/Chem 281L (1)</td>
</tr>
<tr>
<td>Molecular Biol 2: Molecular Bio</td>
<td>Biol 282 (2)</td>
</tr>
<tr>
<td>Ethics</td>
<td>Phil 120 (3)</td>
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<tr>
<td>SUMMER</td>
<td></td>
</tr>
<tr>
<td>Internship Academy-Level 3</td>
<td>Intern 393AB (3)</td>
</tr>
</tbody>
</table>

Total: (53)

ASSOCIATE DEGREE

Complete Certificate of Achievement and Graduation Requirements as outlined
CARDIOVASCULAR TECHNOLOGY

Cardiovascular technology is an allied health profession concerned with the diagnosis and treatment of patients with heart and blood vessel disease. The cardiovascular technologist performs tests at the request of a physician to obtain information about that patient’s heart and blood vessel anatomy and function so the physician can make a diagnosis. The profession of cardiovascular technology includes three areas of diagnostic evaluation: 1) invasive cardiovascular technology (diagnosis of heart disease by cardiac catheterization), 2) noninvasive cardiovascular technology (diagnosis of heart disease by cardiac ultrasound, exercise, and electrocardiographic testing), and 3) noninvasive peripheral vascular study (diagnosis of blood vessel disease using ultrasound testing).

The Cardiovascular Technology program provides the necessary classroom and clinical courses to allow graduates to work as noninvasive cardiovascular technologists. Specifically, the program objectives include:

1. Graduate qualified ECG technologists.
2. Graduate qualified noninvasive cardiovascular technologists who obtain RDCS within two years of completing the program and who are qualified in all noninvasive tests.
3. Provide an adequate number of graduates to meet the need for employees within the community.

During the first year of the program, students learn basic medical sciences and noninvasive cardiovascular tests including electrocardiography (ECG), exercise testing, Holter monitoring, pacemaker evaluation and continuous cardiac monitoring. Students may exit the program after the first year and obtain a Certificate of Achievement as an Electrocardiography Technician. With this certificate, graduates may obtain employment as an ECG technician, stress testing technician, Holter monitor technician, pacemaker technician and/or monitor (telemetry) technician.

Students wishing to complete the two-year program must complete the first year courses and Diagnostic Medical Sonography 150, and have an Associate in Arts degree or its equivalent or satisfy the requirements for an Associate in Arts degree before the Echocardiography and Vascular Ultrasound certificate can be awarded. Graduates of the Noninvasive Cardiovascular Technology program option may obtain employment as a cardiovascular technologist performing all noninvasive tests, particularly cardiac ultrasound or echocardiography. Additionally, graduates may perform limited cerebrovascular ultrasound tests.

---

ELECTROCARDIOGRAPHY

TECHNICIAN

Employment possibilities include:

- ECG Technician
- Stress Testing Technician
- Holter Monitor Technician
- Pacemaker Technician
- Monitor (Telemetry) Technician

CERTIFICATE OF ACHIEVEMENT

<table>
<thead>
<tr>
<th>Program prerequisites:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Health Occupations</td>
</tr>
<tr>
<td>Anatomy-Physiology</td>
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Subtotal: (4.5)

Required Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
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</thead>
<tbody>
<tr>
<td><strong>FALL</strong></td>
<td></td>
</tr>
<tr>
<td>Intro Info Sys &amp; Appl CIS 100</td>
<td>3</td>
</tr>
<tr>
<td>Medical Terminology AI H 111</td>
<td>3</td>
</tr>
<tr>
<td>Patient Care AI H 115</td>
<td>2.5</td>
</tr>
<tr>
<td>Intro to Electrocardiography CVT 100</td>
<td>(2)</td>
</tr>
<tr>
<td>Cardiac Anat &amp; Pathophysiology CVT 160</td>
<td>(3)</td>
</tr>
<tr>
<td>Technical Math Tech 040</td>
<td></td>
</tr>
<tr>
<td><strong>SPRING</strong></td>
<td></td>
</tr>
<tr>
<td>Human Diseases AI H 120</td>
<td>2</td>
</tr>
<tr>
<td>Intro to Invasive Cardiology CVT 130</td>
<td>(3)</td>
</tr>
<tr>
<td>Adv Electrocardiography CVT 150</td>
<td>(2)</td>
</tr>
<tr>
<td>ECG Clinical Experience CVT 170</td>
<td>(3)</td>
</tr>
</tbody>
</table>

Total: (31)

Students are required to obtain a grade of “C” or better in all required courses.

ASSOCIATE DEGREE

Complete Certificate of Achievement and Graduation Requirements as outlined in the Graduation Requirements section of the catalog.
CARDOVASCULAR TECHNOLOGY—
ECHOCARDIOGRAPHY
AND VASCULAR ULTRASOUND

Employment possibilities include:
Noninvasive Cardiovascular Technologist
Echocardiographer/Echocardiography Technologist
Cerebrovascular Ultrasound Technologist

ASSOCIATE DEGREE PROGRAM
This is an Associate Degree program which requires an Associate in Arts
Degree or higher from an accredited college before the certificate can be
awarded. Students who do not already have a degree must complete the
Orange Coast College Graduation Requirements for the AA Degree, including
General Education Options 1, 2 or 3.

Required prerequisites:
Electrocardiography Technician
Certificate of Achievement

Subtotal: (31)

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sono Physics/Instrumentation</td>
<td>150</td>
</tr>
<tr>
<td>Intro to Echocardiography</td>
<td>200</td>
</tr>
<tr>
<td>Intro to Echocardiography Lab</td>
<td>205</td>
</tr>
<tr>
<td>Echocardiography Clin Lab 1</td>
<td>210</td>
</tr>
<tr>
<td>Adv Echocardiography</td>
<td>250</td>
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<tr>
<td>Adv Echocardiography Lab</td>
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<tr>
<td>Cerebrovascular Ultrasound</td>
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</tr>
<tr>
<td>Echocardiography Clin Lab 2</td>
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</table>

Total: (54.5)

Students are required to obtain a grade of “C” or better in all required
courses.

COMMERCIAL ART—
ADVERTISING DESIGN

This two-year certificate program is intended to prepare the student for an
early “entry-level” into the advertising art industry.

Employment possibilities in the field of art are highly dependent on the quality
of one’s artistic portfolios. Therefore, employment such as a graphic artist
or advertising layout designer is only possible when a student has a very
broad and strong portfolio in addition to basic art courses.

CERTIFICATE OF ACHIEVEMENT

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Color &amp; Design 2-D</td>
<td>110</td>
</tr>
<tr>
<td>Lettering/Computer Typography</td>
<td>115</td>
</tr>
<tr>
<td>Freehand Drawing</td>
<td>120</td>
</tr>
<tr>
<td>Product Illustration 1</td>
<td>118</td>
</tr>
<tr>
<td>Computer Art Production</td>
<td>163</td>
</tr>
<tr>
<td>Basic Photography</td>
<td>120</td>
</tr>
<tr>
<td>Rapid Illustration</td>
<td>117</td>
</tr>
<tr>
<td>Story Illustration Techniques</td>
<td>143AD</td>
</tr>
<tr>
<td>Advertising Design 1</td>
<td>160</td>
</tr>
<tr>
<td>Contemporary Art History</td>
<td>102</td>
</tr>
<tr>
<td>Advertising Design 2</td>
<td>161</td>
</tr>
<tr>
<td>Professional Studies</td>
<td>180</td>
</tr>
<tr>
<td>Color &amp; Design 3-D</td>
<td>111</td>
</tr>
<tr>
<td>Life Drawing</td>
<td>121AD</td>
</tr>
<tr>
<td>Intro to Computer Graphics</td>
<td>181</td>
</tr>
<tr>
<td>Illus &amp; Computer Graphics 1</td>
<td>190</td>
</tr>
<tr>
<td>2-D Animation</td>
<td>280AC</td>
</tr>
<tr>
<td>Video Workshop</td>
<td>110</td>
</tr>
<tr>
<td>Advertising Copywriting</td>
<td>114</td>
</tr>
<tr>
<td>Principles of Advertising</td>
<td>130</td>
</tr>
</tbody>
</table>

Total: (35)

Suggested electives:

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Color &amp; Design 3-D</td>
<td>111</td>
</tr>
<tr>
<td>Life Drawing</td>
<td>121AD</td>
</tr>
<tr>
<td>Intro to Computer Graphics</td>
<td>181</td>
</tr>
<tr>
<td>Illus &amp; Computer Graphics 1</td>
<td>190</td>
</tr>
<tr>
<td>2-D Animation</td>
<td>280AC</td>
</tr>
<tr>
<td>Video Workshop</td>
<td>110</td>
</tr>
<tr>
<td>Advertising Copywriting</td>
<td>114</td>
</tr>
<tr>
<td>Principles of Advertising</td>
<td>130</td>
</tr>
</tbody>
</table>

ASSOCIATE DEGREE
Complete Certificate of Achievement and Graduation Requirements as outlined
in the Graduation Requirements section of the catalog.
**COMMERCIAL ART—ILLUSTRATION DESIGN**

The Illustration Design option places its emphasis on a great variety of drawing and painting courses. The diversity of this curriculum may lead the student into career alternatives, such as illustrating for books, magazines, record album covers and brochures.

### CERTIFICATE OF ACHIEVEMENT

<table>
<thead>
<tr>
<th>Course</th>
<th>First Semester</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Color &amp; Design 2-D</td>
<td>Art</td>
<td>110</td>
</tr>
<tr>
<td>Rapid Illustration Techniques</td>
<td>Art</td>
<td>117</td>
</tr>
<tr>
<td>Freehand Drawing</td>
<td>Art</td>
<td>120</td>
</tr>
<tr>
<td><strong>Second Semester</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Color &amp; Design 3-D</td>
<td>Art</td>
<td>111</td>
</tr>
<tr>
<td>Life Drawing</td>
<td>Art</td>
<td>121AD</td>
</tr>
<tr>
<td>Perspective</td>
<td>Art</td>
<td>125</td>
</tr>
<tr>
<td>Advertising Design 1</td>
<td>Art</td>
<td>160</td>
</tr>
<tr>
<td><strong>Third Semester</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Painting 1</td>
<td>Art</td>
<td>130</td>
</tr>
<tr>
<td>Story Illustration Techniques</td>
<td>Art</td>
<td>143AD</td>
</tr>
<tr>
<td>Figure Composition</td>
<td>Art</td>
<td>220AD</td>
</tr>
<tr>
<td><strong>Fourth Semester</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Printmaking 1</td>
<td>Art</td>
<td>170</td>
</tr>
<tr>
<td>Professional Studies</td>
<td>Art</td>
<td>180</td>
</tr>
<tr>
<td>Intro to Marketing</td>
<td>Mktg</td>
<td>100</td>
</tr>
</tbody>
</table>

**Total:** (38)

Suggested electives:
- Contemporary Art History: Art 102 (3)
- 2-D Animation: DMA 280AC (4)

### ASSOCIATE DEGREE

Complete Certificate of Achievement and Graduation Requirements as outlined in the Graduation Requirements section of the catalog.

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**COMMERCIAL ART—JEWELRY DESIGN**

The Jewelry Design program offers a strong fine arts background in design, materials and techniques. Further studies at the university level are encouraged; however, potential areas of employment exist in freelance jewelry design, sales, and activities related to retirement and recreational programs.

### CERTIFICATE OF ACHIEVEMENT

<table>
<thead>
<tr>
<th>Course</th>
<th>First Semester</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Color &amp; Design 2-D</td>
<td>Art</td>
<td>110</td>
</tr>
<tr>
<td>Freehand Drawing</td>
<td>Art</td>
<td>120</td>
</tr>
<tr>
<td><strong>Second Semester</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Color &amp; Design 3-D</td>
<td>Art</td>
<td>111</td>
</tr>
<tr>
<td>Sculpture 1</td>
<td>Art</td>
<td>141</td>
</tr>
<tr>
<td>Jewelry 1</td>
<td>Art</td>
<td>147</td>
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<tr>
<td><strong>Third Semester</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Jewelry 2</td>
<td>Art</td>
<td>247AC</td>
</tr>
<tr>
<td>Intro to Marketing</td>
<td>Mktg</td>
<td>100</td>
</tr>
<tr>
<td><strong>Fourth Semester</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Professional Studies</td>
<td>Art</td>
<td>180</td>
</tr>
<tr>
<td>Sculpture 2</td>
<td>Art</td>
<td>241AC</td>
</tr>
</tbody>
</table>

**Total:** (26)

### ASSOCIATE DEGREE

Complete Certificate of Achievement and Graduation Requirements as outlined in the Graduation Requirements section of the catalog.
The goal of the CIS program is to provide students with the technical skills and systems perspective necessary for entry-level positions in the computer and information industry or for transfer to a four-year degree program at state colleges and universities.

**COMPUTER INFORMATION SYSTEMS—BUSINESS APPLICATION DEVELOPMENT**

Designed to provide a good foundation for students who are interested in developing computer applications. Students may choose courses in a number of areas to develop a general understanding of the field or they may choose to study a particular specialization or two in greater depth. In today's dynamic and changing technological environment, continuous professional upgrading is a requirement.

### CERTIFICATE OF ACHIEVEMENT

#### CORE CURRICULUM

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Financial Accounting</td>
<td>Acct 101 (4)</td>
</tr>
<tr>
<td>Intro to Info Sys &amp; Prog</td>
<td>C S 111 (4)</td>
</tr>
<tr>
<td>First Course in Visual BASIC*</td>
<td>C S 118</td>
</tr>
<tr>
<td>(Or)</td>
<td></td>
</tr>
<tr>
<td>Pascal Programming*</td>
<td>C S 115 (4)</td>
</tr>
<tr>
<td>(Or)</td>
<td></td>
</tr>
<tr>
<td>Java Programming*</td>
<td>C S 170</td>
</tr>
<tr>
<td>Finite Math (5)</td>
<td>Math 154</td>
</tr>
<tr>
<td>(Or)</td>
<td></td>
</tr>
<tr>
<td>Calculus 1 (5)</td>
<td>Math 180</td>
</tr>
<tr>
<td>(Or)</td>
<td></td>
</tr>
<tr>
<td>Honors Calculus 1 (5)</td>
<td>Math 180H</td>
</tr>
<tr>
<td>(Or)</td>
<td></td>
</tr>
<tr>
<td>Calculus for BMSS (5)</td>
<td>Math 157</td>
</tr>
</tbody>
</table>

**Technical Programming**

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Microcomputer Sys Development</td>
<td>C S 240</td>
</tr>
<tr>
<td>Computer Architecture</td>
<td>C S 116 (4)</td>
</tr>
</tbody>
</table>

**Visual Basic Programming**

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Second Course in Visual Basic</td>
<td>C S 119 (4)</td>
</tr>
<tr>
<td>Access Programming</td>
<td>C S 165</td>
</tr>
<tr>
<td>Active Server Pages</td>
<td>CIS 224 (2)</td>
</tr>
</tbody>
</table>

**Web Development**

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intro to the Internet (1.5)</td>
<td>CIS 122</td>
</tr>
<tr>
<td>(Or)</td>
<td></td>
</tr>
<tr>
<td>Internet for Technology (2)</td>
<td>Comp HT 109</td>
</tr>
<tr>
<td>Intro to Web Page Design (2)</td>
<td>CIS 123 (2)</td>
</tr>
<tr>
<td>(Or)</td>
<td></td>
</tr>
<tr>
<td>Internet Web Publishing (2)</td>
<td>Comp HT 209</td>
</tr>
<tr>
<td>Adv Web Page Design</td>
<td>CIS 223</td>
</tr>
<tr>
<td>Intro to FrontPage</td>
<td>CIS 124</td>
</tr>
<tr>
<td>Intro to E-Commerce</td>
<td>CIS/Bus 126 (2)</td>
</tr>
<tr>
<td>JavaScript Programming</td>
<td>CIS 171 (2)</td>
</tr>
</tbody>
</table>

**Java Programming**

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Java Servlet Programming</td>
<td>CIS 172</td>
</tr>
<tr>
<td>Java Server Pages</td>
<td>CIS 173</td>
</tr>
</tbody>
</table>

**Programming Environment**

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Local Area Networking</td>
<td>CIS 191</td>
</tr>
<tr>
<td>Computer Data Communications</td>
<td>CIS 195</td>
</tr>
<tr>
<td>Intro to Systems Analysis</td>
<td>CIS 175</td>
</tr>
<tr>
<td>DOS and Utilities</td>
<td>CIS 104</td>
</tr>
<tr>
<td>Intro to Unix</td>
<td>CIS 106</td>
</tr>
<tr>
<td>MS Windows</td>
<td>CIS/Bus 107</td>
</tr>
<tr>
<td>PC Concepts A++Cert Prep</td>
<td>CIS 110</td>
</tr>
</tbody>
</table>

**Total:** 35 units

Courses marked by asterisk (*) may not be used to satisfy both the core requirement and the specialization requirement.

Students must complete core courses plus 18 units from the following list of specialized application development courses. All courses do not need to be taken from the same area of specialization.

### ASSOCIATE DEGREE

Complete Certificate of Achievement and Graduation Requirements as outlined in the Graduation Requirements section of the catalog.
COMPUTER INFORMATION SYSTEMS—TECHNICAL COMPUTER PROGRAMMING

The personal computer, desktop computer, or home computer by any other name is probably a microprocessor. An option in this challenging program includes a knowledge of the hardware and operation as well as the programming languages used by the system. Designed for the student to use microprocessors for personal or professional growth.

CERTIFICATE OF ACHIEVEMENT

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intro to Info Sys &amp; Prog</td>
<td>C S 111 (4)</td>
</tr>
<tr>
<td>Pascal Programming</td>
<td>C S 115 (4)</td>
</tr>
<tr>
<td>Computer Architecture (4)</td>
<td>C S 116</td>
</tr>
<tr>
<td>Microcomputer Sys Development (4)</td>
<td>C S 240</td>
</tr>
<tr>
<td>Digital Comptes/Microprocess (4)</td>
<td>Elec 241</td>
</tr>
<tr>
<td>(And)</td>
<td></td>
</tr>
<tr>
<td>Applied Digital Circuits (4)</td>
<td>Elec 245</td>
</tr>
<tr>
<td>C++ Programming 1</td>
<td>C S 150 (4)</td>
</tr>
<tr>
<td>C++ Programming 2</td>
<td>C S 250</td>
</tr>
<tr>
<td>Computer Programming</td>
<td>C S 270</td>
</tr>
<tr>
<td>Local Area Networking</td>
<td>CIS 191 (4)</td>
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<tr>
<td>Basic Digital Technology</td>
<td>Elec 135 (3)</td>
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<tr>
<td><strong>Total:</strong></td>
<td><strong>(31)</strong></td>
</tr>
</tbody>
</table>

ASSOCIATE DEGREE

Complete Certificate of Achievement and Graduation Requirements as outlined in the Graduation Requirements section of the catalog.

COMPUTER INFORMATION SYSTEMS (FOUR-YEAR COLLEGE TRANSFER)

This option provides the student with the necessary lower division transfer courses for most business oriented majors. C S 115, Pascal, is accepted at some four-year institutions in place of C S 120, Beginning COBOL. C S 111, Introduction to Information Systems and Programming or CIS 100, Introduction to Information Systems and Microcomputer Applications, and C S 113, BASIC, are accepted by a few four-year institutions. Students are advised to check course transferability with the school to which they intend to transfer prior to enrolling in CIS courses.

CERTIFICATE OF ACHIEVEMENT

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Financial Accounting</td>
<td>Acct 101 (4)</td>
</tr>
<tr>
<td>Managerial Accounting</td>
<td>Acct 102 (4)</td>
</tr>
<tr>
<td>Business Law</td>
<td>Bus 110 (3)</td>
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<tr>
<td>Intro to Info Sys &amp; Prog</td>
<td>C S 111</td>
</tr>
<tr>
<td>(Or)</td>
<td></td>
</tr>
<tr>
<td>Intro to Info Sys &amp; Appl</td>
<td>CIS 100 (4)</td>
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<tr>
<td>(And)</td>
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</tr>
<tr>
<td>BASIC (1)</td>
<td>C S 113</td>
</tr>
<tr>
<td>PASCAL Programming (4)</td>
<td>C S 115</td>
</tr>
<tr>
<td>(Or)</td>
<td></td>
</tr>
<tr>
<td>Second Course in Visual Basic</td>
<td>C S 119</td>
</tr>
<tr>
<td>First Course in Visual Basic</td>
<td>C S 118 (4)</td>
</tr>
<tr>
<td>Intro to Systems Analysis</td>
<td>CIS 175 (3)</td>
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<tr>
<td>Macroeconomics</td>
<td>Econ 180 (3)</td>
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<td>Microeconomics</td>
<td>Econ 185 (3)</td>
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<td>Calculus for BMSS (5)</td>
<td>Math 157</td>
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<tr>
<td>(Or)</td>
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</tr>
<tr>
<td>Calculus 1 (5)</td>
<td>Math 180</td>
</tr>
<tr>
<td><strong>Total:</strong></td>
<td><strong>(37)</strong></td>
</tr>
</tbody>
</table>

ASSOCIATE DEGREE

Complete Certificate of Achievement and Graduation Requirements as outlined in the Graduation Requirements section of the catalog.
COMPUTER INFORMATION SYSTEMS  
C++ PROGRAMMING
Completion of this certificate, issued through the Business Education division, will enable students to apply for entry-level positions in C++ programming. A grade of "C" or better is required in all courses. All courses must be completed at Orange Coast College.

CERTIFICATE OF COMPLETION
Complete three (3) courses from this list.

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>C++ Programming 1</td>
<td>C S</td>
</tr>
<tr>
<td>Windows Programming C++</td>
<td>C S</td>
</tr>
<tr>
<td>C++ Programming 2</td>
<td>C S</td>
</tr>
<tr>
<td>Data Structures</td>
<td>C S</td>
</tr>
</tbody>
</table>

**Total:** (12)

VISUAL BASIC PROGRAMMING
Completion of this certificate, issued through the Business Education division, will enable students to apply for entry-level positions in Visual Basic programming. A grade of "C" or better is required in all courses. All courses must be completed at Orange Coast College.

CERTIFICATE OF COMPLETION
Complete three (3) courses from this list.

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>First Course in Visual Basic</td>
<td>C S</td>
</tr>
<tr>
<td>Second Course in Visual Basic</td>
<td>C S</td>
</tr>
<tr>
<td>Access Programming</td>
<td>C S</td>
</tr>
<tr>
<td>Active Server Pages</td>
<td>C S</td>
</tr>
</tbody>
</table>

**Total:** (10-12)

WEB DESIGN
Completion of this certificate, issued through the Business Education division, will enable students to apply for entry-level positions in designing for the World Wide Web. A grade of "C" or better is required in all courses. All courses must be completed at Orange Coast College.

CERTIFICATE OF COMPLETION
Complete five (5) courses from this list.

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intro to the Internet (1.5)</td>
<td>CIS</td>
</tr>
<tr>
<td>Internet for Technology (2)</td>
<td>Comp HT</td>
</tr>
<tr>
<td>Intro to Web Page Design (2)</td>
<td>CIS</td>
</tr>
<tr>
<td>Internet Web Publishing (2)</td>
<td>Comp HT</td>
</tr>
<tr>
<td>Adv Web Page Design</td>
<td>CIS</td>
</tr>
<tr>
<td>Intro to FrontPage</td>
<td>CIS</td>
</tr>
<tr>
<td>Intro to E-Commerce</td>
<td>CIS/Bus</td>
</tr>
<tr>
<td>JavaScript Programming</td>
<td>CIS</td>
</tr>
</tbody>
</table>

**Total:** (9.5-10)

COMPUTERIZED OFFICE TECHNOLOGY
All you have to do is look at any metropolitan skyline to realize the vast employment opportunities in office administration. Where there are offices, there is a need for people to work. Orange County's employment outlook is even better than the nation's because it is particularly strong in the areas of defense, electronics, housing, and business services, as well as tourism. Employers are in desperate need of QUALIFIED office personnel—ranging from clerk, stenographer, typing specialist, word processing specialist, data entry specialist, to the administrative assistant. The entry-level jobs are plentiful, and the career ladder to the top is better today than ever before.

The Core Curriculum given below will give the basic skills needed for entry-level employment. These courses, along with the required courses for the following Certificates of Achievement, will round out the requirements for specific job titles.

A grade of "C" or better is required in all courses.

CORE CURRICULUM

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Beg Comp Keyboarding</td>
<td>COT</td>
</tr>
<tr>
<td>Beg Word Processing 1</td>
<td>COT</td>
</tr>
<tr>
<td>Beg Word Processing 2</td>
<td>COT</td>
</tr>
<tr>
<td>Keyboard Speed &amp; Accuracy</td>
<td>COT</td>
</tr>
<tr>
<td>Business English</td>
<td>Bus</td>
</tr>
<tr>
<td>Office Skills</td>
<td>COT</td>
</tr>
</tbody>
</table>

**Total:** (12)
COMPUTERIZED OFFICE TECHNOLOGY—ELECTRONIC OFFICE

Walk into any office today and you will see a computer. You may see a secretary working on a spreadsheet or processing words using a word processor. You may witness a clerk inputting information for inventory control or database management. Whatever the application, the electronic office is in full swing and it will not go away.

To receive the Electronic Office Certificate of Achievement it is necessary to complete the Computerized Office Technology Core Curriculum Certificate of Completion and the additional required units listed below.

Employment possibilities include:
- Word Processing Keyboard Operator
- Word Processing Correspondence Secretary
- Administrative Services/Word Processor
- Secretary/Word Processor
- Administrative Secretary
- Word Processing Trainee

CERTIFICATE OF ACHIEVEMENT

Required prerequisite:
Computerized Office Technology Core Curriculum Certificate of Completion must be taken prior to or concurrently with the required courses.

Subtotal: (13.5)

Required Courses
Course Units
Business English Mechanics Bus 137 (3)
Business Communication Bus 139 (3)
Int Word Processing COT 218AB (1.5)
Excel CIS/Bus 134 (3) (3)

Total: (10.5)

(24)

Suggested electives:
- Desktop Publishing CIS 103 (4)
- Intro to Business Bus 100 (3)
- Career/Prof Success Skills Bus 170 (3)

ASSOCIATE DEGREE

Complete Certificate of Achievement and Graduation Requirements as outlined in the Graduation Requirements section of the catalog.

COMPUTERIZED OFFICE TECHNOLOGY—GENERAL OFFICE

The information age is here! More office personnel is needed than ever before to handle this vast amount of information. Whenever paper is generated, it requires people to handle the paper and people to run the offices that use the information and store the paper.

To receive the Certificate of Achievement in General Office it is necessary to complete the Computerized Office Technology Core Curriculum Certificate of Completion and the additional required units listed below.

Employment possibilities include:
- Receptionist
- Typist Clerk
- Clerk/Typist
- Bookkeeping Clerk
- File Clerk
- General Office Clerk

CERTIFICATE OF ACHIEVEMENT

Required prerequisite:
Computerized Office Technology Core Curriculum Certificate of Completion must be taken prior to or concurrently with the required courses.

Subtotal: (13.5)

Required Courses
Course Units
Acct for Small Business (3) Acct 100 (3)
Financial Accounting (4) Acct 101 (3-4)
Business Communication Bus 139 (3)
Electronic Calculator Bus 161 (1)
Business Math Bus 125 (3)
Excel Bus/CIS 134 (3)

Total: (13-14)

(26.5-27.5)

Suggested electives:
- Keyboarding Speed & Accuracy COT 111AB (1.5)
- Business English Mechanics Bus 137 (3)
- Intro to Business Bus 100 (3)
- Career/Prof Success Skills Bus 170 (3)

ASSOCIATE DEGREE
Complete Certificate of Achievement and Graduation Requirements as outlined in the Graduation Requirements section of the catalog.

**COMPUTERIZED OFFICE TECHNOLOGY—WORD PROCESSING MANAGEMENT**

Insurance companies, hospitals, municipal and county offices, large law firms, and many other organizations in Orange County and throughout Southern California have a Word Processing Center, which is a centralized area in which word processing functions take place. These Centers may have as few as two word processing stations or as many as forty. Regardless of size, these Centers must have someone to oversee the operation, train the operators, and manage the employees.

If you have completed the Computerized Office Technology Core Curriculum Certificate of Completion and have satisfied the requirements for the Electronic Office Certificate of Achievement, and have several years of on-the-job word processing experience, the Word Processing Management Certificate of Achievement will help you acquire a supervisory/manager position.

Employment possibilities include:
- Word Processing Manager
- Word Processing Lead Operator
- Word Processing Trainer

**CERTIFICATE OF ACHIEVEMENT**

Required prerequisite:
- Computerized Office Technology Core Curriculum Certificate of Completion
- AND Electronic Office Certificate of Achievement

Subtotal: (24)

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Applied Management</td>
<td>Mgmt 100 (3)</td>
</tr>
<tr>
<td>Human Relations &amp; Supervsn</td>
<td>Mgmt 115 (3)</td>
</tr>
<tr>
<td>Applied Communications</td>
<td>Mgmt 210 (3)</td>
</tr>
</tbody>
</table>

Total: (33)

**CONSTRUCTION TECHNOLOGY**

The Construction Technology program has courses that can be divided into two major areas of emphasis: Residential Trades and Construction Management. Due to the vast diversity of occupations and areas of specialization within the construction industry and recognizing that individual student needs will be as diverse, a Certificate of Achievement can be designed that satisfies those specific needs. Completion of a certificate program satisfies the major requirement for the Associate of Arts degree. A minimum of sixty (60) units is required for completion of the AA degree as specified in the catalog under Graduation Requirements. Certificates of Achievement and Completion can be completed in one to two semesters.

**CONSTRUCTION TECHNOLOGY—BASIC CONSTRUCTION PRACTICES**

Construction Technology 165, Construction Safety/CAL-OSHA, is required for any first earned Certificate of Achievement.

It is recommended that all beginning, full-time students enroll in the following courses leading to a Certificate of Achievement.

**CERTIFICATE OF ACHIEVEMENT**

Required Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Construction Safety/CAL-OSHA</td>
<td>Const 165 (3)</td>
</tr>
<tr>
<td>Building Construction</td>
<td>Const 180 (5)</td>
</tr>
<tr>
<td>Blueprint Reading &amp; Drafting</td>
<td>Const 190 (4)</td>
</tr>
<tr>
<td>Building Code &amp; Law</td>
<td>Const 195 (2)</td>
</tr>
<tr>
<td>Residential Finish Carpentry</td>
<td>Const 240 (4)</td>
</tr>
</tbody>
</table>

Total: (18)

**ASSOCIATE DEGREE**

Complete Certificate of Achievement and Graduation Requirements as outlined in the Graduation Requirements section of the catalog.

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CONSTRUCTION TECHNOLOGY—RESIDENTIAL CONSTRUCTION DEVELOPMENT

Students may select any combination of courses that total eighteen (18) or more units from the following list. Note: Construction Technology 165, Construction Safety/CAL OSHA, is required for any first earned Certificate of Achievement.

RESIDENTIAL CONSTRUCTION DEVELOPMENT SECOND AWARD

RESIDENTIAL CONSTRUCTION DEVELOPMENT THIRD AWARD

Students may earn a second and third award of the certificate by completing eighteen (18) or more units from the following list, however, no course may be applied to more than one certificate.

CERTIFICATE OF ACHIEVEMENT

<table>
<thead>
<tr>
<th>Course</th>
<th>Required Courses</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wood Technology 1</td>
<td>Const 110AD</td>
<td>(4)</td>
</tr>
<tr>
<td>Cabinet Making</td>
<td>Const 114AD</td>
<td>(4)</td>
</tr>
<tr>
<td>Residential Energy Stds</td>
<td>Const 152</td>
<td>(1)</td>
</tr>
<tr>
<td>Introduction to Construction</td>
<td>Const 170</td>
<td>(3)</td>
</tr>
<tr>
<td>Building Construction</td>
<td>Const 180</td>
<td>(5)</td>
</tr>
<tr>
<td>Building Construction</td>
<td>Const 185</td>
<td>(5)</td>
</tr>
<tr>
<td>Blueprint Reading &amp; Drafting</td>
<td>Const 190</td>
<td>(4)</td>
</tr>
<tr>
<td>Building Code &amp; Law</td>
<td>Const 195</td>
<td>(2)</td>
</tr>
<tr>
<td>Concrete Construction</td>
<td>Const 210</td>
<td>(5)</td>
</tr>
<tr>
<td>Construction Estimating</td>
<td>Const 220</td>
<td>(3)</td>
</tr>
<tr>
<td>Land &amp; Building Development</td>
<td>Const 225</td>
<td>(3)</td>
</tr>
<tr>
<td>Construction Inspection</td>
<td>Const 230</td>
<td>(3)</td>
</tr>
<tr>
<td>Contractor’s Business Practice</td>
<td>Const 235</td>
<td>(3)</td>
</tr>
<tr>
<td>Residential Finish Carpentry</td>
<td>Const 240</td>
<td>(4)</td>
</tr>
<tr>
<td>Supervision and Project Mgmt</td>
<td>Const 250</td>
<td>(3)</td>
</tr>
<tr>
<td>Construction Finance</td>
<td>Const 255</td>
<td>(3)</td>
</tr>
<tr>
<td>Masonry Construction</td>
<td>Const 260</td>
<td>(3)</td>
</tr>
<tr>
<td>Plumbing 1</td>
<td>Const 265</td>
<td>(4)</td>
</tr>
<tr>
<td>Contractor’s License Law</td>
<td>Const 270AD</td>
<td>(1.5)</td>
</tr>
<tr>
<td>Residential Electrical Wiring</td>
<td>Const 275</td>
<td>(5)</td>
</tr>
<tr>
<td>Introduction to Computers</td>
<td>Const 280</td>
<td>(1)</td>
</tr>
<tr>
<td>Res Lt Steel Frame Const</td>
<td>Const 285</td>
<td>(5)</td>
</tr>
</tbody>
</table>

Subtotal: (40)

Select ten (10) units from the following:

- Building Construction
- Building Code & Law
- Construction Estimating
- Construction Inspection
- Supervision & Project Management
- Masonry Construction

Subtotal: (10)

Total: (50)

ASSOCIATE DEGREE

Complete Certificate of Achievement and Graduation Requirements as outlined in the Graduation Requirements section of the catalog.

ASSOCIATE DEGREE

Complete Certificate of Achievement and Graduation Requirements as outlined in the Graduation Requirements section of the catalog.
## RESIDENTIAL CONSTRUCTION

### Professional Upgrade Certificates

Students may earn a Certificate of Completion in any of the subject areas specified.

<table>
<thead>
<tr>
<th>Certificates of Completion</th>
<th>Required Courses</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Basic Carpentry</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Building Construction</td>
<td>Const 180</td>
<td>(5)</td>
</tr>
<tr>
<td>Building Construction</td>
<td>Const 185</td>
<td>(5)</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td>(10)</td>
</tr>
<tr>
<td><strong>Finish Carpentry</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cabinet Making</td>
<td>Const 114AD</td>
<td>(4)</td>
</tr>
<tr>
<td>Building Code &amp; Law</td>
<td>Const 195</td>
<td>(2)</td>
</tr>
<tr>
<td>Residential Finish Carpentry</td>
<td>Const 240</td>
<td>(4)</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td>(10)</td>
</tr>
<tr>
<td><strong>Concrete &amp; Masonry</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Concrete Construction</td>
<td>Const 210</td>
<td>(5)</td>
</tr>
<tr>
<td>Masonry Construction</td>
<td>Const 260</td>
<td>(3)</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td>(8)</td>
</tr>
<tr>
<td><strong>Residential Utilities</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Plumbing 1</td>
<td>Const 265</td>
<td>(4)</td>
</tr>
<tr>
<td>Residential Electrical Wiring</td>
<td>Const 275</td>
<td>(5)</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td>(9)</td>
</tr>
<tr>
<td><strong>General Contracting &amp; Development</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Construction Estimating</td>
<td>Const 220</td>
<td>(3)</td>
</tr>
<tr>
<td>Land &amp; Building Development</td>
<td>Const 225</td>
<td>(3)</td>
</tr>
<tr>
<td>Contractor's Business Practice</td>
<td>Const 235</td>
<td>(3)</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td>(9)</td>
</tr>
<tr>
<td><strong>Construction Field Management</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Blueprint Reading &amp; Drafting</td>
<td>Const 190</td>
<td>(4)</td>
</tr>
<tr>
<td>Construction Inspection</td>
<td>Const 230</td>
<td>(3)</td>
</tr>
<tr>
<td>Supervision &amp; Project Mgmt</td>
<td>Const 250</td>
<td>(3)</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td>(10)</td>
</tr>
<tr>
<td><strong>Introduction to Construction</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wood Technology 1</td>
<td>Const 110AD</td>
<td>(4)</td>
</tr>
<tr>
<td>Intro to Construction</td>
<td>Const 170</td>
<td>(3)</td>
</tr>
<tr>
<td>Intro to Computers in Constr</td>
<td>Const 280</td>
<td>(1)</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td>(8)</td>
</tr>
<tr>
<td><strong>Construction Basics</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Construction Safety/CAL-OSHA</td>
<td>Const 165</td>
<td>(3)</td>
</tr>
<tr>
<td>Blueprint Reading &amp; Drafting</td>
<td>Const 190</td>
<td>(4)</td>
</tr>
<tr>
<td>Building Code &amp; Law</td>
<td>Const 195</td>
<td>(2)</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td>(9)</td>
</tr>
</tbody>
</table>

### COSTUME CAREERS

The following certificates represent skill levels and job titles found in the fashion and entertainment technology industry. The certificates/degree programs all require the same core set of courses. The certificates build skills toward higher levels of employment and toward higher degrees.

<table>
<thead>
<tr>
<th>Core Curriculum</th>
<th>Required Courses</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Course</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Careers in Fashion</td>
<td>Fash 115</td>
<td>(3)</td>
</tr>
<tr>
<td>Beg Clothing Techniques*</td>
<td>Fash 100</td>
<td>(3)</td>
</tr>
<tr>
<td>Intro to Theatre</td>
<td>Thart 100</td>
<td>(3)</td>
</tr>
<tr>
<td>Costume Crafts</td>
<td>Thart 178</td>
<td>(3)</td>
</tr>
<tr>
<td>OCC Theatre Repertory</td>
<td>Thart 141AD</td>
<td>(3)</td>
</tr>
<tr>
<td>Play Production</td>
<td>Thart 171AD</td>
<td>(4)</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td>(19)</td>
</tr>
</tbody>
</table>

*Experienced sewers may demonstrate competency in techniques listed under Fashion 100 and 101 by taking Fashion 105, Sewing Skills Assessment.

### COSTUME DRESSER

This course of study provides the student with the practical knowledge and experience necessary to work backstage preparing, changing, and maintaining costumes before and during performances. Students are trained in basic costuming techniques, as well as basic theatrical production practices.

<table>
<thead>
<tr>
<th>Certificate of Achievement</th>
<th>Required Courses</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Course</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Costume Core Curriculum</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Applied Textiles &amp; Design</td>
<td>Fash 110</td>
<td>(3)</td>
</tr>
<tr>
<td>Make-up</td>
<td>Thart 177AD</td>
<td>(3)</td>
</tr>
<tr>
<td>OCC Theatre Repertory</td>
<td>Thart 141AD</td>
<td>(3)</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td>(28)</td>
</tr>
</tbody>
</table>

### Suggested Electives

- Inter Clothing Techniques | Fash 101 | (3)
- Play Production           | Thart 171AD | (2)
- OCC Theatre Repertory     | Thart 141AD | (3)

### ASSOCIATE DEGREE

Complete Certificate of Achievement and Graduation Requirements as outlined in the Graduation Requirements section of the catalog.
COSTUME STITCHER

The courses in this program provide training in the specialized sewing techniques and other skills required to build a variety of costumes required in theatre and other performance acts. Students also receive training in basic theatrical production practices.

CERTIFICATE OF ACHIEVEMENT

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Costume Core Curriculum</td>
<td>(19)</td>
</tr>
<tr>
<td>Inter Clothing Techniques*</td>
<td>Fash 101 (3)</td>
</tr>
<tr>
<td>Industrial Sewing Techniques</td>
<td>Fash 102 (2)</td>
</tr>
<tr>
<td>Alterations</td>
<td>Fash 137 (2)</td>
</tr>
<tr>
<td>Couture Techniques</td>
<td>Fash 233 (2)</td>
</tr>
<tr>
<td><strong>Total:</strong></td>
<td><strong>(28)</strong></td>
</tr>
</tbody>
</table>

Suggested electives:
- Play Production
- Flat Pattern Techniques

*Experienced sewers may demonstrate competency in techniques listed under Fashion 100 and 101 by taking Fashion 105, Sewing Skills Assessment.

ASSOCIATE DEGREE

Complete Certificate of Achievement and Graduation Requirements as outlined in the Graduation Requirements section of the catalog.

COSTUME CUTTER/DRAPER

The courses in this certificate program train students to create patterns for costumes by flat-pattern and draping methods, and to cut out and assemble costumes for the performing arts. Students also receive training in basic theatrical production practices.

CERTIFICATE OF ACHIEVEMENT

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Costume Core Curriculum</td>
<td>(19)</td>
</tr>
<tr>
<td>Costume Stitcher Curriculum</td>
<td>(9)</td>
</tr>
<tr>
<td>History of Fashion</td>
<td>Fash 120 (3)</td>
</tr>
<tr>
<td>Flat Pattern Techniques</td>
<td>Fash 150 (3)</td>
</tr>
<tr>
<td>Draping</td>
<td>Fash 235 (2)</td>
</tr>
<tr>
<td>Pattern Drafting &amp; Design</td>
<td>Fash 245 (1.5)</td>
</tr>
<tr>
<td><strong>Total:</strong></td>
<td><strong>(37.5)</strong></td>
</tr>
</tbody>
</table>

Suggested electives:
- Pattern Grading
- Play Production

ASSOCIATE DEGREE

Complete Certificate of Achievement and Graduation Requirements as outlined in the Graduation Requirements section of the catalog.

ASSISTANT COSTUME DESIGNER

High-level of responsibility to assist the designer in work such as costuming for film, TV, theme park entertainment, or theater. The Assistant Costume Designer should be able to utilize the skills acquired in the Cutter/Draper and Stitcher certificates, be able to illustrate fashion, and have design skills.

ASSOCIATE DEGREE PROGRAM

This is an Associate Degree program which requires an Associate Degree or higher from an accredited college before the certificate will be awarded. Students who do not already have a degree must complete the Orange Coast College Graduation Requirements for the AA Degree including General Education Options 1, 2 or 3.

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Costume Cutter/Draper</td>
<td>(37.5)</td>
</tr>
<tr>
<td>Make-up</td>
<td>Thart 177AD (3)</td>
</tr>
<tr>
<td>Fashion Illustrating Tech</td>
<td>Fash 255 (2)</td>
</tr>
<tr>
<td>Clothing Design &amp; Selection</td>
<td>Fash 170 (3)</td>
</tr>
<tr>
<td>Fashion Internship</td>
<td>Fash 181 (3)</td>
</tr>
<tr>
<td><strong>Total:</strong></td>
<td><strong>(48.5)</strong></td>
</tr>
</tbody>
</table>

Suggested electives:
- Play Production
- OCC Theatre Repertory
- Color & Design 2-D
- Life Drawing
- Intro to Humanities
- Flat Pattern Application

ASSOCIATE DEGREE

Complete Certificate of Achievement and Graduation Requirements as outlined in the Graduation Requirements section of the catalog.

---See also ENTERTAINMENT TECHNOLOGY FASHION
CULINARY ARTS—CULINARY ARTS

The requirements for the Certificate of Achievement in Culinary Arts provide students with the basics in the methods and chemistry of cooking. These requirements include exposure to many kinds of menus, to techniques of traditional and specialty cooking, and to the proper ways to use various tools and culinary equipment.

This program is accredited by the American Culinary Federation Educational Institute Accrediting Commission.

CERTIFICATE OF ACHIEVEMENT

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intro to Hospitality Industry</td>
<td>C A 100 (3)</td>
</tr>
<tr>
<td>Culinary Principles 1</td>
<td>C A 120 (3)</td>
</tr>
<tr>
<td>Principles of Baking 1</td>
<td>C A 124 (2)</td>
</tr>
<tr>
<td>Pantry</td>
<td>C A 149 (2)</td>
</tr>
<tr>
<td>Sanitation &amp; Safety</td>
<td>FSM 160 (3)</td>
</tr>
<tr>
<td>FSM Math/Accounting</td>
<td>FSM 240 (4)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Culinary Principles 2</td>
<td>C A 122 (3)</td>
</tr>
<tr>
<td>Emergency Medical Care</td>
<td>EMT 100 (3)</td>
</tr>
<tr>
<td>Intro to Nutrition Concepts</td>
<td>F N 140 (2)</td>
</tr>
<tr>
<td>Food Production Management</td>
<td>FSM 151 (2)</td>
</tr>
<tr>
<td>Directed Practice*</td>
<td>FSM 286A (2)</td>
</tr>
</tbody>
</table>

Total: (29)

*Approved by Program Coordinator

ASSOCIATE DEGREE

Complete Certificate of Achievement and Graduation Requirements as outlined in the Graduation Requirements section of the catalog.

CULINARY ARTS—ADVANCED CULINARY ARTS

The requirements for the Certificate of Achievement in Advanced Culinary Arts include courses which lead to students’ gaining a solid foundational knowledge of the restaurant and hospitality industry. Courses are designed for students who aspire to be any of the following: garde-manger, banquet chef, sous chef, working chef, and—ultimately—Master Chef.

CERTIFICATE OF ACHIEVEMENT

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Garde Manger</td>
<td>C A 200 (2)</td>
</tr>
<tr>
<td>Ala Minute Continental Cooking</td>
<td>C A 265 (2)</td>
</tr>
<tr>
<td>Dining Room Service</td>
<td>FSM 190 (2)</td>
</tr>
<tr>
<td>Supervision &amp; Training Tech</td>
<td>FSM 260 (3)</td>
</tr>
<tr>
<td>Baking Principles 2</td>
<td>C A 126 (2)</td>
</tr>
<tr>
<td>Advanced Garde Manger</td>
<td>C A 255 (2)</td>
</tr>
<tr>
<td>Menu Planning/Purchasing</td>
<td>FSM 250 (3)</td>
</tr>
<tr>
<td>Restaurant Management</td>
<td>FSM 285 (3)</td>
</tr>
</tbody>
</table>

Total: (48)

Suggested electives:

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Catering</td>
<td>FSM 284 (3)</td>
</tr>
<tr>
<td>Hospitality Sales</td>
<td>Hotel 240 (1.5)</td>
</tr>
</tbody>
</table>

ASSOCIATE DEGREE

Complete Certificate of Achievement and Graduation Requirements as outlined in the Graduation Requirements section of the catalog.
CULINARY ARTS—COOK APPRENTICESHIP

The Cook Apprenticeship Certificate of Achievement will be awarded only upon completion of the three-year American Culinary Federation approved apprenticeship program administered by the State of California Apprenticeship Board. Students are required to complete 2,000 hours per year for three years for a total of 6,000 hours in addition to completion of the Certificate of Achievement.

CERTIFICATE OF ACHIEVEMENT

Required Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>FIRST YEAR</strong></td>
<td></td>
</tr>
<tr>
<td>First Semester</td>
<td></td>
</tr>
<tr>
<td>Culinary Principles 1</td>
<td>C A</td>
</tr>
<tr>
<td>Sanitation &amp; Safety</td>
<td>FSM</td>
</tr>
<tr>
<td>Second Semester</td>
<td></td>
</tr>
<tr>
<td>Intro to Hospitality Industry</td>
<td>C A</td>
</tr>
<tr>
<td>Culinary Principles 2</td>
<td>C A</td>
</tr>
<tr>
<td><strong>SECOND YEAR</strong></td>
<td></td>
</tr>
<tr>
<td>Third Semester</td>
<td></td>
</tr>
<tr>
<td>Principles of Baking 1</td>
<td>C A</td>
</tr>
<tr>
<td>FSM Math/Accounting</td>
<td>FSM</td>
</tr>
<tr>
<td>Intro to Nutrition Concepts</td>
<td>F N</td>
</tr>
<tr>
<td>Fourth Semester</td>
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<tr>
<td>Menu Planning/Purchasing</td>
<td>FSM</td>
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<tr>
<td>Supervision &amp; Training Tech</td>
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<td><strong>THIRD YEAR</strong></td>
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<td>Food Production Management</td>
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<td>Dining Room Service</td>
<td>FSM</td>
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<tr>
<td>Sixth Semester</td>
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<tr>
<td>Garde Manger</td>
<td>C A</td>
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<tr>
<td>Restaurant Management</td>
<td>FSM</td>
</tr>
<tr>
<td>(Or) Emergency Medical Care (3)</td>
<td>EMT</td>
</tr>
<tr>
<td>First Aid &amp; CPR (2)</td>
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<tr>
<td>Total:</td>
<td></td>
</tr>
<tr>
<td>(37-38)</td>
<td></td>
</tr>
</tbody>
</table>

NOTE: FSM 160, Sanitation and Safety, is a prerequisite to all laboratory classes.

Program sequence may be modified to suit individual student needs.

ASSOCIATE DEGREE

Complete Certificate of Achievement and Graduation Requirements as outlined in the Graduation Requirements section of the catalog.

DANCE INSTRUCTOR

The dance certificate program trains students for positions in the commercial and artistic areas of dance. Graduates of the program would be qualified as instructors in ballet, modern, jazz and tap dance in private studios, recreation or other community dance programs. The Dance Department also recommends that students complete their General Education Requirements for an Associate Degree.

Students are able to apply principles of movement and creativity to all forms of dance, demonstrate skills of instructing dance to communicate through movement and words, and apply information learned in other disciplines to the art form of dance.

Instruction will utilize both classroom work, using a variety of instructional methods (lecture, lab/demonstration, independent and group projects) and internship experiences in business/industry to prepare the student for job requirements.

CERTIFICATE OF ACHIEVEMENT

Required Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alignment &amp; Correctives</td>
<td>Danc</td>
</tr>
<tr>
<td>Improvisation</td>
<td>Danc</td>
</tr>
<tr>
<td>Intro to Choreography</td>
<td>Danc</td>
</tr>
<tr>
<td>Advanced Dance Composition</td>
<td>Danc</td>
</tr>
<tr>
<td>Music for Dancers</td>
<td>Danc</td>
</tr>
<tr>
<td>Appreciation of Dance</td>
<td>Danc</td>
</tr>
<tr>
<td>Rehearsal &amp; Performance</td>
<td>Danc</td>
</tr>
<tr>
<td>Dance Profession Seminar</td>
<td>Danc</td>
</tr>
<tr>
<td>Intro Dance Technology</td>
<td>Danc</td>
</tr>
<tr>
<td>Repertoire</td>
<td>Danc</td>
</tr>
<tr>
<td>Internship Academy</td>
<td>Intern</td>
</tr>
<tr>
<td><strong>Total: (19.5-26)</strong></td>
<td></td>
</tr>
</tbody>
</table>

Select at least ten (10) units of dance technique courses at the intermediate/advanced levels from at least four different dance styles:

- Modern Dance (1-2) Danc 101AD (8)
- Ballet (1-2) Danc 110AD (8)
- Jazz Dance (1-2) Danc 120AD (8)
- Tap (1-2) Danc 125AD (8)
- Mid-Eastern Dance (1-2) Danc 130AD (8)
- Intro to World Dance (1-2) Danc 133AB (8)
- Flamenco Dance (1-2) Danc 135AD (8)
- Spanish Classical Dance (1-2) Danc 136AD (8)
- Classical Dance of India (1-2) Danc 137AD (8)
- American Vernacular (1-2) Danc 140AD (8)

Total: (29.5-36)

Suggested electives:

- Anatomy & Physiology Biol 221 (3)
- Intro to Business BUS 100 (3)
- Personal Financial Success BUS 120 (3)
- Creativity for Children E C 131 (3)
- Health Education Hled 100 (3)
- Fitness & Health Hled 134 (3)
- Child Development Hmdv 180 (3)
- Intro to Psychology Psych 100 (3)
- Interpersonal Communication Spch 100 (3)

ASSOCIATE DEGREE

Complete Certificate of Achievement and Graduation Requirements as outlined in the Graduation Requirements section of the catalog.
WORLD DANCE

The dance certificate program trains students for positions in the commercial and artistic areas of dance. Graduates of the program would be qualified as instructors in private studios, recreation or other community dance programs, and act as consultants, lecturers, or performers with an emphasis on the ethnic dance forms, primarily Mid-Eastern, Flamenco, Spanish Classical, East Indian, or African (Nigeria/Ghana). The Dance Department also recommends that students complete their General Education Requirements for an Associate Degree.

Students are able to apply principles of movement and creativity to all forms of dance, demonstrate skills of instructing dance to communicate through movement and words, and apply information learned in other disciplines to the art form of dance.

Instruction will utilize both classroom work, using a variety of instructional methods (lecture, lab/demonstration, independent and group projects) and internship experiences in business/industry to prepare the student for job requirements.

CERTIFICATE OF ACHIEVEMENT

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alignment &amp; Correctives</td>
<td>108AD (2)</td>
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<tr>
<td>Improvisation</td>
<td>150AD (1)</td>
</tr>
<tr>
<td>Intro to Choreography</td>
<td>160 (3)</td>
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<tr>
<td>Music for Dancers</td>
<td>170 (2)</td>
</tr>
<tr>
<td>Appreciation of Dance</td>
<td>200 (3)</td>
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<tr>
<td>Rehearsal &amp; Performance*</td>
<td>201AD (1)</td>
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<tr>
<td>Dance Profession Seminar</td>
<td>205 (2)</td>
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<tr>
<td>Intro to Dance Technology</td>
<td>206 (.5-2)</td>
</tr>
<tr>
<td>Repertoire</td>
<td>211AD (1)</td>
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<tr>
<td>Multicultural Behavior</td>
<td>150 (3)</td>
</tr>
<tr>
<td>Internship Academy</td>
<td>392AB (1-4)</td>
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</tbody>
</table>

Subtotal: (19.5-24)

*Must perform in one Student Dance Concert or acceptable alternative presented to faculty for approval.

Suggested electives:
- Nonverbal Behavior: Anth 105 (3)
- Comparative Cultures: Anth 110 (3)
- World Ethnology: Anth 285 (3)
- Ethnic Groups in United States: Eth St 150 (3)
- World Religion: Phil 110 (3)
- Eastern Thought: Rel St 150 (3)
- History & Appreciation of Music: Mus 100 (3)
- Arts & Ideas of Latin America: Hum 110B (1.5)

ASSOCIATE DEGREE

Complete Certificate of Achievement and Graduation Requirements as outlined in the Graduation Requirements section of the catalog.

DANCE CONDITIONING/PILATES INSTRUCTOR

The Dance Conditioning/Pilates Instructor Certificate of Completion is designed to give the dance or fitness student one year of intensive training to be able to teach a variety of dance conditioning methods and the principles and exercises based on the Pilates method. Upon completion of the certificate the student will be prepared for a position as an independent contractor and/or instructor in a privately owned fitness, dance conditioning or Pilates-based studio, recreation or health club. Specifically instructing in the Pilates method and/or various dance conditioning techniques, the student will provide appropriate conditioning regimes for people of all ages and physical conditions.

Students will learn the concepts and techniques of the Pilates method, and techniques found in quality dance training for improved body alignment, flexibility, and strength appropriate to the client’s level of conditioning. The student will acquire scientific knowledge of exercise and physical conditioning, as well as work-based experience needed to gain entry-level positions in this flourishing field of personal conditioning.

CERTIFICATE OF COMPLETION

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
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</thead>
<tbody>
<tr>
<td>Anatomy-Physiology</td>
<td>Biol 221 (4)</td>
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<tr>
<td>Strength &amp; Stretch</td>
<td>Danc 106AB</td>
</tr>
<tr>
<td>Conditioning for Dance</td>
<td>Danc 107AB (1-1.5)</td>
</tr>
<tr>
<td>Ballet Floor Barre/Correctives</td>
<td>Danc 114AB</td>
</tr>
<tr>
<td>Alignment &amp; Correctives</td>
<td>Danc 108AD (4)</td>
</tr>
<tr>
<td>Yoga for Dancers</td>
<td>Danc 115AC (1)</td>
</tr>
<tr>
<td>Dance Workout/Maturing Body</td>
<td>Danc 118AD (1)</td>
</tr>
<tr>
<td>Dance Profession Seminar</td>
<td>Danc 205 (2)</td>
</tr>
<tr>
<td>Intern to Dance Technology</td>
<td>Danc 206 (2)</td>
</tr>
<tr>
<td>Internship Academy-Level 2</td>
<td>Intern 392AB (2)</td>
</tr>
</tbody>
</table>

Subtotal: (17-17.5)

Suggested electives:
- Movement Analysis: P E 274 (3)
- Nutrition/Fitness/Performance: P E 136 (2)
DENTAL ASSISTING—REGISTERED

Dental assisting is a challenging field requiring skills in chairside assisting, dental radiology, preventive therapy, patient management, receptionist duties, expanded functions and office management.

Qualified dental assistants find employment opportunities in a variety of settings such as private dental offices, specialty practices, federal or state dental programs and dental schools.

The dental assisting program is accredited by the Commission on Dental Accreditation, a specialized accrediting body recognized by the Commission on Recognition of Postsecondary Accreditation and by the United States Department of Education. The Commission on Dental Accreditation can be contacted at (312) 440-2719 or at 211 East Chicago Avenue, Chicago, IL 60611. The program is also accredited by the State of California Department of Consumer Affairs, Board of Dental Examiners, Committee on Dental Auxiliaries, 1426 Howe Avenue, Suite 50, Sacramento, CA 95825-3222.

RDA functions are taught to laboratory competency and clinical competency where applicable. A list of laboratory and clinical competencies is available upon request.

High school diploma or equivalency is required for program entry as mandated by the Commission on Dental Accreditation, American Dental Association. Students must complete all required courses with a grade of “C” or better.

This program is a sequential program. All fall semester courses must be taken concurrently in the fall semester. All spring semester courses must be taken concurrently in the spring semester.

CERTIFICATE OF ACHIEVEMENT

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
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<tbody>
<tr>
<td><strong>Fall Semester</strong></td>
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<tr>
<td>Dental Anatomy</td>
<td>DA 100 (2)</td>
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<tr>
<td>Chairside Techniques 1</td>
<td>DA 110 (3)</td>
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<tr>
<td>Dental Materials</td>
<td>DA 120 (3)</td>
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<tr>
<td>Preventive Dentistry</td>
<td>DA 130 (1)</td>
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<tr>
<td>Dental Radiography 1</td>
<td>DA 140 (3)</td>
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<tr>
<td>Biomedical Sciences</td>
<td>DA 150 (2)</td>
</tr>
<tr>
<td>Clinical Experience 1</td>
<td>DA 160 (1)</td>
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<tr>
<td><strong>Intersession</strong></td>
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<tr>
<td>Clinical Experience 2</td>
<td>DA 163 (1)</td>
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<tr>
<td><strong>Spring Semester</strong></td>
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<tr>
<td>First 14 weeks</td>
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<tr>
<td>Chairside Techniques 2</td>
<td>DA 115 (2)</td>
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<tr>
<td>Expanded Functions</td>
<td>DA 125 (2)</td>
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<tr>
<td>Dental Radiography 2</td>
<td>DA 145 (2)</td>
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<tr>
<td>Clinical Experience 3</td>
<td>DA 165 (2.5)</td>
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<tr>
<td>Print Bus &amp; Prac Mgmt</td>
<td>DA 175 (1.5)</td>
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<tr>
<td>Last 2 weeks (32 Hrs/Week)</td>
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</tr>
<tr>
<td>Clinical Experience 4</td>
<td>DA 168 (1)</td>
</tr>
<tr>
<td>Completion of Current CPR Certificate</td>
<td></td>
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Total: (27)

Suggested electives:

- Introductory Psychology
- Interpersonal Communication
- Public Speaking
- Becoming a Master Student
- Intro to Info Sys & Appl
- Freshman Composition
- Ethics

**Certification:**

Program approved by the American Dental Association. Graduates are eligible to take the California Registered Dental Assistant Exam and the National Certification Exam upon program completion and qualify for their State radiation license and coronal polishing license.

ASSOCIATE DEGREE

Complete Certificate of Achievement and Graduation Requirements as outlined in the Graduation Requirements section of the catalog.

DESIGN

— See COMMERCIAL ART
  COSTUME CAREERS
  DIGITAL MEDIA ARTS
  DRAFTING (CADD)
  ENTERTAINMENT TECHNOLOGY
  FASHION
DIAGNOSTIC MEDICAL SONOGRAPHY

Diagnostic Medical Sonography is a technique using high frequency sound to create images of specific areas of the body from which pathology may be diagnosed. A competent Sonographer must have a thorough knowledge of anatomy, cross sectional anatomy, and pathology, as well as the skills to manipulate a wide variety of sophisticated instruments. This is a Commission on Accreditation of Allied Health Education Programs (CAAHEP).

ASSOCIATE DEGREE PROGRAM

This is an Associate Degree program which requires an Associate Degree or higher from an accredited college before the certificate will be awarded. Students who do not already have a degree must complete the Orange Coast College Graduation Requirements for the AA Degree including General Education Options 1, 2 or 3.

A "C" grade is required in all program courses.

Recommended preparation:

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
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<tbody>
<tr>
<td>Becoming a Master Student</td>
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<tr>
<td>Technical Math</td>
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Required prerequisites:

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<tr>
<th>Course</th>
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<tbody>
<tr>
<td>Health Occupations</td>
<td>010</td>
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<tr>
<td>Medical Terminology</td>
<td>111</td>
</tr>
<tr>
<td>Anatomy-Physiology</td>
<td>221</td>
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Subtotal: (7.5-12.5)

Required Courses

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<tbody>
<tr>
<td>Sectional Anatomy</td>
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<tr>
<td>Sono Physics/Instrumentation</td>
<td>150</td>
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<tr>
<td>Patient Care</td>
<td>115</td>
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<tr>
<td>Human Diseases</td>
<td>120</td>
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FALL

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<tr>
<td>Adv Sectional Anatomy</td>
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<tr>
<td>Intro to Vascular Ultrasound</td>
<td>155</td>
</tr>
<tr>
<td>Pathophysiology 1</td>
<td>160</td>
</tr>
<tr>
<td>Intro to Scanning Practice</td>
<td>165</td>
</tr>
<tr>
<td>Clinical Experience 1</td>
<td>166</td>
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(8 hrs/wk - 16 wks)

SPRING

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
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<tbody>
<tr>
<td>Clinical Experience 2</td>
<td>167</td>
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(40 hrs/wk - 8 wks)

SUMMER

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<tr>
<th>Course</th>
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<tbody>
<tr>
<td>Pathophysiology 2</td>
<td>265</td>
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<tr>
<td>Clinical Experience 3</td>
<td>271</td>
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<tr>
<td>(32 hrs/wk - 16 wks)</td>
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<tr>
<td>Sonographic Scanning Tech 1</td>
<td>274</td>
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INTERSESSION

<table>
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<tr>
<td>Clinical Experience 4</td>
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(40 hrs/wk - 4 wks)

<table>
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<tr>
<th>Course</th>
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<tr>
<td>Sonographic Scanning Tech 2</td>
<td>275</td>
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<tr>
<td>Clinical Experience 5</td>
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(36 hrs/wk - 16 wks)

SPRING

<table>
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<tbody>
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<td>Pathology 2</td>
<td>265</td>
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<tr>
<td>Clinical Experience 3</td>
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<tr>
<td>(32 hrs/wk - 16 wks)</td>
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<tr>
<td>Wood Technology 1</td>
<td>274</td>
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<table>
<thead>
<tr>
<th>Course</th>
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</thead>
<tbody>
<tr>
<td>Color &amp; Design 2-D</td>
<td>110</td>
</tr>
<tr>
<td>Freehand Drawing</td>
<td>120</td>
</tr>
<tr>
<td>Exhibition Design (Gallery)</td>
<td>145</td>
</tr>
<tr>
<td>Elem Display &amp; Visual</td>
<td>180</td>
</tr>
<tr>
<td>Principles of Advertising</td>
<td>130</td>
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</table>

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
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</thead>
<tbody>
<tr>
<td>Color &amp; Design 3-D</td>
<td>111</td>
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<tr>
<td>Advertising Design 1</td>
<td>160</td>
</tr>
<tr>
<td>Wood Technology 1</td>
<td>110AD</td>
</tr>
<tr>
<td>Inter Display &amp; Visual</td>
<td>185</td>
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<tr>
<td>Field Experience</td>
<td>190</td>
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</table>

Total: (29)

CERTIFICATE OF ACHIEVEMENT

Required Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
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<tbody>
<tr>
<td>Color &amp; Design 2-D</td>
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</tr>
<tr>
<td>Field Experience</td>
<td>190</td>
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Total: (29)

Suggested Electives:

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
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<tbody>
<tr>
<td>Rapid Illustration Techniques</td>
<td>117</td>
</tr>
</tbody>
</table>

ASSOCIATE DEGREE

Complete Certificate of Achievement and Graduation Requirements as outlined in the Graduation Requirements section of the catalog.

DIETETIC TECHNOLOGY—FOOD MANAGEMENT

—See options under FOOD SERVICE MANAGEMENT

DIETETIC TECHNOLOGY—NUTRITION CARE

—See NUTRITION CARE

DISPLAY AND VISUAL PRESENTATION

This curriculum is designed to prepare students seeking careers as display designers in the display fields and includes point-of-sale interior displays, industrial displays, and visual promotions. The training program includes consideration of the total visual sales and service promotion mix as applied to retailers, wholesalers, manufacturers and corporate display. Students are encouraged to work toward an Associate in Arts degree.

Employment possibilities include:

<table>
<thead>
<tr>
<th>Position</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Display Designer</td>
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<tr>
<td>Visual Merchandising Stylist</td>
<td></td>
</tr>
<tr>
<td>Display Division Assistant</td>
<td></td>
</tr>
<tr>
<td>Display Manager/Director</td>
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</tr>
<tr>
<td>Regional Display Director</td>
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<tr>
<td>Exhibit Designer</td>
<td></td>
</tr>
<tr>
<td>Retail Space Planner/Designer</td>
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</tr>
</tbody>
</table>

CERTIFICATE OF ACHIEVEMENT

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
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<td>Freehand Drawing</td>
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</tr>
<tr>
<td>Exhibition Design (Gallery)</td>
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</tr>
<tr>
<td>Elem Display &amp; Visual</td>
<td>180</td>
</tr>
<tr>
<td>Principles of Advertising</td>
<td>130</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Color &amp; Design 3-D</td>
<td>111</td>
</tr>
<tr>
<td>Advertising Design 1</td>
<td>160</td>
</tr>
<tr>
<td>Wood Technology 1</td>
<td>110AD</td>
</tr>
<tr>
<td>Inter Display &amp; Visual</td>
<td>185</td>
</tr>
<tr>
<td>Field Experience</td>
<td>190</td>
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</tbody>
</table>

Total: (29)
DIGITAL MEDIA ARTS—
COMPUTER GRAPHICS

This program is designed for the person who wants a concentrated course of study in the field of digital media arts. Courses are designed to accommodate specific interest areas of application for both programmers and users.

The OCC Digital Media Arts program is unique and bases its wide reputation on its emphasis on visual literacy. Concept development and the generation of a portfolio suitable for job applications or transfer to a degree program is a major focus in each of the core courses.

Students from a wide range of disciplines are discovering the creative visual potential of the computer and are applying their newly acquired skills in innovative ways, competing successfully on an international level with images generated here at OCC.

While the program provides broad-based entry level training for a variety of industries, students are encouraged to work toward an Associate in Arts degree.

CERTIFICATE OF ACHIEVEMENT

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>First Semester</strong></td>
<td></td>
</tr>
<tr>
<td>Freehand Drawing Art</td>
<td>Art 120 (3)</td>
</tr>
<tr>
<td>Color &amp; Design 2-D Art</td>
<td>Art 110 (3)</td>
</tr>
<tr>
<td>Intro to Computer Graphics</td>
<td>DMA 181 (3)</td>
</tr>
<tr>
<td><strong>Second Semester</strong></td>
<td></td>
</tr>
<tr>
<td>Contemporary Art History</td>
<td>Art 102 (3)</td>
</tr>
<tr>
<td>Computer Art Production</td>
<td>Art 163 (4)</td>
</tr>
<tr>
<td>Basic Photography</td>
<td>Photo 120 (3)</td>
</tr>
<tr>
<td><strong>Third Semester</strong></td>
<td></td>
</tr>
<tr>
<td>Photo &amp; Computer Graphics 1 (4) DMA 193</td>
<td></td>
</tr>
<tr>
<td>Intro to Digital Photo (3)</td>
<td>Photo 125</td>
</tr>
<tr>
<td>Advertising Design 1</td>
<td>Art 160 (3)</td>
</tr>
<tr>
<td>Interactive Multimedia</td>
<td>DMA 200AB (4)</td>
</tr>
<tr>
<td><strong>Fourth Semester</strong></td>
<td></td>
</tr>
<tr>
<td>2-D Animation</td>
<td>DMA 280AC (4)</td>
</tr>
<tr>
<td>Illus &amp; Computer Graphics 1</td>
<td>DMA 190 (4)</td>
</tr>
<tr>
<td>Professional Studies</td>
<td>Art 180 (2)</td>
</tr>
</tbody>
</table>

| Select one (1) from the following:         |       |
| Lettering/Computer Typography             | Art 115 (3) |
| Digital Film/Video Editing                 | Film 194 (3) |
| Intro to Color Photography                 | Photo 155 (2) |

**Subtotal:** (39-40)

**Total:** (41-43)

Suggested electives:
- Life Drawing Art 121AD (3)
- Painting 1 Art 130 (3)
- Story Illustration Techniques Art 143AD (3)
- Printmaking 1 Art 170 (3)
- Photo & Computer Graphics 2 DMA 194AC (4)
- Cartooning 1 Art 269 (3)
- 3-D Computer Graphics Animation DMA 281AB (4)
- Application of Color Theory Art 112 (3)
- Illus & Computer Graphics 2 DMA 191AB (4)
- Image Processing Digital Video DMA 262AC (4)
- Intro to Humanities Hum 100 (3)
- Art Photography Photo 283AB (3)

ASSOCIATE DEGREE

Complete Certificate of Achievement and Graduation Requirements as outlined in the Graduation Requirements section of the catalog.

Continued Next Column
### DIGITAL MEDIA ARTS — MULTIMEDIA

The Multimedia certificate is designed to prepare the student for an entry level position in the multimedia industry. The student will be exposed to a broad range of media, including art, photography, video, animation, music, text, and the techniques required to incorporate them into digital media. Digital Media Arts is an important sector of the economy and industry is eager to find qualified candidates who not only understand a particular media but also know how to put together multimedia projects.

#### CERTIFICATE OF ACHIEVEMENT

<table>
<thead>
<tr>
<th>Courses</th>
<th>Required Courses</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>First Semester</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Intro to Computer Graphics</td>
<td>DMA 181</td>
<td>(3)</td>
</tr>
<tr>
<td>Freehand Drawing</td>
<td>Art 120</td>
<td>(3)</td>
</tr>
<tr>
<td>Color &amp; Design 2-D</td>
<td>Art 110</td>
<td>(3)</td>
</tr>
<tr>
<td><strong>Second Semester</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2-D Animation</td>
<td>DMA 280AC</td>
<td>(4)</td>
</tr>
<tr>
<td>Computers in Music</td>
<td>Music 102AD</td>
<td>(3)</td>
</tr>
<tr>
<td>Basic Photography</td>
<td>Photo 120</td>
<td>(3)</td>
</tr>
<tr>
<td><strong>Third Semester</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Video Workshop</td>
<td>Film 110</td>
<td>(3)</td>
</tr>
<tr>
<td>Intro to Digital Photography</td>
<td>Photo 125</td>
<td>(3)</td>
</tr>
<tr>
<td>(Or)</td>
<td>Photo 130</td>
<td>(3-4)</td>
</tr>
<tr>
<td>Photo &amp; Computer Graphics 1</td>
<td>DMA 193</td>
<td>(4)</td>
</tr>
<tr>
<td>Intro to Color Photography</td>
<td>Photo 155</td>
<td>(2)</td>
</tr>
<tr>
<td><strong>Fourth Semester</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Interactive Multimedia</td>
<td>DMA 200AB</td>
<td>(4)</td>
</tr>
<tr>
<td>Image Processing Digital Video</td>
<td>DMA 262AC</td>
<td>(4)</td>
</tr>
<tr>
<td>3-D Computer Graphics Animation</td>
<td>DMA 281AB</td>
<td>(4)</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td>(39-40)</td>
</tr>
<tr>
<td><strong>Subtotal</strong></td>
<td></td>
<td>(29-47)</td>
</tr>
</tbody>
</table>

Select one (1) from the following:
- Contemporary Art History
- His & Appr of Cinema
- Internet for Technology
- Computers in Music
- History & Aesthetics of Photo

- **Art**
- **Film**
- **Comp HT**
- **Music**
- **Photo**

**Suggested electives:**
- Color & Design 3-D
- Life Drawing
- Story Illustration Techniques
- Illus & Computer Graphics 1
- Photo & Computer Graphics 2
- Basic Film/Video Production
- Digital Film/Video Editing
- Fundamentals of Music
- Intro to Sound Reinforcement
- Recording Techniques
- Art Photography

**Total:** (41-43)

### DRAFTING TECHNOLOGY—COMPUTER AIDED DESIGN/DRAFTING

With an emphasis in Architectural Technology, Electro-Mechanical, or Mechanical Design/Drafting. This option is designed to provide students with the basic skills to enter computer aided design/drafting in any one of several areas.

CADD instruction includes the use of hardware and software to develop working drawings in architectural, electronic and mechanical design drafting. The CADD lab is state-of-the-art equipped with IBM computers and Autocad software.

The student may receive a Certificate of Achievement in one or more areas of emphasis within the program.

#### CERTIFICATE OF ACHIEVEMENT

**Required prerequisite:**
- Architectural Technology Certificate of Achievement (39)
- Electro-Mechanical Design/Drafting Certificate of Achievement (21)
- Mechanical Design/Drafting Certificate of Achievement (22)

**Required Courses**

- **FALL**
- Basic Comp Aided Dsgn/Draft Draft 150AB (4)

- **SPRING**
- Select one or more of the following:
  - Adv Comp Aided Dsgn/Draft - Electro-Mechanical (4) Draft 156
  - Adv Comp Aided Dsgn/Draft - Mechanical (4) Draft 157
  - Adv Comp Aided Dsgn/Draft - Architectural (4) Draft 158

**Total:** (29-47)

The student is encouraged to work towards attaining an Associate Degree in conjunction with the certificate.

**Suggested electives:**
- Intro to Info Sys & Appl CIS 100 (3)
- Adv 3-D Comp Aided Dsgn/Draft Draft 159 (3)

**ASSOCIATE DEGREE**

Complete Certificate of Achievement and Graduation Requirements as outlined in the Graduation Requirements section of the catalog.
DRAFTING TECHNOLOGY—ELECTRO-MECHANICAL DESIGN/DRAFTING

This certificate program prepares students to enter the electronic drafting field utilizing skills of mechanical drafting and electrical drafting. Students learn to prepare schematic drawings, layout drawings, and art work “tape-ups” used in the production of printed circuit boards. The new electro/mechanical drafting lab is available to day and evening students. Students are encouraged to work toward an Associate in Arts degree in conjunction with the certificate.

CERTIFICATE OF ACHIEVEMENT

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>FALL</strong></td>
<td></td>
</tr>
<tr>
<td>Basic Drafting Practices*</td>
<td>Draft 110 (4)</td>
</tr>
<tr>
<td>Manufacturing Processes</td>
<td>Mach 195 (3)</td>
</tr>
<tr>
<td>Technical Math**</td>
<td>Tech 040 (3)</td>
</tr>
<tr>
<td><strong>SPRING</strong></td>
<td></td>
</tr>
<tr>
<td>Engineering Drafting Design 1</td>
<td>Draft 115 (4)</td>
</tr>
<tr>
<td>Technical Electronics</td>
<td>Elec 140 (3)</td>
</tr>
<tr>
<td><strong>FALL</strong></td>
<td></td>
</tr>
<tr>
<td>Elec/Mech Drafting 1</td>
<td>Draft 140 (4)</td>
</tr>
</tbody>
</table>

Total: (21)

*Suggested electives:
- Basic Comp Aided Dsgn/Draft | Draft 150AB (4)
- Dimensioning | Draft 160 (4)
- Intro to Machine Shop | Mach 100 (3)

ASSOCIATE DEGREE

Complete Certificate of Achievement and Graduation Requirements as outlined in the Graduation Requirements sections of the catalog.

DRAFTING TECHNOLOGY—MECHANICAL DESIGN/DRAFTING

Mechanical Drafting instruction related to the four manufacturing processes, i.e., machining, casting, forging, and welding. Emphasis is placed on working drawings and precision dimensioning skills used in industry. Students may go immediately into industry as an entry-level drafter after the fourth semester. Students are encouraged to work toward attaining an Associate in Arts degree in conjunction with the Certificate.

CERTIFICATE OF ACHIEVEMENT

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>FALL</strong></td>
<td></td>
</tr>
<tr>
<td>Basic Drafting Practices</td>
<td>Draft 110 (4)</td>
</tr>
<tr>
<td>Manufacturing Processes</td>
<td>Mach 195 (3)</td>
</tr>
<tr>
<td><strong>SPRING</strong></td>
<td></td>
</tr>
<tr>
<td>Engineering Drafting Design 1</td>
<td>Draft 115 (4)</td>
</tr>
<tr>
<td>Dimensioning</td>
<td>Draft 160 (4)</td>
</tr>
<tr>
<td><strong>FALL</strong></td>
<td></td>
</tr>
<tr>
<td>Engineering Drafting Design 2</td>
<td>Draft 120 (4)</td>
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<tr>
<td>Technical Math</td>
<td>Tech 040 (3)</td>
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</table>

Total: (22)

*Suggested electives:
- Elec/Mech Drafting 1 | Draft 140 (4)
- Adv 3-D Comp Aided Dsgn/Draft | Draft 159 (3)
- Intro to Machine Shop | Mach 100 (3)
- Metallurgy | Mach 190 (4)

ASSOCIATE DEGREE

Complete Certificate of Achievement and Graduation Requirements as outlined in the Graduation Requirements sections of the catalog.
DRAFTING TECHNOLOGY
Professional Upgrade Certificates

Electro/Mechanical CADD
This professional upgrade certificate program is designed for entry level employment, job upgrade for people currently working in the drafting industry, and those currently employed but wishing to re-enter the electro/mechanical and computer-assisted industry.
Certificate will be awarded by the Drafting Technology Department, Technology Division.

CERTIFICATE OF COMPLETION
Required Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Engineering Drafting Design 1</td>
<td>115</td>
</tr>
<tr>
<td>Electro/Mechanical Drafting 1</td>
<td>140</td>
</tr>
<tr>
<td>Basic Comp Aided Dsgn/Draft</td>
<td>150AB</td>
</tr>
<tr>
<td></td>
<td>(4)</td>
</tr>
</tbody>
</table>

Computer Aided Drafting
This professional upgrade certificate program is designed for entry level employment preparation, job skills upgrade, vocational retraining in the fields of architecture, mechanical, electro/mechanical, interior design, or landscape design.

CERTIFICATE OF COMPLETION
Required Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Basic Comp Aided Dsgn/Draft</td>
<td>150AB</td>
</tr>
<tr>
<td>Adv Comp Aided Dsgn/Draft-Architect</td>
<td>158</td>
</tr>
<tr>
<td>Adv Comp Aided Dsgn/Draft-Mechanical</td>
<td>157</td>
</tr>
<tr>
<td>Adv Comp Aided Dsgn/Draft-Electro-Mechanical</td>
<td>156</td>
</tr>
<tr>
<td></td>
<td>(4)</td>
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</tbody>
</table>

Dimensioning
This professional upgrade certificate program is designed for Drafting/Machine Technology students preparing to enter the job market and individuals already in the field seeking an upgrade in their skills. Industry people involved in quality control, manufacturing, and/or engineering need to have a clear understanding of dimensioning practices. Those individuals also need to be literate in geometric dimensioning and tolerancing, a means of controlling geometric features of parts.

CERTIFICATE OF COMPLETION
Required Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dimensioning</td>
<td>160</td>
</tr>
<tr>
<td>Dimensioning &amp; Tolerancing</td>
<td>175</td>
</tr>
<tr>
<td></td>
<td>(3)</td>
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</tbody>
</table>

EARLY CHILDHOOD EDUCATION
A certificate is earned by students who have developed skills necessary to work as teachers of infant, toddler, or preschool children in child care settings, or as an early primary classroom aide, depending on program option. Courses emphasize strong theoretical and practical knowledge in working with children: birth to 2 years, 2-5 years, or 4-8 years. Ample employment opportunities exist; salaries are increasing.

CERTIFICATE OF ACHIEVEMENT
A grade of "C" or better is required in all courses.

CORE CURRICULUM

Required Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
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<tbody>
<tr>
<td>Child Development</td>
<td>180</td>
</tr>
<tr>
<td>Child, Family &amp; Community</td>
<td>190</td>
</tr>
<tr>
<td>Early Child Devel Thru Play</td>
<td>155</td>
</tr>
<tr>
<td>Guidance for Young Children</td>
<td>157</td>
</tr>
<tr>
<td>Observing &amp; Recording</td>
<td></td>
</tr>
<tr>
<td>Child Behavior</td>
<td>165</td>
</tr>
<tr>
<td>Emergency Medical Care-Children</td>
<td>145</td>
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<tr>
<td></td>
<td>(4)</td>
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Select one (1) from the following:

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
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<tbody>
<tr>
<td>Learning Title 22</td>
<td>261</td>
</tr>
<tr>
<td>Disaster Preparedness</td>
<td>262</td>
</tr>
<tr>
<td>Child Abuse ID &amp; Referral</td>
<td>263</td>
</tr>
<tr>
<td>Current Issues in E C</td>
<td>199AD</td>
</tr>
<tr>
<td></td>
<td>(2)</td>
</tr>
</tbody>
</table>

(Certificates earn a total of 15.5 units)

Choose OPTION 1 or 2 or 3 or 4 to complete Certificate of Achievement.

OPTION 1—INFANT & TODDLER TEACHER
(Birth to 2 years)

Required Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>E C Core Curriculum</td>
<td></td>
</tr>
<tr>
<td>Infant Development &amp; Relationships</td>
<td>184</td>
</tr>
<tr>
<td>Cross-Cultural Perspectives</td>
<td>126</td>
</tr>
<tr>
<td>Early Childhood Laboratory</td>
<td>156</td>
</tr>
<tr>
<td>Infant/Toddler Curriculum</td>
<td>218</td>
</tr>
<tr>
<td>Infant &amp; Toddler Programs</td>
<td>220</td>
</tr>
<tr>
<td>Infant &amp; Toddler Field Experience</td>
<td>221</td>
</tr>
<tr>
<td></td>
<td>(3)</td>
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</tbody>
</table>

Total: 31.5 units
## OPTION 2—PRESCHOOL TEACHER

### (2-5 years)

<table>
<thead>
<tr>
<th>Required Courses</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>E C Core Curriculum</td>
<td>(15.5)</td>
</tr>
<tr>
<td>Early Childhood Laboratory</td>
<td>E C 156 (2)</td>
</tr>
<tr>
<td>Language Arts in Preschool (2)</td>
<td>E C 130 (2-3)</td>
</tr>
<tr>
<td><strong>(Or)</strong> Language/Literacy Development (3)</td>
<td>Hmdv 280 (3)</td>
</tr>
<tr>
<td>Creativity for Children (3)</td>
<td>E C 131 (3)</td>
</tr>
<tr>
<td>Science in the Preschool (3)</td>
<td>E C 132 (3)</td>
</tr>
<tr>
<td>Preschool Programs-Curriculum</td>
<td>E C 200 (3)</td>
</tr>
<tr>
<td>Early Childhood Field Experience</td>
<td>E C 201 (3)</td>
</tr>
<tr>
<td>Select one (1) from the following:</td>
<td></td>
</tr>
<tr>
<td>Intro to E C Education</td>
<td>E C 105 (3)</td>
</tr>
<tr>
<td>Cross-Cultural Perspectives</td>
<td>E C 126 (3)</td>
</tr>
<tr>
<td>The Exceptional Child</td>
<td>Hmdv 210 (3)</td>
</tr>
<tr>
<td>Subtotal:</td>
<td>(28.5-29.5)</td>
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<tr>
<td>Total:</td>
<td>(31.5-32.5)</td>
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</table>

## OPTION 3—EARLY PRIMARY CLASSROOM AIDE

### (4-8 years)

<table>
<thead>
<tr>
<th>Required Courses</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>E C Core Curriculum</td>
<td>(15.5)</td>
</tr>
<tr>
<td>Language/Literacy Development</td>
<td>Hmdv 280 (3)</td>
</tr>
<tr>
<td>Early Primary Curriculum:</td>
<td></td>
</tr>
<tr>
<td>Materials &amp; Methods</td>
<td>E C 230 (3)</td>
</tr>
<tr>
<td>Primary Aide Field Exp</td>
<td>E C 232 (3)</td>
</tr>
<tr>
<td>Middle Childhood Development &amp; Guidance</td>
<td>Hmdv 182 (3)</td>
</tr>
<tr>
<td>Select one (1) from the following:</td>
<td></td>
</tr>
<tr>
<td>Cross-Cultural Perspectives</td>
<td>E C 126 (3)</td>
</tr>
<tr>
<td>Creativity for Children</td>
<td>E C 131 (3)</td>
</tr>
<tr>
<td>Science in Preschool</td>
<td>E C 132 (3)</td>
</tr>
<tr>
<td>Subtotal:</td>
<td>(27.5)</td>
</tr>
<tr>
<td>Total:</td>
<td>(30.5)</td>
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</tbody>
</table>

## OPTION 4—EARLY INTERVENTION ASSISTANT

### Required Courses

<table>
<thead>
<tr>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>(15.5)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Required Courses</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>E C Core Curriculum</td>
<td>(15.5)</td>
</tr>
<tr>
<td>The Exceptional Child</td>
<td>Hmdv 210 (3)</td>
</tr>
<tr>
<td>Early Childhood Laboratory</td>
<td>E C 156 (2)</td>
</tr>
<tr>
<td>Inclusion Child w/Disabilities</td>
<td>E C 240 (3)</td>
</tr>
<tr>
<td>Bldg Partnerships w/Families</td>
<td>E C 174 (3)</td>
</tr>
<tr>
<td><strong>(Or)</strong> Cross-Cultural Perspectives (3)</td>
<td>E C 126</td>
</tr>
<tr>
<td>Field Exp Child w/Special Needs</td>
<td>E C 241 (3)</td>
</tr>
<tr>
<td>Subtotal:</td>
<td>(29.5)</td>
</tr>
<tr>
<td>Select one (1) from the following:</td>
<td>(3)</td>
</tr>
<tr>
<td>Preschool Programs-Curriculum</td>
<td>E C 200 (3)</td>
</tr>
<tr>
<td>Infant &amp; Toddler Programs</td>
<td>E C 220 (3)</td>
</tr>
<tr>
<td>Early Primary Curriculum:</td>
<td></td>
</tr>
<tr>
<td>Materials &amp; Methods</td>
<td>E C 230 (3)</td>
</tr>
<tr>
<td>Subtotal:</td>
<td>(30.5)</td>
</tr>
</tbody>
</table>

## ASSOCIATE DEGREE

Complete Core courses and courses in Certificate of Achievement Option 1 or 2 or 3 or 4 and Graduation Requirements as outlined in the Graduation Requirements section of the catalog.
EARLY CHILDHOOD—EARLY CHILDHOOD ADMINISTRATION

Students who already have Early Childhood certificates may qualify to become directors or administrators of early childhood centers by earning this Early Childhood Administration Certificate.

CERTIFICATE OF ACHIEVEMENT

Required prerequisite:
Early Childhood Education Certificate of Achievement Option 1, Infant/Toddler Teacher
(Or)
Early Childhood Education Certificate of Achievement Option 2, Preschool Teacher
(Or)
Early Childhood Education Certificate of Achievement Option 3, Early Primary Classroom Aide
(Or)
Early Childhood Education Certificate of Achievement Option 4, Early Intervention Assistant

Subtotal: (31.5) or (31.5-32.5) or (30.5) or (32.5)

A grade of “C” or better is required in all courses.

Required Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
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</thead>
<tbody>
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<td>Early Childhood Adm-Program</td>
<td>E C</td>
</tr>
<tr>
<td>Early Childhood Management</td>
<td>E C</td>
</tr>
<tr>
<td>Life Cycle Nutritn:Children</td>
<td>F N</td>
</tr>
<tr>
<td>Human Relations/Supervision</td>
<td>Mgmt</td>
</tr>
<tr>
<td>Learning Title 22</td>
<td>E C</td>
</tr>
<tr>
<td>Disaster Preparedness</td>
<td>E C</td>
</tr>
<tr>
<td>Child Abuse ID &amp; Referral</td>
<td>E C</td>
</tr>
<tr>
<td>Current Issues in E C</td>
<td>E C</td>
</tr>
<tr>
<td>Select 1.5 units from the following:</td>
<td></td>
</tr>
<tr>
<td>Cross-Cultural Perspectives</td>
<td>E C</td>
</tr>
<tr>
<td>Creativity for Children</td>
<td>E C</td>
</tr>
<tr>
<td>Science in the Preschool</td>
<td>E C</td>
</tr>
<tr>
<td>Early Child Devel Thru Play</td>
<td>E C</td>
</tr>
<tr>
<td>Early Primary Curriculum: Materials &amp; Methods</td>
<td>E C</td>
</tr>
<tr>
<td>Language/Literacy Development</td>
<td>Hmdv</td>
</tr>
<tr>
<td>Subtotal (11.5)</td>
<td></td>
</tr>
<tr>
<td>Total: (43) or (43-44) or (42) or (44)</td>
<td></td>
</tr>
</tbody>
</table>

ASSOCIATE DEGREE

Complete Certificate of Achievement and Graduation Requirements as outlined in the Graduation Requirements section of the catalog.

EARLY CHILDHOOD—SCHOOL-AGE CHILD CARE

This certificate, for students who want to work with children ages 6-12 in after-school programs, provides developmentally based courses designed to teach students how to provide competent after-school care for school-age children.

CERTIFICATE OF COMPLETION

Required Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>School-Age Creative Activities</td>
<td>E C</td>
</tr>
<tr>
<td>School-Age Field Experience</td>
<td>E C</td>
</tr>
<tr>
<td>Emergency Medical Care-Children</td>
<td>EMT</td>
</tr>
<tr>
<td>Child, Family &amp; Community</td>
<td>Hmdv</td>
</tr>
<tr>
<td>Middle Childhood Development &amp; Guidance</td>
<td>Hmdv</td>
</tr>
<tr>
<td>Current Issues in E C</td>
<td>E C</td>
</tr>
<tr>
<td>Select one (1) from the following:</td>
<td></td>
</tr>
<tr>
<td>Cross-Cultural Perspectives</td>
<td>E C</td>
</tr>
<tr>
<td>Creativity for Children</td>
<td>E C</td>
</tr>
<tr>
<td>Science in the Preschool</td>
<td>E C</td>
</tr>
<tr>
<td>Early Child Devel Thru Play</td>
<td>E C</td>
</tr>
<tr>
<td>Early Primary Curriculum: Materials &amp; Methods</td>
<td>E C</td>
</tr>
<tr>
<td>Language/Literacy Development</td>
<td>Hmdv</td>
</tr>
<tr>
<td>Subtotal (13.5-15)</td>
<td></td>
</tr>
<tr>
<td>Total: (16.5-18)</td>
<td></td>
</tr>
</tbody>
</table>

EARLY CHILDHOOD—IN-HOME CAREGIVER

CERTIFICATE OF COMPLETION

Required Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Early Child Devel Thru Play</td>
<td>E C</td>
</tr>
<tr>
<td>Emergency Medical Care-Children</td>
<td>EMT</td>
</tr>
<tr>
<td>Life Cycle Nutritn:Children</td>
<td>F N</td>
</tr>
<tr>
<td>Child Development</td>
<td>Hmdv</td>
</tr>
<tr>
<td>Child, Family &amp; Community</td>
<td>Hmdv</td>
</tr>
<tr>
<td>Select one (1) from the following:</td>
<td></td>
</tr>
<tr>
<td>Infant Development &amp; Relationships</td>
<td>Hmdv</td>
</tr>
<tr>
<td>Preschool Programs-Curriculum</td>
<td>E C</td>
</tr>
<tr>
<td>School-Age Creative Activities</td>
<td>E C</td>
</tr>
<tr>
<td>Subtotal (11)</td>
<td></td>
</tr>
<tr>
<td>Total: (14)</td>
<td></td>
</tr>
</tbody>
</table>
ELECTRONICS TECHNOLOGY

The Electronics Technology program trains students in those basic electronics skills necessary for immediate employment and provides the foundation for more advanced studies. Electronics is an industrial area of growth and opportunity. Constantly upgraded new technologies have created a strong demand for employees who are well trained as electronics technicians. Employment opportunities also exist in many related fields, such as computing, communications, industrial controls, aerospace, biomedical electronics, semiconductor fabrication, and instrumentation. Employee assignments ordinarily involve product testing, troubleshooting of circuits and systems, or field maintenance and repair. The employment outlook in communities surrounding Orange Coast College continues to be excellent.

CERTIFICATE OF ACHIEVEMENT

It is highly recommended that the student follow the first year sequence.

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Elec Problem Solving**</td>
<td>047</td>
</tr>
<tr>
<td>Basic Digital Technology</td>
<td>135</td>
</tr>
<tr>
<td>Basic Electronics*</td>
<td>180</td>
</tr>
<tr>
<td>Pulse Circuits***</td>
<td>165</td>
</tr>
<tr>
<td>Electronic Construction</td>
<td>170</td>
</tr>
<tr>
<td>Digital Computers/Microp</td>
<td>241</td>
</tr>
<tr>
<td>Analog Semiconductor Circuits***</td>
<td>160</td>
</tr>
<tr>
<td>Applied Digital Circuits</td>
<td>245</td>
</tr>
<tr>
<td>**</td>
<td></td>
</tr>
<tr>
<td>Subtotal:</td>
<td>31</td>
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</tbody>
</table>

Select at least six (6) units from the following:

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Programmable Logic Controllers</td>
<td>153AB (1.5)</td>
</tr>
<tr>
<td>Integrated Circuit Manufacturing</td>
<td>206</td>
</tr>
<tr>
<td>Communications Systems</td>
<td>215</td>
</tr>
<tr>
<td>Computer Installation &amp; Repair</td>
<td>246</td>
</tr>
<tr>
<td>Electronic Measurements</td>
<td>286</td>
</tr>
<tr>
<td>Electronic Troubleshooting</td>
<td>290</td>
</tr>
<tr>
<td>Computer Use in Technology</td>
<td>Comp HT 100 (3)</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>Subtotal:</td>
<td>9</td>
</tr>
</tbody>
</table>

Total: (37)

*Evening equivalent courses may be substituted. Check catalog. Electronics 150 & 155 may be substituted for Electronics 180.

**A basic college math course(s) in algebra and trigonometry may be substituted.

***Electronics 160 and 165 do not have to be taken in sequential order.

THE ASSOCIATE DEGREE IS STRONGLY RECOMMENDED FOR STUDENTS PLANNING TO WORK AS ELECTRONIC TECHNICIANS.

ASSOCIATE DEGREE

Complete Certificate of Achievement and Graduation Requirements as outlined in the Graduation Requirements section of the catalog.

ELECTRONICS TECHNOLOGY

Professional Upgrade Certificates

The following Professional Upgrade Certificates of Completion are intended for the advanced electronics student or the employed technician who desires some advanced training in a specific area. Most courses listed have required prerequisites. Certificates may be obtained from the Technology Division Office by bringing in official records showing the successful completion of required courses.

Microcomputers

A program of study which covers microcomputer architecture, interconnections to peripheral circuits, and assembly language programming.

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Digital Computers/Microprocess</td>
<td>Elec 241 (4)</td>
</tr>
<tr>
<td>Applied Digital Circuits</td>
<td>Elec 245 (4)</td>
</tr>
<tr>
<td>Computer Installation &amp; Repair</td>
<td>Elec 246 (3)</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>Subtotal:</td>
<td>11</td>
</tr>
</tbody>
</table>

Test & Troubleshooting

A program of study which covers electronic test equipment, troubleshooting and repair techniques, and basic use of small computers.

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Electronic Measurements</td>
<td>Elec 286 (3)</td>
</tr>
<tr>
<td>Electronic Troubleshooting</td>
<td>Elec 290 (3)</td>
</tr>
<tr>
<td>Computer Use in Technology</td>
<td>Comp HT 100 (3)</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>Subtotal:</td>
<td>9</td>
</tr>
</tbody>
</table>

Total: (9)
ELECTRONIC EQUIPMENT ENGINEERING SERVICES TECHNICIAN (EEEST)

ASSOCIATE DEGREE PROGRAM

This is an Associate Degree program. Students must complete the requirements listed below. It is suggested that students follow this outline or see a counselor for appropriate course substitutions if they already have an AA degree or higher from an accredited college. This program was developed with the SEMATECH National Technician Curriculum Training Task Force through a grant from the Advanced Research Projects Agency (ARPA) in which an Orange Coast College Electronics/High Technology faculty member was a participant.

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>First Semester</strong></td>
<td></td>
</tr>
<tr>
<td>Basic Electronics (6)</td>
<td>Elec 180</td>
</tr>
<tr>
<td>(Or) Intro to Electronics, D.C. (3)</td>
<td>Elec 150 (6)</td>
</tr>
<tr>
<td>(And) Intro to Electronics, A.C. (3)</td>
<td>Elec 155</td>
</tr>
<tr>
<td>Basic Digital Technology</td>
<td>Elec 135 (3)</td>
</tr>
<tr>
<td>Precalculus Math</td>
<td>Math 170 (3)</td>
</tr>
<tr>
<td>Survey of High Technology</td>
<td>Comp HT 108 (3)</td>
</tr>
<tr>
<td><strong>Second Semester</strong></td>
<td></td>
</tr>
<tr>
<td>Analog Semiconductor Circuits</td>
<td>Elec 160 (4)</td>
</tr>
<tr>
<td>Introductory Chemistry</td>
<td>Chem 110 (5)</td>
</tr>
<tr>
<td>Fitness Programs</td>
<td>P E 107AD (1)</td>
</tr>
<tr>
<td>Freshman Composition</td>
<td>Engl 100 (3)</td>
</tr>
<tr>
<td>Laser Technology</td>
<td>Comp HT 196 (3)</td>
</tr>
<tr>
<td><strong>Third Semester</strong></td>
<td></td>
</tr>
<tr>
<td>Computer Use in Technology</td>
<td>Comp HT 100 (3)</td>
</tr>
<tr>
<td>Institutions</td>
<td>Am S 100 (3)</td>
</tr>
<tr>
<td>Public Speaking</td>
<td>Spch 110 (3)</td>
</tr>
<tr>
<td>Contemporary Ethnic America (3)</td>
<td>Eth Stu 100 (3)</td>
</tr>
<tr>
<td>Multicultural Behavior (3)</td>
<td>Anth 150</td>
</tr>
<tr>
<td>Pulse Circuits</td>
<td>Elec 165 (4)</td>
</tr>
<tr>
<td><strong>Fourth Semester</strong></td>
<td></td>
</tr>
<tr>
<td>History of Architecture 1 (3)</td>
<td>Arch 290 (3)</td>
</tr>
<tr>
<td>(Or) History of Architecture 2 (3)</td>
<td>Arch 296</td>
</tr>
<tr>
<td>Introductory Psychology</td>
<td>Psych 100 (3)</td>
</tr>
<tr>
<td>Integrated Circuit Mfg.</td>
<td>Elec 206 (3)</td>
</tr>
<tr>
<td>Robotics</td>
<td>Comp HT 101 (3)</td>
</tr>
<tr>
<td>Digit Computers/Microprocess</td>
<td>Elec 241 (4)</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
</tr>
<tr>
<td><strong>65</strong></td>
<td></td>
</tr>
</tbody>
</table>

**Required Courses for Option 2**

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>First Semester</strong></td>
<td></td>
</tr>
<tr>
<td>Analog Semiconductor Circuits</td>
<td>Elec 160 (4)</td>
</tr>
<tr>
<td>(Or) Pulse Circuits</td>
<td>Elec 165</td>
</tr>
<tr>
<td>Introductory Chemistry</td>
<td>Chem 110 (5)</td>
</tr>
<tr>
<td>Fitness Programs</td>
<td>P E 107AD (1)</td>
</tr>
<tr>
<td>Freshman Composition</td>
<td>Engl 100 (3)</td>
</tr>
<tr>
<td>History of Architecture 1 (3)</td>
<td>Arch 290 (3)</td>
</tr>
<tr>
<td>(Or) History of Architecture 2 (3)</td>
<td>Arch 296</td>
</tr>
<tr>
<td>Laser Technology</td>
<td>Comp HT 196 (3)</td>
</tr>
<tr>
<td><strong>Second Semester</strong></td>
<td></td>
</tr>
<tr>
<td>Intro to U.S. Government</td>
<td>Pol Sc 180 (3)</td>
</tr>
<tr>
<td>Survey of American History (3)</td>
<td>Hist 100</td>
</tr>
<tr>
<td>(Or) History of U.S. to 1876</td>
<td>Hist 170 (3)</td>
</tr>
<tr>
<td>(Or) History of U.S. Since 1876</td>
<td>Hist 175</td>
</tr>
<tr>
<td>Economic History of U.S.</td>
<td>Hist 177</td>
</tr>
<tr>
<td>First Aid &amp; CPR</td>
<td>Hled 112 (2)</td>
</tr>
<tr>
<td>Public Speaking</td>
<td>Spch 110 (3)</td>
</tr>
<tr>
<td>Contemporary Ethnic America (3)</td>
<td>Eth Stu 100 (3)</td>
</tr>
<tr>
<td>Environment &amp; Man</td>
<td>Ecol 100 (3)</td>
</tr>
<tr>
<td><strong>Fourth Semester</strong></td>
<td></td>
</tr>
<tr>
<td>World Religion</td>
<td>Phil 110 (3)</td>
</tr>
<tr>
<td>Introductory Psychology</td>
<td>Psych 100 (3)</td>
</tr>
<tr>
<td>Integrated Circuit Mfg.</td>
<td>Elec 206 (3)</td>
</tr>
<tr>
<td>Critical Reason: Nonfiction</td>
<td>Engl 102 (3)</td>
</tr>
<tr>
<td>Robotics</td>
<td>Comp HT 101 (3)</td>
</tr>
<tr>
<td>Macroeconomics</td>
<td>Econ 180 (3)</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
</tr>
<tr>
<td><strong>74-75</strong></td>
<td></td>
</tr>
</tbody>
</table>

Option 2 will transfer to California State University, Long Beach; however, students will need to take additional lower division coursework after transfer.
EMERGENCY MEDICAL TECHNICIAN—1

EMT-1 Certification is required to work for an ambulance service or in an emergency room and may be required for lifeguards, ski patrol and fire fighters. The EMT-1 provides the care necessary to preserve life and to prevent disability among the acutely ill and the seriously injured.

The EMT-1 must have basic knowledge of anatomy and physiology, medical terminology and sterile techniques. The course of study emphasizes treating traumatic injuries and medical emergencies, as well as treating minor disorders and emotional problems. Specialized areas include obstetrical and pediatric emergencies and extricating entrapped persons.

Successful completion of the EMT-1 course qualifies the student to sit for the EMT-1 county certifying examination.

The EMT-1 course is a prerequisite for paramedic training. Job opportunities are good.

CERTIFICATE OF COMPLETION

Required Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>EMT-1*</td>
<td>EMT 150 (5.5)</td>
</tr>
<tr>
<td>EMT-1 Clinical Internship</td>
<td>EMT 151 (.5)</td>
</tr>
</tbody>
</table>

(6)

Suggested electives:

<table>
<thead>
<tr>
<th>Medical Terminology</th>
<th>111</th>
<th>(3)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anatomy-Physiology</td>
<td>221</td>
<td>(4)</td>
</tr>
<tr>
<td>Interpersonal Comm.</td>
<td>Spch 100</td>
<td>(3)</td>
</tr>
</tbody>
</table>

*Note: Standard First Aid and CPR, or EMT 100 are prerequisites for EMT 150. Concurrent enrollment in EMT 151 is required.
ENTERTAINMENT TECHNOLOGY

The Orange Coast College Entertainment Technology Certificate Program is designed to give the student two years of extensive technical experience in the process of creating the scenery, costumes, lighting, or sound effects common to all aspects of the entertainment industry.

Through an intensive program of production work in the OCC Theatre Arts Department, combined with classes throughout the college, the student will acquire the theory, applied training, and work-based experience needed to gain entry-level positions in this highly competitive industry.

CORE CURRICULUM

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intro to Theatre</td>
<td>100</td>
</tr>
<tr>
<td>OCC Theatre Repertory</td>
<td>141AD*</td>
</tr>
<tr>
<td>Stage Crew Activity</td>
<td>170AD*</td>
</tr>
<tr>
<td>Play Production</td>
<td>171AD*</td>
</tr>
<tr>
<td>Performing Arts Management</td>
<td>276</td>
</tr>
<tr>
<td>Internship Academy</td>
<td>393AB</td>
</tr>
</tbody>
</table>

Total: (20)

SCENIC ARTIST

This program is designed to give students a concentrated background in the art techniques and theatrical theory and production practices required to recreate a scenic designer’s artwork on a large scale for theatre, theme parks, or other entertainment uses.

CERTIFICATE OF ACHIEVEMENT

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Entertainment Core Curriculum</td>
<td>(20)</td>
</tr>
<tr>
<td>Stage Scenery</td>
<td>Thart</td>
</tr>
<tr>
<td>Elements of Stage Design</td>
<td>271</td>
</tr>
<tr>
<td>History/Apprec Western Art</td>
<td>100</td>
</tr>
<tr>
<td>History/Apprec Western Art</td>
<td>101</td>
</tr>
<tr>
<td>Color &amp; Design 2-D</td>
<td>110</td>
</tr>
<tr>
<td>Freehand Drawing</td>
<td>120</td>
</tr>
<tr>
<td>Perspective</td>
<td>125</td>
</tr>
<tr>
<td>Painting 1</td>
<td>130</td>
</tr>
<tr>
<td>Life Painting</td>
<td>236AD</td>
</tr>
<tr>
<td>Rendering &amp; Rapid Visualization</td>
<td>260</td>
</tr>
</tbody>
</table>

Total: (49)

Suggested electives:
- Intro to Computer Graphics
- DMA
- Application of Color Theory
- Art
- Color & Design 3-D
- Art
- History of Architecture 1
  - (And)
  - Arch
- History of Architecture 2
  - (Or)
  - Arch
- History Arch/Furnishings 1
  - (And)
  - I D
- History Arch/Furnishings 2
  - (And)

ASSOCIATE DEGREE

Complete Certificate of Achievement and Graduation Requirements as outlined in the Graduation Requirements section of the catalog.

SCENIC CARPENTER

The courses in this program provide training in the basic skills required to build the wide variety of scenic elements used in the entertainment industry, as well as training in the theory and practice of theatrical production.

CERTIFICATE OF ACHIEVEMENT

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Entertainment Core Curriculum</td>
<td>Thart</td>
</tr>
<tr>
<td>Stage Scenery</td>
<td>175</td>
</tr>
<tr>
<td>Technical Math</td>
<td>Tech</td>
</tr>
<tr>
<td>Wood Technology 1</td>
<td>Const</td>
</tr>
<tr>
<td>Residential Finish Carpentry</td>
<td>Const</td>
</tr>
<tr>
<td>Residential Electrical Wiring</td>
<td>Const</td>
</tr>
<tr>
<td>Intro to Architectural Graphics</td>
<td>Arch</td>
</tr>
<tr>
<td>Arc &amp; Oxy Welding</td>
<td>Weld</td>
</tr>
<tr>
<td>Advanced Welding</td>
<td>Weld</td>
</tr>
</tbody>
</table>

Total: (47)

Suggested electives:
- Practical Math
- Math
- Weld Testing Basic
- Weld
- History Arch/Furnishings 1
- I D
- History Arch/Furnishings 2
- I D
- Elements of Design
- Thart

ASSOCIATE DEGREE

Complete Certificate of Achievement and Graduation Requirements as outlined in the Graduation Requirements section of the catalog.

LIGHTING TECHNICIAN

This program is intended to give a fundamental understanding of electronics and wiring in conjunction with practical and theoretical knowledge of lighting equipment and the processes used in show production.

CERTIFICATE OF ACHIEVEMENT

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Entertainment Core Curriculum</td>
<td>Thart</td>
</tr>
<tr>
<td>Stage Lighting</td>
<td>176</td>
</tr>
<tr>
<td>Elec Problem Solving</td>
<td>Elec</td>
</tr>
<tr>
<td>Technical Electronics</td>
<td>Elec</td>
</tr>
<tr>
<td>Basic Electronics</td>
<td>Elec</td>
</tr>
<tr>
<td>Residential Electrical Wiring</td>
<td>Const</td>
</tr>
</tbody>
</table>

Total: (40)

Suggested electives:
- Basic Digital Technology
- Elec
- Electronic Construction
- Elec
- Analog Semiconductor Circuits
- Elec
- Communications Systems
- Elec
- Electronic Troubleshooting
- Elec
- Fundamentals of Lighting
- I D

ASSOCIATE DEGREE

Complete Certificate of Achievement and Graduation Requirements as outlined in the Graduation Requirements section of the catalog.
**AUDIO TECHNICIAN**

This program is intended to give a fundamental understanding of electronics and wiring in conjunction with the practical and theoretical knowledge of audio equipment and the processes used in show production.

**CERTIFICATE OF ACHIEVEMENT**

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Entertainment Core Curriculum</td>
<td>(20)</td>
</tr>
<tr>
<td>Stage Lighting</td>
<td>Thart 176</td>
</tr>
<tr>
<td>Elec Problem Solving</td>
<td>Elec 047</td>
</tr>
<tr>
<td>Basic Electronics</td>
<td>Elec 180</td>
</tr>
<tr>
<td>History/Appreciation of Music</td>
<td>Mus 100</td>
</tr>
<tr>
<td>Computers in Music</td>
<td>Mus 102AD</td>
</tr>
<tr>
<td>Intro to Sound Reinforcement</td>
<td>Mus 236AB</td>
</tr>
<tr>
<td>Concert Sound Engineering</td>
<td>Mus 237AB</td>
</tr>
<tr>
<td>Recording Techniques</td>
<td>Mus 261AB</td>
</tr>
<tr>
<td>Film/Video Sound</td>
<td>Film 193</td>
</tr>
</tbody>
</table>

**Suggested electives:**

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Basic Digital Technology</td>
<td>Elec 135</td>
</tr>
<tr>
<td>Analog Semiconductor Circuits</td>
<td>Elec 160</td>
</tr>
<tr>
<td>Electronic Construction Tech</td>
<td>Elec 170</td>
</tr>
<tr>
<td>Communications Systems</td>
<td>Elec 215</td>
</tr>
<tr>
<td>Electronic Troubleshooting</td>
<td>Elec 290</td>
</tr>
</tbody>
</table>

**ASSOCIATE DEGREE**

Complete Certificate of Achievement and Graduation Requirements as outlined in the Graduation Requirements section of the catalog.

---See also COSTUME CAREERS---

**ETHNIC STUDIES**

Completing the Ethnic Studies Certificate of Achievement program provides students with an in-depth background and understanding of multicultural issues.

**CERTIFICATE OF ACHIEVEMENT**

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Native American</td>
<td>Anth 102</td>
</tr>
<tr>
<td>Comparative Cultures</td>
<td>Anth 110</td>
</tr>
<tr>
<td>Contemporary Ethnic America</td>
<td>Eth Stu 100</td>
</tr>
<tr>
<td>Ethnic Groups of the US</td>
<td>Hist/E S 150</td>
</tr>
<tr>
<td>Multicultural Behavior</td>
<td>Soc/Anth 150</td>
</tr>
</tbody>
</table>

**Suggested electives:**

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Basic Digital Technology</td>
<td>Elec 135</td>
</tr>
<tr>
<td>Analog Semiconductor Circuits</td>
<td>Elec 160</td>
</tr>
<tr>
<td>Electronic Construction Tech</td>
<td>Elec 170</td>
</tr>
<tr>
<td>Communications Systems</td>
<td>Elec 215</td>
</tr>
<tr>
<td>Electronic Troubleshooting</td>
<td>Elec 290</td>
</tr>
</tbody>
</table>

**CERTIFICATE OF COMPLETION**

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contemporary Ethnic America</td>
<td>Eth Stu 100</td>
</tr>
<tr>
<td>Ethnic Groups of the US</td>
<td>Hist 150</td>
</tr>
<tr>
<td>Multicultural Behavior</td>
<td>Soc/Anth 150</td>
</tr>
</tbody>
</table>

**ASSOCIATE DEGREE**

Complete Certificate of Achievement and Graduation Requirements as outlined in the Graduation Requirements section of the catalog.
FAMILY AND CONSUMER SCIENCES

For an Associate in Arts degree, complete the 17.0 required units under Section I, at least 9.0 units in one of the five areas of emphasis under Section II, and sufficient units to meet the general education requirements and electives unit requirements to total at least 60.0 units of work.

Students completing this transfer oriented degree program should consult the lower division requirements in the university or college catalog of their choice or the Transfer Information section of this catalog.

ASSOCIATE DEGREE PROGRAM

This is an Associate Degree program which requires an Associate Degree or higher from an accredited college before the certificate will be awarded. Students who do not already have a degree must complete the Orange Coast College Graduation Requirements for the AA Degree including General Education Options 1, 2 or 3.

I. Complete the following required courses:

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clothing Design &amp; Selection</td>
<td>Fash 170 (3)</td>
</tr>
<tr>
<td>Nutrition</td>
<td>F N 170 (3)</td>
</tr>
<tr>
<td>Careers in FCS</td>
<td>FCS 100 (1)</td>
</tr>
<tr>
<td>FCS Field Study</td>
<td>FCS 101 (1)</td>
</tr>
<tr>
<td>Life Management</td>
<td>FCS 180 (3)</td>
</tr>
<tr>
<td>Child Development</td>
<td>Hmdv 180 (3)</td>
</tr>
<tr>
<td>Fund of Interior Design</td>
<td>I D 100 (3)</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>(17)</td>
</tr>
</tbody>
</table>

II. Areas of emphasis: select at least nine (9) units from one of the following:

A. GENERAL FAMILY AND CONSUMER SCIENCES

<table>
<thead>
<tr>
<th>Required Courses</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prin of Clothing Construction</td>
<td>Fash 180 (3)</td>
</tr>
<tr>
<td>Principles of Foods</td>
<td>F N 180 (3)</td>
</tr>
<tr>
<td>Select at least three (3) units from the following:</td>
<td></td>
</tr>
<tr>
<td>Financial Accounting</td>
<td>Acc 101 (4)</td>
</tr>
<tr>
<td>Color &amp; Design 2-D</td>
<td>Art 110 (3)</td>
</tr>
<tr>
<td>Newwriting &amp; Reporting</td>
<td>Comm 110 (3)</td>
</tr>
<tr>
<td>Community Interaction</td>
<td>FCS 102 (1)</td>
</tr>
<tr>
<td>Current Issues in FCS</td>
<td>FCS 199AD (1-2)</td>
</tr>
<tr>
<td>Basic Photography</td>
<td>Photo 120 (2)</td>
</tr>
</tbody>
</table>

B. FASHION

<table>
<thead>
<tr>
<th>Required Courses</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Applied Textiles &amp; Design</td>
<td>Fash 110 (3)</td>
</tr>
<tr>
<td>Prin of Clothing Construction</td>
<td>Fash 180 (3)</td>
</tr>
<tr>
<td>Select at least three (3) units from the following:</td>
<td></td>
</tr>
<tr>
<td>Flat Pattern Techniques</td>
<td>Fash 150 (3)</td>
</tr>
<tr>
<td>Flat Pattern Application</td>
<td>Fash 155 (3)</td>
</tr>
<tr>
<td>Couture Techniques</td>
<td>Fash 233 (2)</td>
</tr>
<tr>
<td>Draping</td>
<td>Fash 235 (2)</td>
</tr>
<tr>
<td>Pattern Grading</td>
<td>Fash 251 (1.5)</td>
</tr>
<tr>
<td>Fashion Illustrating Tech</td>
<td>Fash 255 (2)</td>
</tr>
</tbody>
</table>

C. FOOD AND NUTRITION

<table>
<thead>
<tr>
<th>Required Courses</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Meal Management</td>
<td>F N 120 (2)</td>
</tr>
<tr>
<td>Principles of Foods</td>
<td>F N 180 (3)</td>
</tr>
<tr>
<td>Cultural Foods</td>
<td>F N 185 (2)</td>
</tr>
<tr>
<td>Intro Med Nutrition Therapy</td>
<td>N C 180 (3)</td>
</tr>
<tr>
<td>Select at least three (3) units from the following:</td>
<td></td>
</tr>
<tr>
<td>Vegetarian Cuisine</td>
<td>F N 125 (2)</td>
</tr>
<tr>
<td>Nutrition/Fitness/Performance</td>
<td>F N 136 (2)</td>
</tr>
<tr>
<td>Food for Health/Fitness/Perform</td>
<td>F N 136L (1)</td>
</tr>
<tr>
<td>Life Cycle Nutritn: Children</td>
<td>F N 145 (1)</td>
</tr>
<tr>
<td>Life Cycle Nutritn: Later Years</td>
<td>F N 146 (1)</td>
</tr>
<tr>
<td>Food Science</td>
<td>F N 195 (4)</td>
</tr>
<tr>
<td>Current Issues Food/Nutr/Food Sci</td>
<td>F N 199AD (1-2)</td>
</tr>
</tbody>
</table>

D. HUMAN DEVELOPMENT

<table>
<thead>
<tr>
<th>Required Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Child, Family, &amp; Community</td>
<td>Hmdv 190 (3)</td>
</tr>
<tr>
<td>Select at least six (6) units from the following:</td>
<td></td>
</tr>
<tr>
<td>E C Development Through Play</td>
<td>E C 155 (3)</td>
</tr>
<tr>
<td>Preschool Programs—</td>
<td></td>
</tr>
<tr>
<td>The Curriculum</td>
<td>E C 200 (3)</td>
</tr>
<tr>
<td>Language/Literacy Development</td>
<td>Hmdv 280 (3)</td>
</tr>
</tbody>
</table>

E. INTERIOR DESIGN

<table>
<thead>
<tr>
<th>Required Courses</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interior Design Studio 1</td>
<td>I D 105 (2)</td>
</tr>
<tr>
<td>Applied Textiles &amp; Design</td>
<td>Fash 110 (3)</td>
</tr>
<tr>
<td>Select at least three (3) units from the following:</td>
<td></td>
</tr>
<tr>
<td>Building Systems &amp; Draft</td>
<td>Arch 181 (3)</td>
</tr>
<tr>
<td>Intro to Architectural Graphics</td>
<td>Arch 105 (2)</td>
</tr>
<tr>
<td>History Interior Arch/Furnish 1</td>
<td>I D 180 (3)</td>
</tr>
<tr>
<td>Interior Materials &amp; Products</td>
<td>I D 150 (4)</td>
</tr>
<tr>
<td>Interior Design Careers</td>
<td>I D 120 (1)</td>
</tr>
</tbody>
</table>

This program will meet major requirements for the Associate in Arts degree but has not been articulated with any particular four-year institution. Students should not expect that they will necessarily meet the lower division requirements at specific colleges or universities. Students should consult the Transfer Information section of this catalog for specific transfer information.
FAMILY & CONSUMER SCIENCES—PERSONAL RESOURCE MANAGEMENT

This course of study prepares an individual to more effectively manage personal environment.

CERTIFICATE OF COMPLETION

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clothing Design &amp; Selection</td>
<td>Fash 170 (3)</td>
</tr>
<tr>
<td>Consumer Economics</td>
<td>Econ 110 (3)</td>
</tr>
<tr>
<td>Meal Management</td>
<td>F N 120 (2)</td>
</tr>
<tr>
<td>Nutrition</td>
<td>F N 170 (3)</td>
</tr>
<tr>
<td>Life Management</td>
<td>FCS 180 (3)</td>
</tr>
</tbody>
</table>

Select at least two (2) units from the following:

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Emergency Medical Care</td>
<td>EMT 100 (3)</td>
</tr>
<tr>
<td>Current Issues in FCS</td>
<td>FCS 199AD (1-2)</td>
</tr>
<tr>
<td>Marriage &amp; Family Life</td>
<td>Soc 110 (3)</td>
</tr>
</tbody>
</table>

Total: (14)

FAMILY AND CONSUMER SCIENCES—HOME MANAGEMENT

This course of study prepares an individual to more effectively manage the home environment.

CERTIFICATE OF ACHIEVEMENT

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clothing Design &amp; Selection</td>
<td>Fash 170 (3)</td>
</tr>
<tr>
<td>Consumer Economics</td>
<td>Econ 110 (3)</td>
</tr>
<tr>
<td>Emergency Medical Care</td>
<td>EMT 100 (3)</td>
</tr>
<tr>
<td>Meal Management</td>
<td>F N 120 (2)</td>
</tr>
<tr>
<td>Nutrition</td>
<td>F N 170 (3)</td>
</tr>
<tr>
<td>Life Management</td>
<td>FCS 180 (3)</td>
</tr>
<tr>
<td>Introductory Psychology</td>
<td>Psych 100 (3)</td>
</tr>
<tr>
<td>Marriage &amp; Family Life</td>
<td>Soc 110 (3)</td>
</tr>
<tr>
<td>Interpersonal Communication</td>
<td>Spch 100 (3)</td>
</tr>
</tbody>
</table>

Select at least three (3) units from the following:

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Beg Clothing Techniques</td>
<td>Fash 100 (3)</td>
</tr>
<tr>
<td>(Or) vintage</td>
<td></td>
</tr>
<tr>
<td>Principles of Clothing Constr</td>
<td>Fash 180 (3)</td>
</tr>
<tr>
<td>Parent/Infant Workshop</td>
<td>E C 100AD (1)</td>
</tr>
<tr>
<td>Parent/Toddler Workshop</td>
<td>E C 101AD (1)</td>
</tr>
<tr>
<td>Parent/Child Preschool Workshop</td>
<td>E C 102AD (1)</td>
</tr>
<tr>
<td>Principles of Foods</td>
<td>F N 180 (3)</td>
</tr>
<tr>
<td>Community Interaction</td>
<td>FCS 102 (2)</td>
</tr>
<tr>
<td>Current Issues in FCS</td>
<td>FCS 199AD (1-2)</td>
</tr>
<tr>
<td>Child Development</td>
<td>Hmdv 180 (3)</td>
</tr>
<tr>
<td>Fund of Interior Design</td>
<td>I D 100 (3)</td>
</tr>
</tbody>
</table>

Total: (26)

ASSOCIATE DEGREE

Complete Certificate of Achievement and Graduation Requirements as outlined in the Graduation Requirements section of the catalog.
FASHION

Five certificate options are available through the Fashion Department: 1) Design, 2) Production, 3) Apparel Construction, 4) Fashion Merchandising, and 5) Costume.

Completion of the Fashion certificate programs prepares students for careers in the fashion industry and in related businesses. Students may also transfer to programs at four-year colleges.

Employment possibilities include:
- Patternmaker
- Cutter
- Grader
- Educator
- Designer/Assistant Designer
- Production Manager
- Self-Employed
- Quality Control
- Fashion Illustrator
- Color Consultant
- Marker Maker
- Figure Analyst
- Dressmaker
- Personal Shopper
- Alterationist
- Image/Fashion Consultant
- Sample Maker
- Computer-Assisted Careers
- Stylist
- Special Events Assistant
- Management Trainee
- Assistant Fashion Buyer
- Department Manager
- Fashion Resource Sales Trainee

ASSOCIATE DEGREE

This is an Associate Degree program which requires an Associate Degree or higher from an accredited college before the certificate will be awarded. Students who do not already have a degree must complete the OCC Graduation Requirements for the AA Degree including General Education Options 1, 2 or 3. (Option 2 recommended for transfer to four-year institutions.)

CORE CURRICULUM

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Applied Textiles &amp; Design</td>
<td>Fash</td>
</tr>
<tr>
<td>Fash 110</td>
<td>(3)</td>
</tr>
<tr>
<td>Careers in Fashion</td>
<td>Fash</td>
</tr>
<tr>
<td>Fash 115</td>
<td>(3)</td>
</tr>
<tr>
<td>History of Fashion</td>
<td>Fash</td>
</tr>
<tr>
<td>Fash 120</td>
<td>(3)</td>
</tr>
<tr>
<td>Clothing Design &amp; Selection</td>
<td>Fash</td>
</tr>
<tr>
<td>Fash 170</td>
<td>(3)</td>
</tr>
<tr>
<td><strong>Total:</strong></td>
<td><strong>(12)</strong></td>
</tr>
</tbody>
</table>

*Experienced sewers may demonstrate competency in techniques listed under Fashion 100 and 101 by taking Fashion 105.

DESIGN

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fashion Core Curriculum</td>
<td></td>
</tr>
<tr>
<td>Beg Clothing Techniques*</td>
<td>Fash</td>
</tr>
<tr>
<td>Fash 100</td>
<td>(3)</td>
</tr>
<tr>
<td>Industrial Sewing Techniques*</td>
<td>Fash</td>
</tr>
<tr>
<td>Fash 102</td>
<td>(2)</td>
</tr>
<tr>
<td>Intro to Fashion on Computr</td>
<td>Fash</td>
</tr>
<tr>
<td>Fash 108</td>
<td>(2)</td>
</tr>
<tr>
<td>Trend Forecasting</td>
<td>Fash</td>
</tr>
<tr>
<td>Fash 118</td>
<td>(1.5)</td>
</tr>
<tr>
<td>Street Style</td>
<td>Fash</td>
</tr>
<tr>
<td>Fash 121</td>
<td>(1.5)</td>
</tr>
<tr>
<td>Flat Pattern Techniques</td>
<td>Fash</td>
</tr>
<tr>
<td>Fash 150</td>
<td>(3)</td>
</tr>
<tr>
<td>Applied Color</td>
<td>Fash</td>
</tr>
<tr>
<td>Fash 175</td>
<td>(4)</td>
</tr>
<tr>
<td>Fashion Internship</td>
<td>Fash</td>
</tr>
<tr>
<td>Fash 181</td>
<td>(3)</td>
</tr>
<tr>
<td>Draping</td>
<td>Fash</td>
</tr>
<tr>
<td>Fash 235</td>
<td>(2)</td>
</tr>
<tr>
<td>Fashion Illustrating Tech</td>
<td>Fash</td>
</tr>
<tr>
<td>Fash 255</td>
<td>(2)</td>
</tr>
<tr>
<td>Fashion Prod Concepts &amp; Appl</td>
<td>Fash</td>
</tr>
<tr>
<td>Fash 260</td>
<td>(3)</td>
</tr>
<tr>
<td>Color &amp; Design 2-D</td>
<td>Art</td>
</tr>
<tr>
<td>Art 110</td>
<td>(3)</td>
</tr>
<tr>
<td>Freehand Drawing</td>
<td>Art</td>
</tr>
<tr>
<td>Art 120</td>
<td>(3)</td>
</tr>
<tr>
<td>Intro to Computer Graphics</td>
<td>DMA</td>
</tr>
<tr>
<td>DMA 181</td>
<td>(3)</td>
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<tr>
<td><strong>Total:</strong></td>
<td><strong>(48)</strong></td>
</tr>
</tbody>
</table>

Suggested electives:
- Illus & Computer Graphics 1
- DMA 190 (4)
- Inter Clothing Techniques*
- Fash 101 (3)
- Intro to Art
- Art 107 (3)
- Color & Design 3-D
- Art 111 (3)
- Intro International Business
- Bus 118 (3)
- Business Math
- Bus 125 (3)
- Business English
- Bus 138 (3)
- Intro to Info Sys & Appl
- CIS 100 (3)

PRODUCTION

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fashion Core Curriculum</td>
<td></td>
</tr>
<tr>
<td>Beg Clothing Techniques*</td>
<td>Fash</td>
</tr>
<tr>
<td>Fash 100</td>
<td>(3)</td>
</tr>
<tr>
<td>Int Clothing Techniques*</td>
<td>Fash</td>
</tr>
<tr>
<td>Fash 101</td>
<td>(3)</td>
</tr>
<tr>
<td>Industrial Sewing Techniques*</td>
<td>Fash</td>
</tr>
<tr>
<td>Fash 102</td>
<td>(2)</td>
</tr>
<tr>
<td>Evaluation of Apparel Quality</td>
<td>Fash</td>
</tr>
<tr>
<td>Fash 140</td>
<td>(1.5)</td>
</tr>
<tr>
<td>Flat Pattern Techniques</td>
<td>Fash</td>
</tr>
<tr>
<td>Fash 150</td>
<td>(3)</td>
</tr>
<tr>
<td>Flat Pattern Application</td>
<td>Fash</td>
</tr>
<tr>
<td>Fash 155</td>
<td>(3)</td>
</tr>
<tr>
<td>Fashion Internship</td>
<td>Fash</td>
</tr>
<tr>
<td>Fash 181</td>
<td>(3)</td>
</tr>
<tr>
<td>Draping</td>
<td>Fash</td>
</tr>
<tr>
<td>Fash 235</td>
<td>(2)</td>
</tr>
<tr>
<td>Pattern Drafting &amp; Design</td>
<td>Fash</td>
</tr>
<tr>
<td>Fash 245</td>
<td>(1.5)</td>
</tr>
<tr>
<td>Pattern Grading</td>
<td>Fash</td>
</tr>
<tr>
<td>Fash 251</td>
<td>(1.5)</td>
</tr>
<tr>
<td>Fashion Prod Concepts &amp; Appl</td>
<td>Fash</td>
</tr>
<tr>
<td>Fash 260</td>
<td>(3)</td>
</tr>
<tr>
<td>Digitizing/Marker Making</td>
<td>Fash</td>
</tr>
<tr>
<td>Fash 265</td>
<td>(1)</td>
</tr>
<tr>
<td>Pattern Design System</td>
<td>Fash</td>
</tr>
<tr>
<td>Fash 266AB</td>
<td>(1)</td>
</tr>
<tr>
<td><strong>Total:</strong></td>
<td><strong>(40.5)</strong></td>
</tr>
</tbody>
</table>

Suggested electives:
- Street Style
- Fash 121 (1.5)
- Business Math
- Bus 125 (3)
- Business English
- Bus 138 (3)
- Intro to Info Sys & Appl
- CIS 100 (3)
APPAREL CONSTRUCTION

Required Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
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</thead>
<tbody>
<tr>
<td>Fashion Core Curriculum</td>
<td>(12)</td>
</tr>
<tr>
<td>Beg Clothing Techniques*</td>
<td>Fash 100 (3)</td>
</tr>
<tr>
<td>Inter Clothing Techniques*</td>
<td>Fash 101 (3)</td>
</tr>
<tr>
<td>Industrial Sewing Techniques*</td>
<td>Fash 102 (2)</td>
</tr>
<tr>
<td>Tailoring</td>
<td>Fash 130AB (2)</td>
</tr>
<tr>
<td>Alterations</td>
<td>Fash 137 (2)</td>
</tr>
<tr>
<td>Flat Pattern Techniques</td>
<td>Fash 150 (3)</td>
</tr>
<tr>
<td>Flat Pattern Application</td>
<td>Fash 155 (3)</td>
</tr>
<tr>
<td>Fashion Internship</td>
<td>Fash 181 (3)</td>
</tr>
<tr>
<td>Couture Techniques</td>
<td>Fash 233 (2)</td>
</tr>
<tr>
<td>Draping</td>
<td>Fash 235 (2)</td>
</tr>
<tr>
<td>Pattern Drafting</td>
<td>Fash 245 (1.5)</td>
</tr>
<tr>
<td>Pattern Grading</td>
<td>Fash 251 (1.5)</td>
</tr>
</tbody>
</table>

Total: (40)

FASHION—INDUSTRIAL SEWING

The courses in this certificate provide short-term training in the areas of clothing construction and the use of high-speed industrial sewing equipment. The certificate can be completed in one to two semesters. The program offers a self-paced open entry, open exit lab that allows for enrollment throughout the semester.

Employment possibilities include:
- Apparel Construction
- Textile Product Assembly

CERTIFICATE OF COMPLETION

Required Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Beg Clothing Techniques</td>
<td>Fash 100 (3)</td>
</tr>
<tr>
<td>Int Clothing Techniques</td>
<td>Fash 101 (3)</td>
</tr>
<tr>
<td>Industrial Sewing Techniques</td>
<td>Fash 102 (2)</td>
</tr>
<tr>
<td>Sewing Lab</td>
<td>Fash N050AD (1.5-2)</td>
</tr>
</tbody>
</table>

Total: (8.5-10)

Suggested electives:
- Alterations  Fash 137 (2)
- Internship Academy-Level 2  Intern 392AB (1-4)

FASHION MERCHANDISING

Required Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fashion Core Curriculum</td>
<td>(12)</td>
</tr>
<tr>
<td>Spec Events Coordination</td>
<td>Fash 225 (3)</td>
</tr>
<tr>
<td>Professional Selling</td>
<td>Mktdg 110 (3)</td>
</tr>
<tr>
<td>Evaluation of Apparel Quality</td>
<td>Fash 140 (1.5)</td>
</tr>
<tr>
<td>Retail Buying</td>
<td>Mktdg 220 (3)</td>
</tr>
<tr>
<td>Image Consulting</td>
<td>Fash 176 (3)</td>
</tr>
<tr>
<td>Fash Merchandising Concepts</td>
<td>Fash 177 (3)</td>
</tr>
<tr>
<td>Human Relations/Supervision</td>
<td>Mgmt 115 (3)</td>
</tr>
<tr>
<td>Trend Forecasting</td>
<td>Fash 118 (1.5)</td>
</tr>
<tr>
<td>Fashion Internship</td>
<td>Fash 181 (3)</td>
</tr>
<tr>
<td>Applied Color/Design Theory</td>
<td>Fash 175 (4)</td>
</tr>
<tr>
<td>Street Style</td>
<td>Fash 121 (1.5)</td>
</tr>
<tr>
<td>Principles of Advertising</td>
<td>Mktdg 130 (3)</td>
</tr>
</tbody>
</table>

Total: (44.5)

Suggested electives:
- Principles Financial Acct  Acct 101 (4)
- Business Math                 Bus 125 (3)
- Business English               Bus 138 (3)
- Retailing                     Mktdg 200 (3)
- Small Business Ownership      Mgmt 240 (3)
- Intro to Info Sys/Micro Appl  CIS 100 (3)
- Direct Mail/Marketing         Mktdg 142 (1.5)
- Interpersonal Communication   Spch 100 (3)
- Public Speaking               Spch 110

COSTUME

--See COSTUME CAREERS
FILM/VIDEO
The Film/Video program at OCC is designed to give the student two years of extensive theory and technical experience training in the basic skills required for employment in the film/video industry.

CERTIFICATE OF ACHIEVEMENT

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hist &amp; Appr of Cinema</td>
<td>100</td>
</tr>
<tr>
<td>Video Workshop</td>
<td>110</td>
</tr>
<tr>
<td><strong>SPRING</strong></td>
<td></td>
</tr>
<tr>
<td>TV Production 1</td>
<td>250</td>
</tr>
<tr>
<td>Basic Photography</td>
<td>120</td>
</tr>
<tr>
<td>Basic Film/Video Production</td>
<td>192</td>
</tr>
<tr>
<td>Electronic Field Production</td>
<td>265AD</td>
</tr>
<tr>
<td><strong>FALL</strong></td>
<td></td>
</tr>
<tr>
<td>TV Production 2</td>
<td>255AC</td>
</tr>
<tr>
<td>Adv Film Production</td>
<td>270AB</td>
</tr>
</tbody>
</table>

Select nine-ten (9-10) units from the following:

- Broadcast Journalism
- Scriptwriting
- Film as Literature
- Contemporary Films
- Image Processing Digital Video
- Great Directors of Cinema
- Home Video Mktg/Distribution
- Intro to Broadcasting
- Film/Video Sound
- Digital Film/Video Editing
- Special Projects
- Television Lab

Subtotal: (27)

TOTAL: (36-37)

ASSOCIATE DEGREE
Complete Certificate of Achievement and Graduation Requirements as outlined in the Graduation Requirements section of the catalog.

FITNESS SPECIALIST
The Orange Coast College Fitness Specialist program trains students for positions entry-level or higher in the booming fitness industry. Graduates are qualified to be fitness instructors, exercise testing technicians, aerobic instructors, weight training coaches, and personal fitness counselors.

Students in this program learn scientific principles of exercise and physical conditioning, techniques of leading exercise classes, and methods appropriate to establishing healthy behavior. The Fitness Specialist evaluates the physiological and psychological effects of physical activities and designs personalized exercise prescriptions.

The Fitness Specialist Certificate of Achievement has two options: Health/Fitness Instructor and Personal Trainer. A Certificate of Completion is available for Dance Exercise Leader.

The fitness industry, experiencing rapid growth, has a growing demand for trained instructors and exercise test technologists in health clubs, fitness studios, and sports medicine clinics. The employment outlook is excellent.

FITNESS SPECIALIST—GROUP
FITNESS INSTRUCTOR TRAINING
The Group Fitness Instructor Training program provides students with theoretical and practical experiences in leading safe, effective group exercise classes. Completion of the prescribed courses will prepare students for the International Dance-Exercise Association Foundation’s (A.C.E.) certification examination.

CERTIFICATE OF COMPLETION

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fitness and Health P E</td>
<td>134</td>
</tr>
<tr>
<td>Grp Fitness Instr Training P E</td>
<td>272</td>
</tr>
</tbody>
</table>

Suggested electives:
- Nutrition, Fitness & Perf P E
- Movement Analysis P E
- Sports Medicine P E
- Activity Classes P E

Subtotal: (6)

FITNESS SPECIALIST—HEALTH
FITNESS INSTRUCTOR/PERSONAL TRAINER
This program provides students with theory necessary to be effective in the health fitness industry (health clubs, corporate fitness, etc.). Students in this program will learn scientific principles of exercise and physical conditioning, techniques for the measurement of human performance, and methods for establishing healthy nutritional patterns.

CERTIFICATE OF ACHIEVEMENT

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anatomy-Physiology Biol</td>
<td>221</td>
</tr>
<tr>
<td>Nutrition, Fitness &amp; Perf P E</td>
<td>136</td>
</tr>
<tr>
<td>Movement Analysis P E</td>
<td>274</td>
</tr>
<tr>
<td>Sports Management P E</td>
<td>278</td>
</tr>
<tr>
<td>Sports Medicine P E</td>
<td>281</td>
</tr>
<tr>
<td>Strength Conditioning/Theory P E</td>
<td>289</td>
</tr>
</tbody>
</table>

Select two (2) courses from the following:
- Fitness and Health P E
- Drugs & Sports P E
- Intro to Adapted PE P E
- Fitness & Exercise Testing P E

Subtotal: (18)

TOTAL: (22.5-24)

ASSOCIATE DEGREE
Complete Certificate of Achievement and Graduation Requirements as outlined in the Graduation Requirements section of the catalog.
FOOD AND NUTRITION—FOOD SCIENCE

This program is designed for the students whose objective is a B.S. degree in Food Science at a university. Such degrees are offered at Chapman University, California Polytechnic University, Pomona and San Luis Obispo, and California State University, Long Beach.

With a 4-year degree in Food Science, students are prepared for employment in the food processing/manufacturing/ingredient industries, and in government agencies, i.e. USDA, FDA. Other possible opportunities are in education and research at colleges and with University Cooperative Extension programs, as well as with the World Health Organization.

ASSOCIATE DEGREE PROGRAM

This is an Associate Degree program which requires an Associate Degree or higher from an accredited college before the certificate will be awarded. Students who do not already have a degree must complete the Orange Coast College Graduation Requirements for the AA Degree including General Education Options 1, 2 or 3.

### Required Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>General Microbiology</td>
<td>Biol 210 (5)</td>
</tr>
<tr>
<td>Preparatory General Chemistry</td>
<td>Chem 130 (4)</td>
</tr>
<tr>
<td>General Chemistry</td>
<td>Chem 180 (5)</td>
</tr>
<tr>
<td>Freshman Composition</td>
<td>Engl 100 (3)</td>
</tr>
<tr>
<td>Careers in Dietetics/Food Sci</td>
<td>F N/N C 100 (1)</td>
</tr>
<tr>
<td>Nutrition</td>
<td>F N 170 (3)</td>
</tr>
<tr>
<td>Principles of Foods</td>
<td>F N 180 (3)</td>
</tr>
<tr>
<td>Food Science</td>
<td>F N 195 (4)</td>
</tr>
<tr>
<td>Intro to Statistics</td>
<td>Math 160</td>
</tr>
<tr>
<td>(Or) Statistics for Behavioral Sci</td>
<td>Psych 160</td>
</tr>
<tr>
<td>Internship Academy Level 2</td>
<td>Intern 392AB (2-4)</td>
</tr>
</tbody>
</table>

**Total:** (33-35)

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See Also

FAMILY & CONSUMER SCIENCES—Food & Nutrition
NUTRITION EDUCATION
NUTRITION CARE

---

FOOD AND NUTRITION—FOOD SCIENCE TECHNICIAN

Southern California is the nation’s third largest food manufacturing area and many opportunities exist for persons trained in food science. Orange Coast College’s Food Science Technician program is designed for students who are interested in working in the food manufacturing industry. With a food science certificate, the graduate will be qualified for employment as:

- Assistant Food Technician
- Quality Assurance Technician
- Assistant Food Plant Sanitarian
- Research Technician
- Laboratory Technician
- Sensory Technician
- Quality Control Technician
- Culinary Technician
- Salesperson

Students are encouraged to complete an Associate of Arts degree at Orange Coast College along with the certificate.

### CERTIFICATE OF ACHIEVEMENT

#### Required Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Careers in Dietetics/Food Sci</td>
<td>F N/N C 100 (1)</td>
</tr>
<tr>
<td>Principles of Foods</td>
<td>F N 180 (3)</td>
</tr>
<tr>
<td>Nutrition</td>
<td>F N 170 (4)</td>
</tr>
<tr>
<td>Sanitation &amp; Safety</td>
<td>FSM 160 (3)</td>
</tr>
<tr>
<td>Food &amp; Microorganisms</td>
<td>Biol 211 (2)</td>
</tr>
<tr>
<td>Principles of Chemistry</td>
<td>Chem 100 (3)</td>
</tr>
<tr>
<td>Technical Math</td>
<td>Tech 040 (3)</td>
</tr>
<tr>
<td>Internship Academy Level 2</td>
<td>Intern 392AB (2-4)</td>
</tr>
</tbody>
</table>

**Total:** 24-26

ASSOCIATE DEGREE

Complete Certificate of Achievement and Graduation Requirements as outlined in the Graduation Requirements section of the catalog.
FOOD AND NUTRITION—COMMUNITY NUTRITION ASSISTANT

This certificate prepares students to work in community agencies as nutrition assistants. The students complete the core courses and select one option to complete the certificate.

CERTIFICATE OF ACHIEVEMENT
CORE CURRICULUM

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Basic Concepts in Sanitation</td>
<td>FSM</td>
</tr>
<tr>
<td>Careers in Dietetics/Food Sci</td>
<td>F N/N C</td>
</tr>
<tr>
<td>Nutrition Concepts</td>
<td>F N</td>
</tr>
<tr>
<td>Cultural Foods</td>
<td>F N</td>
</tr>
<tr>
<td>Supervised Practice</td>
<td>N C</td>
</tr>
</tbody>
</table>

Total: (8.5)

Choose Option 1 or 2 to complete the Certificate of Achievement

OPTION 1—YOUNG CHILD

Required prerequisite:
Core curriculum

Subtotal: (8.5)

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Infant Development</td>
<td>Hmdv</td>
</tr>
<tr>
<td>Life Cycle NutrIn:Mother/Infant</td>
<td>F N</td>
</tr>
<tr>
<td>Life Cycle NutrIn:Children</td>
<td>F N</td>
</tr>
<tr>
<td>Cross-Cultural Perspectives</td>
<td>E C</td>
</tr>
<tr>
<td>Intermediate Nutrition Care</td>
<td>N C</td>
</tr>
</tbody>
</table>

Total: (10)

OPTION 2—SCHOOL-AGE CHILD/TEEN

Required prerequisite:
Core curriculum

Subtotal: (8.5)

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Middle Childhood Development</td>
<td>Hmdv</td>
</tr>
<tr>
<td>Nutrition-Fitness/Performance</td>
<td>F N</td>
</tr>
<tr>
<td>Life Cycle NutrIn:Children</td>
<td>F N</td>
</tr>
<tr>
<td>Cooking Life</td>
<td>F N</td>
</tr>
<tr>
<td>Intermediate Nutrition Care</td>
<td>N C</td>
</tr>
</tbody>
</table>

Total: (10)

ASSOCIATE DEGREE

Complete Certificate of Achievement and Graduation Requirements as outlined in the Graduation Requirements section of the catalog.

FOOD SERVICE MANAGEMENT—CATERING

Students who complete the program in Catering offered by the Food Service Management faculty will have been trained to operate a catering business, whether it be a business conducted on premises or off premises. Those enrolling in this program will learn about organization and management, menu pricing, selling, advertising and promotion, and preparing and serving food, as well as cost accountability, a most important factor in operating a catering service successfully. Students will be employable in the catering departments of hotels and restaurants, and will also be knowledgeable enough to reasonably decide about opening their own catering business. Opportunities for employment in this field are excellent.

CERTIFICATE OF COMPLETION

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pantry</td>
<td>C A</td>
</tr>
<tr>
<td>Garde Manger</td>
<td>C A</td>
</tr>
<tr>
<td>Intro to Nutrition Concepts</td>
<td>F N</td>
</tr>
<tr>
<td>Sanitation &amp; Safety</td>
<td>FSM</td>
</tr>
<tr>
<td>Menu Planning/Purchasing</td>
<td>FSM</td>
</tr>
<tr>
<td>Catering</td>
<td>FSM</td>
</tr>
</tbody>
</table>

Subtotal: (15)

Suggested electives:

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Principles of Baking 1</td>
<td>C A</td>
</tr>
<tr>
<td>Food Production Management</td>
<td>FSM</td>
</tr>
<tr>
<td>FSM Math/Accounting</td>
<td>FSM</td>
</tr>
<tr>
<td>Supervision &amp; Training Tech</td>
<td>FSM</td>
</tr>
<tr>
<td>Hospitality Sales</td>
<td>Hotel</td>
</tr>
<tr>
<td>Small Business Ownership</td>
<td>Bus</td>
</tr>
</tbody>
</table>

Total: (17)

FOOD SERVICE MANAGEMENT—FAST FOOD SERVICES

The Fast Food Certificate requirements have been carefully planned by the food service faculty for those students interested in following a career in this booming segment of the food service industry. The fast food world is not only demanding but also filled with the excitement that comes from operating a thriving business. If you are interested in the kind of career that provides unlimited potential for advancement, then the fast food services career is the one for you.

CERTIFICATE OF COMPLETION

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sanitation &amp; Safety</td>
<td>FSM</td>
</tr>
<tr>
<td>Supervision/Training Tech</td>
<td>FSM</td>
</tr>
<tr>
<td>Restaurant Management</td>
<td>FSM</td>
</tr>
<tr>
<td>FSM Math/Actt</td>
<td>FSM</td>
</tr>
<tr>
<td>Directed Practice</td>
<td>FSM</td>
</tr>
</tbody>
</table>

Total: (17)
FOOD SERVICE MANAGEMENT—CHILD NUTRITION PROGRAMS

This certificate prepares students for supervisory responsibilities in a school district at the school or unit level of management. Responsibilities include implementation and coordination of food services and employees to ensure high standards of food preparation, nutrition education and student services. Students are eligible to join the American School Food Service Association at the Manager Certification Level, maintaining certification through continuing education of 10 hours per year.

CERTIFICATE OF ACHIEVEMENT

Required Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>First Semester</td>
<td></td>
</tr>
<tr>
<td>Quantity Foods Preparation</td>
<td>150</td>
</tr>
<tr>
<td>Nutrition</td>
<td>150</td>
</tr>
<tr>
<td>Applied Nutrition</td>
<td>150</td>
</tr>
<tr>
<td>Sanitation &amp; Safety</td>
<td>150</td>
</tr>
<tr>
<td>Child Development</td>
<td>150</td>
</tr>
<tr>
<td>Second Semester</td>
<td></td>
</tr>
<tr>
<td>Life Cycle Nutritn:Children</td>
<td>150</td>
</tr>
<tr>
<td>Child Nutrition Program Mgmt</td>
<td>150</td>
</tr>
<tr>
<td>Food Production Management</td>
<td>150</td>
</tr>
<tr>
<td>Menu Planning/Purchasing</td>
<td>150</td>
</tr>
<tr>
<td>Supervision &amp; Training Tech</td>
<td>150</td>
</tr>
<tr>
<td>Total: (26)</td>
<td></td>
</tr>
</tbody>
</table>

ASSOCIATE DEGREE

Complete Certificate of Achievement and Graduation Requirements as outlined in the Graduation Requirements section of the catalog.

—See Also NUTRITION CARE & DIETETICS HOTEL MANAGEMENT

FOOD SERVICE MANAGEMENT—RESTAURANT

Restaurant Management is an attractive profession which has been described a number of ways by those who are active in it, including such accolades as glamorous, well-paying, creative, challenging, and filled with excitement. One employment estimate shows a need for more than 250,000 additional employees annually. The future of restaurant management holds promise for individuals willing to devote their talents to this lively career.

Restaurant Supervision

CERTIFICATE OF ACHIEVEMENT

Required Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>FALL</td>
<td></td>
</tr>
<tr>
<td>Quantity Foods Preparation</td>
<td>150</td>
</tr>
<tr>
<td>Intro to Nutrition Concepts</td>
<td>140</td>
</tr>
<tr>
<td>Intro to Hospitality Industry</td>
<td>100</td>
</tr>
<tr>
<td>Sanitation &amp; Safety</td>
<td>160</td>
</tr>
<tr>
<td>Dining Room Service</td>
<td>190</td>
</tr>
<tr>
<td>Total: (29)</td>
<td></td>
</tr>
</tbody>
</table>

SPRING

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Food Production Management</td>
<td>151</td>
</tr>
<tr>
<td>Dining Room Management</td>
<td>210</td>
</tr>
<tr>
<td>FSM Math/Accounting</td>
<td>240</td>
</tr>
<tr>
<td>Supervision &amp; Training Tech</td>
<td>260</td>
</tr>
<tr>
<td>Restaurant Management</td>
<td>285</td>
</tr>
<tr>
<td>Total: (29)</td>
<td></td>
</tr>
</tbody>
</table>
FOOD SERVICE MANAGEMENT—
RESTAURANT
ASSOCIATE DEGREE PROGRAM
This is an Associate Degree program which requires an Associate Degree or higher from an accredited college before the certificate will be awarded. Students who do not already have a degree must complete the Orange Coast College Graduation Requirements for the AA Degree including General Education Options 1, 2 or 3.

**Required prerequisite:**
Restaurant Supervision Certificate of Achievement

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intro to Info Sys &amp; Appl</td>
<td>100</td>
</tr>
<tr>
<td>Menu Planning/Purchasing</td>
<td>250</td>
</tr>
<tr>
<td>Directed Practice*</td>
<td>286A</td>
</tr>
<tr>
<td>Hotel/Restaurant Law</td>
<td>Hotel</td>
</tr>
<tr>
<td>Introductory Psychology</td>
<td>Psych</td>
</tr>
<tr>
<td>Catering</td>
<td>284</td>
</tr>
<tr>
<td>Directed Practice*</td>
<td>286B</td>
</tr>
</tbody>
</table>

**Total: (29)**

**FOOD SERVICE MANAGEMENT—
INSTITUTIONAL
DIETETIC SERVICE SUPERVISOR* 
CERTIFICATE OF ACHIEVEMENT

**Required Courses**

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sanitation &amp; Safety</td>
<td>FSM</td>
</tr>
<tr>
<td>Nutrition</td>
<td>F N</td>
</tr>
<tr>
<td>Quantity Foods Preparation</td>
<td>C A</td>
</tr>
<tr>
<td>Supervision &amp; Training Tech</td>
<td>FSM</td>
</tr>
<tr>
<td>Food Production Management</td>
<td>FSM</td>
</tr>
<tr>
<td>Health Care Field Experience</td>
<td>N C</td>
</tr>
</tbody>
</table>

**Total: (18)**

*Upon successful completion, student meets California Department of Health Licensing Requirements for Dietetic Service Supervisor.

**DIETETIC SERVICE MANAGER* 
CERTIFICATE OF ACHIEVEMENT

**Required prerequisite:**
Completion of all courses for Dietetic Service Supervisor Certificate of Achievement with a grade of “C” or better

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Careers in Dietetics/Food Sci</td>
<td>N C/F N</td>
</tr>
<tr>
<td>Interpersonal Communication</td>
<td>Spch</td>
</tr>
<tr>
<td>Food Service Math/Accounting</td>
<td>FSM</td>
</tr>
<tr>
<td>Applied Nutrition</td>
<td>F N</td>
</tr>
<tr>
<td>Intro Med Nutrition Therapy</td>
<td>N C</td>
</tr>
<tr>
<td>Menu Planning/Purchasing</td>
<td>FSM</td>
</tr>
<tr>
<td>Patient Care</td>
<td>Al H</td>
</tr>
</tbody>
</table>

**Total: (36.5)**

*Upon successful completion, students meet Dietary Managers’ Association criteria for certification and are eligible to take the National Certification Examination.
HEATING AND AIR CONDITIONING—HVAC TECHNOLOGY

Employment possibilities include:
- Heating, Air Conditioning Technician
- Refrigeration Mechanic
- Stationary Engineer

The Heating, Ventilation and Air Conditioning (HVAC) option prepares students for employment as heating, ventilating and air conditioning technicians. Students will be trained to install, service and maintain air conditioning/refrigeration equipment in buildings. The program provides a background for more advanced studies in the design and installation of computerized building automation systems.

CERTIFICATE OF ACHIEVEMENT

Required Courses*

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Refrigeration Principles</td>
<td>HVAC 100</td>
</tr>
<tr>
<td>Air Conditioning Principles</td>
<td>HVAC 101</td>
</tr>
<tr>
<td>Air Conditioning Service</td>
<td>HVAC 103</td>
</tr>
<tr>
<td>Air Conditioning—Air Balance</td>
<td>HVAC 104</td>
</tr>
<tr>
<td>Air Conditioning Controls</td>
<td>HVAC 105</td>
</tr>
<tr>
<td>Pneumatic Controls</td>
<td>HVAC 110</td>
</tr>
<tr>
<td>Building Automation/EMS</td>
<td>HVAC 140</td>
</tr>
</tbody>
</table>

Subtotal: (18)

* A math competency level equivalent to Tech 040 is strongly recommended or satisfactory score on math competency examination.

ASSOCIATE DEGREE

Complete Certificate of Achievement and Graduation Requirements as outlined in the Graduation Requirements section of the catalog.
HOTEL MANAGEMENT

The Hotel Management program at Orange Coast College is designed for employment and/or career advancement within the hospitality industry. Whether an individual is a novice or currently employed in the hotel industry, this program strengthens their opportunity for success within the fastest growing industry in southern California.

Career opportunities abound as multimillion dollar hotels and resorts continue to be built across the United States requiring trained individuals to fill the multitude of varied and existing positions.

Students may choose from individual courses or six areas of specialization certificates. Students are introduced to the diversified knowledge necessary and expertise preferred to increase their potential for successful employment within the modern hospitality industry.

In addition to the certificates, students are encouraged to complete the requirements for an Associate in Arts degree. Graduation requirements for an OCC Associate degree can be found in the college catalog under Graduation Requirements.

CORE CURRICULUM

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intro to Hospitality</td>
<td>Hotel 100 (3)</td>
</tr>
<tr>
<td>Internship 1</td>
<td>Hotel 116 (2)</td>
</tr>
<tr>
<td>Q.A. &amp; Guest Relations</td>
<td>Hotel 180 (3)</td>
</tr>
<tr>
<td>Sanitation &amp; Safety</td>
<td>FSM 160 (3)</td>
</tr>
<tr>
<td>Total:</td>
<td>(11)</td>
</tr>
</tbody>
</table>

HOTEL MANAGEMENT—GUEST SERVICE SPECIALIST

Develops essential skills necessary for advancement or employment in a servicesector role within the hospitality industry.

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hotel Core Curriculum</td>
<td>Hotel 110 (3)</td>
</tr>
<tr>
<td>Front Office Operations</td>
<td>Hotel 282 (3)</td>
</tr>
<tr>
<td>Supervisory Skills Bldr</td>
<td>Hotel 240 (1.5)</td>
</tr>
<tr>
<td>Hospitality Sales</td>
<td>Hotel 270 (1.5)</td>
</tr>
<tr>
<td>Hospitality Marketing</td>
<td>Hotel 279AD (3)</td>
</tr>
<tr>
<td>Internship 2</td>
<td></td>
</tr>
<tr>
<td>Total:</td>
<td>(23)</td>
</tr>
</tbody>
</table>

HOTEL MANAGEMENT—FINANCIAL MANAGEMENT SPECIALIST

Provides the technical and decision making requisites necessary for advancement and/or employment in an economic role within the hospitality industry.

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hotel Core Curriculum</td>
<td>Hotel 260 (3)</td>
</tr>
<tr>
<td>Supervision &amp; Training</td>
<td>Hotel 281 (3)</td>
</tr>
<tr>
<td>Management Skills Bldr</td>
<td>Hotel 282 (3)</td>
</tr>
<tr>
<td>Hotel/Restaurant Law</td>
<td>Hotel 286 (3)</td>
</tr>
<tr>
<td>Human Resource Management</td>
<td>Hotel 288 (3)</td>
</tr>
<tr>
<td>Internship 2</td>
<td>Hotel 279AD (3)</td>
</tr>
<tr>
<td>Total:</td>
<td>(29)</td>
</tr>
</tbody>
</table>

HOTEL MANAGEMENT—HUMAN RESOURCE SPECIALIST

Develops insight, decision making tools, and organizational understanding for advancement or employment in a human resource role within the hospitality industry.

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hotel Core Curriculum</td>
<td>Hotel 115 (3)</td>
</tr>
<tr>
<td>Management Skills Bldr</td>
<td>Hotel 281 (3)</td>
</tr>
<tr>
<td>Hotel Operations</td>
<td>Hotel 285 (3)</td>
</tr>
<tr>
<td>Food Service Math/Acct</td>
<td>FSM 240 (4)</td>
</tr>
<tr>
<td>Internship 2</td>
<td>Hotel 279AD (3)</td>
</tr>
<tr>
<td>Total:</td>
<td>(27)</td>
</tr>
</tbody>
</table>
HOTEL MANAGEMENT—ROOM OPERATIONS SPECIALIST

These courses have been recommended by industry to provide essential preparation to supervise and manage within operational areas in the rooms division. Courses have been organized to provide understanding of techniques and knowledge necessary in developing effective leadership and decision making skills for successful communication among all departments and contributing to positive guest experiences.

CERTIFICATE OF ACHIEVEMENT

Required Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hotel Core Curriculum</td>
<td>(11)</td>
</tr>
<tr>
<td>Housekeeping Room Mgmt</td>
<td>Hotel 101 (1)</td>
</tr>
<tr>
<td>Housekeeping Oper/Maintenance</td>
<td>Hotel 102 (1)</td>
</tr>
<tr>
<td>Housekeeping Tech/Strategies</td>
<td>Hotel 103 (1)</td>
</tr>
<tr>
<td>Front Office Procedures</td>
<td>Hotel 110 (3)</td>
</tr>
<tr>
<td>Accounting &amp; Night Audit</td>
<td>Hotel 115 (3)</td>
</tr>
<tr>
<td>Supervisory Skills Bldr</td>
<td>Hotel 282 (3)</td>
</tr>
<tr>
<td>Hotel/Restaurant Law</td>
<td>Hotel 286 (3)</td>
</tr>
<tr>
<td>Human Resource Management</td>
<td>Hotel 288 (3)</td>
</tr>
<tr>
<td>Internship 2</td>
<td>Hotel 279AD (3)</td>
</tr>
</tbody>
</table>

Total: (35)

HOTEL HOUSEKEEPING AND MAINTENANCE SPECIALIST

Develops essential skills necessary for advancement or employment within the housekeeping and maintenance departments.

Certificate of Completion

Required Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hotel Core Curriculum</td>
<td>(11)</td>
</tr>
<tr>
<td>Housekeeping Room Mgmt</td>
<td>Hotel 101 (1)</td>
</tr>
<tr>
<td>Housekeeping Oper/Maintenance</td>
<td>Hotel 102 (1)</td>
</tr>
<tr>
<td>Housekeeping Tech/Strategies</td>
<td>Hotel 103 (1)</td>
</tr>
<tr>
<td>Internship 2</td>
<td>Hotel 279AD (3)</td>
</tr>
<tr>
<td>Supervisory Skills Bldr</td>
<td>Hotel 282 (3)</td>
</tr>
</tbody>
</table>

Total: (28)

HOTEL MANAGEMENT—SALES, MARKETING, AND EVENTS SPECIALIST

Develops essential skills necessary for advancement or employment in a sales and marketing or event and meeting management role within the hospitality meeting.

CERTIFICATE OF ACHIEVEMENT

Required Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hotel Core Curriculum</td>
<td>(11)</td>
</tr>
<tr>
<td>Hospitality Sales</td>
<td>Hotel 240 (1.5)</td>
</tr>
<tr>
<td>Event/Meeting Management</td>
<td>Hotel 265 (1.5)</td>
</tr>
<tr>
<td>Event/Meeting Coordination</td>
<td>Hotel 266 (1.5)</td>
</tr>
<tr>
<td>Risk Management</td>
<td>Hotel 267 (1.5)</td>
</tr>
<tr>
<td>Hospitality Marketing</td>
<td>Hotel 270 (1.5)</td>
</tr>
<tr>
<td>Hotel Operation</td>
<td>Hotel 285 (3)</td>
</tr>
<tr>
<td>Internship 2</td>
<td>Hotel 279AD (3)</td>
</tr>
</tbody>
</table>

Total: (24.5)

ASSOCIATE DEGREE

Complete Certificate of Achievement and Graduation Requirements as outlined in the Graduation Requirements section of the catalog.
INTERIOR DESIGN

The Regional Interior Design Program at Orange Coast College is a multi-level program offering a certificate in Interior Merchandising (Level 1), an associate in arts degree (Level 2), and a Professional (Level 3). Students completing Level 1 are employed in retail furnishings and merchandising. Level 2 Interior Design Assistants assist interior design practitioners through illustration, selection and specification of furnishings and materials, as well as drafting and merchandising. Level 3 prepares students to practice as full professional interior designers. Level 2 students must complete an A.A. Degree, and Level 3 students must complete the requirements for the bachelor’s degree. This program replaces all previous interior design programs.

Developed by educators and professional interior designers, this program offers an interdisciplinary approach to fundamental design, space planning, design analysis, and materials selection and specifications relating to residential and commercial spaces.

Orange Coast College participates in a Regional Interior Design Consortium with Long Beach City College, Saddleback College, Fullerton College, and Mt. San Antonio College. All required interior design courses are articulated with these schools, and students may take interior design courses at any of the colleges in the consortium.

DEGREE PROGRAMS

The Level 2 Interior Design Assistant requires an associate degree or higher from an accredited college before the certificate will be awarded. Students who do not already have a degree must complete the Orange Coast College Graduation Requirements for the A.A. degree including General Education Options 1, 2 OR 3.

Level 3 Interior Design Professional requires a student to complete the requirements for a bachelor’s degree.

Required Courses

### Level 1 - Interior Merchandising

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fundamentals of Interior Design</td>
<td>100 (3)</td>
</tr>
<tr>
<td>Interior Design Studio 1</td>
<td>105 (2)</td>
</tr>
<tr>
<td>Intro to Architectural Graphics</td>
<td>105 (2)</td>
</tr>
<tr>
<td>Interior Design Careers</td>
<td>120 (2)</td>
</tr>
<tr>
<td><strong>First Semester</strong></td>
<td></td>
</tr>
<tr>
<td>Applied Color/Design Theory</td>
<td>175 (4)</td>
</tr>
<tr>
<td>Basic Comp Aided Design/Drafting</td>
<td>150AB (4)</td>
</tr>
<tr>
<td>Interior Materials &amp; Products</td>
<td>150 (4)</td>
</tr>
<tr>
<td>Professional Selling</td>
<td>110 (3)</td>
</tr>
<tr>
<td><strong>Second Semester</strong></td>
<td></td>
</tr>
</tbody>
</table>

**Subtotal:** (24)

### Level 2 - Associate Degree

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Space Planning</td>
<td>170 (3)</td>
</tr>
<tr>
<td>Hist Arch/Furnishings 1</td>
<td>180 (3)</td>
</tr>
<tr>
<td>Interior Illustration</td>
<td>200 (2)</td>
</tr>
<tr>
<td>Fundamentals of Lighting</td>
<td>210 (3)</td>
</tr>
<tr>
<td><strong>Third Semester</strong></td>
<td></td>
</tr>
<tr>
<td>Hist Arch/Furnishings 2</td>
<td>190 (3)</td>
</tr>
<tr>
<td>Interior Design Studio 2</td>
<td>215 (2)</td>
</tr>
<tr>
<td>Arch Drafting/Constr Documents</td>
<td>180 (4)</td>
</tr>
<tr>
<td>Business and Professional Practice</td>
<td>230 (3)</td>
</tr>
<tr>
<td>Interior Design Internship</td>
<td>240 (3)</td>
</tr>
</tbody>
</table>

**Subtotal:** (26)

### Level 3 - Professional Level

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interior Design Studio 3</td>
<td>265 (2)</td>
</tr>
<tr>
<td>Codes and Specifications</td>
<td>250 (2)</td>
</tr>
<tr>
<td>Rendering &amp; Rapid Visualization</td>
<td>260 (2)</td>
</tr>
<tr>
<td>Adv Comp Aided Dsgn/Draft-Arch</td>
<td>158 (4)</td>
</tr>
<tr>
<td><strong>Fifth Semester</strong></td>
<td></td>
</tr>
<tr>
<td>Interior Design Studio 4</td>
<td>275 (2)</td>
</tr>
<tr>
<td>Small Business Ownership</td>
<td>240 (3)</td>
</tr>
</tbody>
</table>

**Subtotal:** (15)

**Total:** (65)

Suggested electives:
- Color & Design 2-D Art 110 (3)
- Color & Design 3-D Art 111 (3)
- Freehand Drawing Art 120 (3)
- Perspective Art 125 (3)
- Exhibition Design (Gallery) Art 145 (2)
- Elem Display/Visual Presentation D&VP 180 (3)

Note: This program replaces all previous Interior Design programs.

LEADERSHIP STUDIES

The goal of this program is to enhance individual and organizational effectiveness. Students will develop personal leadership skills, study ethical dimensions of leadership, understand how leadership affects people, organizations, and society, and articulate and apply their own philosophy of leadership in their careers and lives.

CERTIFICATE OF COMPLETION

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interpersonal Communication Spch 100</td>
<td>3</td>
</tr>
<tr>
<td>Personal Leadership Lead 180</td>
<td>3</td>
</tr>
<tr>
<td>Leadership in Action Lead 200</td>
<td>3</td>
</tr>
</tbody>
</table>

**Total:** 9
MACHINE TECHNOLOGY

OCC’s Machine Technology program is designed to train students for entry-level positions as machine operators. Additionally, both beginning students and working machinists can build on their skill and knowledge by completing the requirements for one of the advanced certificates.

The Machine Technology program is divided into four areas: Machinist, Computer Numerical Control (CNC) Operator, CNC Programmer, and Tool Maker. All four programs follow sequential plans which spin off from the core machinist program. After completing the machinist program in two semesters, the student can take the classes required for one of the more advanced certificates. The student who completes the machinist program also satisfies the major requirements for the Associate in Arts degree.

MACHINE TECHNOLOGY—MACHINIST

The Machinist Certificate program trains students for positions as entry-level operators, which often are the first manufacturing jobs for industrial employees. This certificate program provides the skill and knowledge necessary for job candidates to become successful wage earners. This program also comprises the core courses for the more advanced certificates.

CERTIFICATE OF ACHIEVEMENT

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intro to Machine Shop Mach 100</td>
<td>100</td>
</tr>
<tr>
<td>Lathe Mach 105</td>
<td>105</td>
</tr>
<tr>
<td>Blueprint Reading Mach 120</td>
<td>120</td>
</tr>
<tr>
<td>Milling Machine Mach 110</td>
<td>110</td>
</tr>
<tr>
<td>Production Machining Tech Mach 115</td>
<td>115</td>
</tr>
<tr>
<td>Technical Math Tech 040</td>
<td>040</td>
</tr>
<tr>
<td>Total</td>
<td>(22)</td>
</tr>
</tbody>
</table>

ASSOCIATE DEGREE

Complete Certificate of Achievement and Graduation Requirements as outlined in the Graduation Requirements section of the catalog.

MACHINE TECHNOLOGY—CNC MACHINE OPERATOR

The CNC Operator’s Certificate enhances the skills of students who have earned the Machinist Certificate, by providing that student with CNC machine operating skills and manual programming skills. The courses required for earning this certificate are designed to make the machine operator capable of setting up and manually programming a CNC machine tool. The CNC Machine Operator Professional Upgrade Certificate is specifically for the returning student with on-the-job machining experience.

CERTIFICATE OF ACHIEVEMENT

Required prerequisite:
Machine Technology—Machinist Certificate of Achievement

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Numerical Control Machine Operation* Mach</td>
<td>125</td>
</tr>
<tr>
<td>Intro to Numerical Control &amp; Manual Programming* Mach</td>
<td>130</td>
</tr>
<tr>
<td>Adv CNC Mach Operation Mach 126</td>
<td>126</td>
</tr>
<tr>
<td>Total</td>
<td>(31)</td>
</tr>
</tbody>
</table>

*Machine 123 & 124 may be substituted for Machine 125.
**Machine 128 & 129 may be substituted for Machine 130.

ASSOCIATE DEGREE

Complete Certificate of Achievement and Graduation Requirements as outlined in the Graduation Requirements section of the catalog.
MACHINE TECHNOLOGY—
CNC MACHINE PROGRAMMER
The CNC Programmer certificate includes courses designed to upgrade the skills and knowledge of the machinist or the CNC machine operator to the level of the CNC machine programmer. If you are a machinist and have minimal experience with CNC machines or machine language programming, you will first want to complete the CNC Operator Professional Upgrade Certificate. If you have both machining experience and CNC experience, the software used for the Machine Technology 133AB and 134AB courses provides excellent experiences in computer-assisted CNC programming. All of our programming courses require the use of a personal-type computer. If you have no computer experience, we strongly suggest you enroll in a basic computer use type course first (Computer & High Technology 100 or Computer Information Systems 100).

CERTIFICATE OF ACHIEVEMENT
Required prerequisite:
Machine Technology—Machinist Certificate of Achievement

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Numerical Control Machine Operation*</td>
<td>Mach 125 (3)</td>
</tr>
<tr>
<td>Intro to Numerical Control &amp; Programming**</td>
<td>Mach 130 (4)</td>
</tr>
</tbody>
</table>

SPRING

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adv CNC Machine Operator</td>
<td>Mach 126 (2)</td>
</tr>
<tr>
<td>CNC Programming-Mastercam</td>
<td>Mach 133AB (3)</td>
</tr>
</tbody>
</table>

FALL

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adv CNC Programming-Mastercam</td>
<td>Mach 134AB (2.5)</td>
</tr>
</tbody>
</table>

Note: The A and B courses cannot be mixed. They are totally different software packages and must be taken as a sequential pattern. Example: Machine 133A must be followed by Machine 134A, not 134B.

MACHINE TECHNOLOGY—TOOLING
Earning the Tooling Certificate upgrades the skills of the machinist to the point required for profitable employment as an entry-level tool maker, a die maker, or a mold maker. As well as other subjects that must be learned by the beginning tool maker, the Tooling Certificate program includes courses in metallurgy, tool and cutter grinding, and welding tooling.

CERTIFICATE OF ACHIEVEMENT

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intro to Machine Shop</td>
<td>Mach 100 (3)</td>
</tr>
<tr>
<td>Lathe</td>
<td>Mach 105 (5)</td>
</tr>
<tr>
<td>Milling Machine</td>
<td>Mach 110 (5)</td>
</tr>
<tr>
<td>Production Machining Tech</td>
<td>Mach 115 (3)</td>
</tr>
<tr>
<td>Blueprint Reading</td>
<td>Mach 120 (3)</td>
</tr>
<tr>
<td>Numerical Control Machine Operation</td>
<td>Mach 125 (3)</td>
</tr>
<tr>
<td>Intro to Numerical Control &amp; Manual Programming</td>
<td>Mach 130 (4)</td>
</tr>
<tr>
<td>Tool &amp; Cutter Grinding</td>
<td>Mach 150 (3)</td>
</tr>
<tr>
<td>Dimensioning &amp; Tolerancing</td>
<td>Mach 175 (3)</td>
</tr>
<tr>
<td>Elementary Metallurgy</td>
<td>Mach 190 (4)</td>
</tr>
<tr>
<td>Tooling</td>
<td>Mach 200 (4)</td>
</tr>
<tr>
<td>Arc &amp; Oxy-acetylene Welding</td>
<td>Weld 100 (3)</td>
</tr>
</tbody>
</table>

ASSOCIATE DEGREE
Complete Certificate of Achievement and Graduation Requirements as outlined in the Graduation Requirements section of the catalog.
MACHINE TECHNOLOGY
Professional Upgrade Certificates

CNC Operator
This professional upgrade certificate is designed for students who are already machinists. Before starting on this plan you should be able to set up and operate both conventional lathes and mills. You should be able to read blueprints and use all common machine shop measuring tools. If you have a deficiency in these areas, please refer back to the basic machining courses found in the Machinist certificate.

CERTIFICATE OF COMPLETION
Required Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Numerical Control Machine Operation</td>
<td>Mach 125</td>
</tr>
<tr>
<td>Intro to Numerical Control &amp; Manual Programming</td>
<td>Mach 130</td>
</tr>
<tr>
<td>Adv CNC Mach Operation</td>
<td>Mach 126</td>
</tr>
<tr>
<td>Total:</td>
<td>(9)</td>
</tr>
</tbody>
</table>

Certification: (9)

CNC Programmer
This professional upgrade certificate is designed to upgrade the skills and knowledge of the machinist or the CNC machine operator to the level of the CNC machine programmer. If you are a machinist and have minimal experience with CNC machines or machine language programming, you will first want to complete the CNC Operator upgrade certificate. If you have both machining experience and CNC experience, the software used for the Machine 133AB and 134AB courses provide excellent experiences in computer-assisted CNC programming. All of our programming courses require the use of a personal computer. If you have no computer experience, we strongly suggest you enroll in a basic computer use course first (Computer & High Technology 100 or Computer Information Systems 100).

Note: Two unit contract education course requirements must be designed in cooperation with the student and the instructor, or the student, instructor, and employer. This course will require the student to complete a project from beginning to end, to include all necessary paperwork, fixtureing, programming, and machining of the final part.

CERTIFICATE OF COMPLETION
Required Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>CNC Programming-Mastercam</td>
<td>Mach 133AB (3)</td>
</tr>
<tr>
<td>Adv CNC Programming-Mastercam</td>
<td>Mach 134AB (2.5)</td>
</tr>
<tr>
<td>Contract Education</td>
<td>(2)</td>
</tr>
<tr>
<td>Total:</td>
<td>(7.5)</td>
</tr>
</tbody>
</table>

Note: The A and B courses cannot be mixed. They are totally different software packages and must be taken as a sequential pattern. Example: Machine 133A must be followed by Machine 134A, not 134B.

MANAGEMENT

The Management certificate program is designed to train or upgrade skills and to acknowledge those individuals whose career paths involve the supervision of human resources. Courses emphasize organizing, planning, communicating, selecting, leading, training and controlling of personnel.

CERTIFICATE OF ACHIEVEMENT
Required Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intro to Info Sys &amp; Appl</td>
<td>CIS 100 (3)</td>
</tr>
<tr>
<td>Beg Computer Keyboarding</td>
<td>COT 109 (1.5)</td>
</tr>
<tr>
<td>Business Law</td>
<td>Bus 110 (3)</td>
</tr>
<tr>
<td>Applied Management</td>
<td>Mgmt 100 (3)</td>
</tr>
<tr>
<td>Financial Accounting</td>
<td>Acct 101 (4)</td>
</tr>
<tr>
<td>Business English</td>
<td>Bus 138 (3)</td>
</tr>
<tr>
<td>Human Relations &amp; Supervsn</td>
<td>Mgmt 115 (3)</td>
</tr>
<tr>
<td>Managerial Accounting</td>
<td>Acct 102 (4)</td>
</tr>
<tr>
<td>Business Communication</td>
<td>Bus 139 (3)</td>
</tr>
<tr>
<td>Applied Communications</td>
<td>Mgmt 210 (3)</td>
</tr>
<tr>
<td>Intro to Marketing</td>
<td>Mktg 100 (3)</td>
</tr>
<tr>
<td>Total:</td>
<td>(33.5)</td>
</tr>
</tbody>
</table>

Select three (3) units from the following:
- Cost Accounting
- Business Math
- Business Finance
- Patterns of Prob Solving
- Technical Report Writing
- Personnel Management
- Small Business Ownership
- Comm in Organizations
- Comm in Organizations
- Total: (36.5)

ASSOCIATE DEGREE
Complete Certificate of Achievement and Graduation Requirements as outlined in the Graduation Requirements section of the catalog.
MANAGEMENT—RETAIL
This program is approved by the Western Association of Food Chains and persons completing the prescribed courses are eligible to receive both the OCC Certificate of Achievement and the WASC Retail Management Certificate.

CERTIFICATE OF ACHIEVEMENT

Required Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Business Math</td>
<td>Bus 125 (3)</td>
</tr>
<tr>
<td>Business Communication</td>
<td>Bus 139 (3)</td>
</tr>
<tr>
<td>Applied Communications</td>
<td>Mgmt 210 (3)</td>
</tr>
<tr>
<td>Intro to Info Sys &amp; Appl</td>
<td>CIS 100 (3)</td>
</tr>
<tr>
<td>Applied Management</td>
<td>Mgmt 100 (3)</td>
</tr>
<tr>
<td>Accounting-Small Business (3)</td>
<td>Acct 100 (3)</td>
</tr>
<tr>
<td>Financial Accounting (4)</td>
<td>Acct 101 (3-4)</td>
</tr>
<tr>
<td>Intro to Marketing</td>
<td>Mktg 100 (3)</td>
</tr>
<tr>
<td>Retail Store Management</td>
<td>Mktg 200 (3)</td>
</tr>
<tr>
<td>Human Relations &amp; Supervsn</td>
<td>Mgmt 115 (3)</td>
</tr>
<tr>
<td>Leadership in Action</td>
<td>Lead 200 (3)</td>
</tr>
</tbody>
</table>

Suggested electives:
- Managerial Accounting Acct 102 (4)
- Business Law Bus 110 (3)
- Business English Bus 138 (3)
- Small Business Ownership Bus 240 (3)
- Professional Selling Mktg 110 (3)
- Retail Buying Mktg 220 (3)

Total: (30-31)

ASSOCIATE DEGREE
Complete Certificate of Achievement and Graduation Requirements as outlined in the Graduation Requirements section of the catalog.

MARKETING
The Marketing certificate programs are designed to train those individuals who career paths involve the creative techniques of both oral and written sales presentations, identification of target population, practices and procedures in the international area and retail operations. Certificates having emphasis in Advertising, International Studies, Retail, or Sales can be earned.

MARKETING—ADVERTISING

CERTIFICATE OF ACHIEVEMENT

Required Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Financial Accounting</td>
<td>Acct 101 (4)</td>
</tr>
<tr>
<td>Intro to Business</td>
<td>Bus 100 (3)</td>
</tr>
<tr>
<td>Professional Selling</td>
<td>Mktg 110 (3)</td>
</tr>
<tr>
<td>Principles of Advertising</td>
<td>Mktg 130 (3)</td>
</tr>
<tr>
<td>Advertising 2</td>
<td>Mktg 131AD (3)</td>
</tr>
<tr>
<td>Direct Mail &amp; Marketing</td>
<td>Mktg 142 (1.5)</td>
</tr>
<tr>
<td>Retailing</td>
<td>Mktg 200 (3)</td>
</tr>
<tr>
<td>Retail Buying</td>
<td>Mktg 220 (3)</td>
</tr>
</tbody>
</table>

Suggested electives:
- Color & Design 2-D Art 110 (3)
- Freehand Drawing Art 120 (3)
- Advertising Design 1 Art 160 (3)
- Advertising Design 2 Art 161 (3)
- Intro to Broadcasting Film 150 (3)
- Business Math Bus 125 (3)
- Business English Bus 138 (3)
- Public Relations Bus 140 (3)
- Mass Communication Comm 100 (3)
- Advertising Copywriting Comm 114 (3)
- Publication Design/Production Comm 118 (3)
- Applied Communications Mgmt 210 (3)
- Advertising Copywriting Mktg 114 (3)
- Computer Advertising Design & Copywriting Mktg/Art 113 (3)

Total: (23.5)

ASSOCIATE DEGREE
Complete Certificate of Achievement and Graduation Requirements as outlined in the Graduation Requirements section of the catalog.

A grade of “C” or better is required in all courses.

Required Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Applied Management</td>
<td>Mgmt 100 (3)</td>
</tr>
<tr>
<td>Human Relations and Supervsn</td>
<td>Mgmt 115 (3)</td>
</tr>
<tr>
<td>Applied Communications</td>
<td>Mgmt 210 (3)</td>
</tr>
</tbody>
</table>

Total: (9)
MARKETING—INTERNATIONAL

CERTIFICATE OF ACHIEVEMENT

Required Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intro International Business</td>
<td>Bus 118 (3)</td>
</tr>
<tr>
<td>Adv International Business</td>
<td>Bus 119 (3)</td>
</tr>
<tr>
<td>Introduction to Marketing</td>
<td>Mktg 100 (3)</td>
</tr>
<tr>
<td>International Marketing</td>
<td>Mktg 150 (3)</td>
</tr>
<tr>
<td>Export/Import Procedures</td>
<td>Mktg 152 (3)</td>
</tr>
<tr>
<td>Conversational Language (3)</td>
<td>110</td>
</tr>
<tr>
<td>Traditional Language (3)</td>
<td>180</td>
</tr>
</tbody>
</table>

Select three (3) units from the following:

- Business Math Bus 125 (3)
- Business English Bus 138 (3)
- Business Finance Bus 200 (3)
- Macroeconomics Econ 180 (3)
- Microeconomics Econ 185 (3)
- Economic Geography Geog 160 (3)
- Applied Communications Mgmt 210 (3)
- Cultural Dimensions Int’l Trade So Sci 100 (3)

Subtotal: (18)

Total: (21)

ASSOCIATE DEGREE

Complete Certificate of Achievement and Graduation Requirements as outlined in the Graduation Requirements section of the catalog.

MARKETING—INTERNATIONAL STUDIES

A grade of “C” or better is required in all courses.

CERTIFICATE OF COMPLETION

Required Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
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</thead>
<tbody>
<tr>
<td>Intro International Business</td>
<td>Bus 118 (3)</td>
</tr>
<tr>
<td>Adv International Business</td>
<td>Bus 119 (3)</td>
</tr>
<tr>
<td>Introduction to Marketing</td>
<td>Mktg 100 (3)</td>
</tr>
<tr>
<td>International Marketing</td>
<td>Mktg 150 (3)</td>
</tr>
</tbody>
</table>

Subtotal: (12)

Total: (25)

ASSOCIATE DEGREE

Complete Certificate of Achievement and Graduation Requirements as outlined in the Graduation Requirements section of the catalog.

MARKETING—MARKETING

A grade of “C” or better is required in all courses.

CERTIFICATE OF COMPLETION

Required Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Introduction to Marketing</td>
<td>Mktg 100 (3)</td>
</tr>
<tr>
<td>Professional Selling</td>
<td>Mktg 110 (3)</td>
</tr>
<tr>
<td>Principles of Advertising</td>
<td>Mktg 130 (3)</td>
</tr>
</tbody>
</table>

Subtotal: (9)

Total: (21)

ASSOCIATE DEGREE

Complete Certificate of Achievement and Graduation Requirements as outlined in the Graduation Requirements section of the catalog.

MARKETING—RETAIL

Employment possibilities include:

- Management Trainee
- Department Manager
- Assistant Department Manager
- Assistant Buyer
- Sales Specialists
- Resource Sales Trainee

CERTIFICATE OF ACHIEVEMENT

Required Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Financial Accounting</td>
<td>Acct 101 (4)</td>
</tr>
<tr>
<td>Business Law</td>
<td>Bus 110 (3)</td>
</tr>
<tr>
<td>Professional Selling</td>
<td>Mktg 110 (3)</td>
</tr>
<tr>
<td>Principles of Advertising</td>
<td>Mktg 130 (3)</td>
</tr>
<tr>
<td>Small Business Ownership</td>
<td>Bus 240 (3)</td>
</tr>
<tr>
<td>Retailing</td>
<td>Mktg 200 (3)</td>
</tr>
<tr>
<td>Intro to Marketing</td>
<td>Mktg 100 (3)</td>
</tr>
<tr>
<td>Retail Buying</td>
<td>Mktg 220 (3)</td>
</tr>
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Subtotal: (22)

Total: (25)

ASSOCIATE DEGREE

Complete Certificate of Achievement and Graduation Requirements as outlined in the Graduation Requirements section of the catalog.
MARKETING—SALES
CERTIFICATE OF ACHIEVEMENT

Required Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
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</thead>
<tbody>
<tr>
<td>Elem Display &amp; Visual D&amp;VP</td>
<td>180</td>
</tr>
<tr>
<td>Intro to Marketing Mktg</td>
<td>100</td>
</tr>
<tr>
<td>Professional Selling Mktg</td>
<td>110</td>
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<tr>
<td>Principles of Advertising Mktg</td>
<td>130</td>
</tr>
<tr>
<td>Interpersonal Communication Spch</td>
<td>100</td>
</tr>
</tbody>
</table>

SPRING

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Business Math Bus</td>
<td>125</td>
</tr>
<tr>
<td>Applied Communications Mgmt</td>
<td>210</td>
</tr>
<tr>
<td>Sales Management Mktg</td>
<td>115</td>
</tr>
<tr>
<td>Professional Selling, Advanced Mktg</td>
<td>210</td>
</tr>
</tbody>
</table>

Select three (3) units from the following:

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Business English Bus</td>
<td>138</td>
</tr>
<tr>
<td>Business Communication Bus</td>
<td>139</td>
</tr>
<tr>
<td>Intro International Business Bus</td>
<td>118</td>
</tr>
<tr>
<td>Career/Prof Success Skills Bus</td>
<td>170</td>
</tr>
<tr>
<td>Human Relations &amp; Supervision Mgmt</td>
<td>115</td>
</tr>
<tr>
<td>Direct Mail &amp; Marketing Mktg</td>
<td>142</td>
</tr>
<tr>
<td>International Marketing Mktg</td>
<td>150</td>
</tr>
</tbody>
</table>

Subtotal: (27)

ASSOCIATE DEGREE
Complete Certificate of Achievement and Graduation Requirements as outlined in the Graduation Requirements section of the catalog.

MEDICAL ASSISTING—ADMINISTRATIVE/CLINICAL

The Medical Assisting program includes specific business and medical courses that prepare students for employment as clinical or administrative assistants in medical offices, clinics, hospitals, or in related medical and business fields. The coursework can be completed in three or four semesters, and includes on-the-job experience in a medical office or a clinic.

The American Association of Medical Assistants, Inc. accredits Orange Coast College’s Medical Assisting program. Such accreditation permits our students in this program to take the National Certified Medical Assistant examination immediately after they graduate.

The medical assisting profession is highly diversified, and the work is challenging and personally rewarding. Employment opportunities are excellent in the expanding health care field.

CERTIFICATE OF ACHIEVEMENT

Program recommended preparation:
Intro to Info Sys & Appl CIS 100 (3)

Required Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Medical Terminology Al H</td>
<td>111</td>
</tr>
<tr>
<td>Intro Med Asst/Transcription M A</td>
<td>175</td>
</tr>
<tr>
<td>Medical Bookkeeping M A/Act</td>
<td>115</td>
</tr>
<tr>
<td>Medical Insurance Billing M A</td>
<td>185</td>
</tr>
<tr>
<td>Patient Care Al H</td>
<td>115</td>
</tr>
</tbody>
</table>

SUMMER OR FALL

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anatomy-Physiology Biol</td>
<td>221</td>
</tr>
<tr>
<td>Clinical Lab Procedures M A</td>
<td>135</td>
</tr>
<tr>
<td>Medications/Injections M A</td>
<td>266</td>
</tr>
<tr>
<td>Physical/Specialty Exams M A</td>
<td>287</td>
</tr>
<tr>
<td>Sterile Tech/Minor Surgery M A</td>
<td>288</td>
</tr>
<tr>
<td>Specialty Procedures M A</td>
<td>289</td>
</tr>
<tr>
<td>Admin M A Procedures M A</td>
<td>180</td>
</tr>
</tbody>
</table>

SPRING

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Administrative Experience M A</td>
<td>186</td>
</tr>
<tr>
<td>Clinical Experience M A</td>
<td>281</td>
</tr>
<tr>
<td>Introductory Psychology Psych</td>
<td>100</td>
</tr>
</tbody>
</table>

Total: (35-38)

Suggested electives:

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Human Disease Al H</td>
<td>120</td>
</tr>
<tr>
<td>Applied Pharmacology Al H</td>
<td>130</td>
</tr>
<tr>
<td>Emergency Medical Care EMT</td>
<td>100</td>
</tr>
<tr>
<td>Ethics Phil</td>
<td>120</td>
</tr>
</tbody>
</table>

Medical Transcription Certificate

Students are required to obtain a grade of “C” or better in all required courses.

This program is accredited by The American Medical Association and the American Association of Medical Assistants, Inc. (through Commission on Accreditation of Allied Health Education Programs (CAAHEP).

NOTE: Students having completed prior course requirements and seeking advanced status in the program should meet on an individual basis with the Medical Assisting Program Coordinator.

ASSOCIATE DEGREE
Complete Certificate of Achievement and Graduation Requirements as outlined in the Graduation Requirements section of the catalog.
### MEDICAL ASSISTING—ADMINISTRATIVE

**CERTIFICATE OF ACHIEVEMENT**

Program recommended preparation:
- Intro to Info Sys & Appl
- CIS 100 (3)

**Required Courses**

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPRING</td>
<td></td>
</tr>
<tr>
<td>Medical Terminology</td>
<td>AI H 111 (3)</td>
</tr>
<tr>
<td>Intro Med Asst/Transcription</td>
<td>MA 175 (3)</td>
</tr>
<tr>
<td>Medical Bookkeeping</td>
<td>MA/Account 115 (4)</td>
</tr>
<tr>
<td>FALL</td>
<td></td>
</tr>
<tr>
<td>Admin MA Procedures</td>
<td>MA 180 (2)</td>
</tr>
<tr>
<td>Medical Insurance Billing</td>
<td>MA 185 (3)</td>
</tr>
<tr>
<td>Patient Care</td>
<td>AI H 115 (2.5)</td>
</tr>
<tr>
<td>SPRING</td>
<td></td>
</tr>
<tr>
<td>Administrative Experience</td>
<td>MA 186 (2)</td>
</tr>
</tbody>
</table>

**Total:** 19.5-22.5

**Suggested electives:**
- Human Diseases AI H 120 (2)
- Applied Pharmacology AI H 130 (2)
- Anatomy-Physiology Biol 221 (4)
- Emergency Medical Care EMT 100 (3)
- Ethics Phil 120 (3)
- Introductory Psychology Psych 100 (3)

Students are required to obtain a grade of “C” or better in all required courses.

### ASSOCIATE DEGREE

Complete Certificate of Achievement and Graduation Requirements as outlined in the Graduation Requirements section of the catalog.

### MEDICAL ASSISTING—CLINICAL

**CERTIFICATE OF ACHIEVEMENT**

Program recommended preparation:
- Intro to Info Sys & Appl
- CIS 100 (3)

**Required Courses**

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPRING</td>
<td></td>
</tr>
<tr>
<td>Medical Terminology</td>
<td>AI H 111 (3)</td>
</tr>
<tr>
<td>Intro Med Asst/Transcription</td>
<td>MA 175 (3)</td>
</tr>
<tr>
<td>Patient Care</td>
<td>AI H 115 (2.5)</td>
</tr>
<tr>
<td>SUMMER</td>
<td></td>
</tr>
<tr>
<td>Anatomy-Physiology</td>
<td>Biol 221 (4)</td>
</tr>
<tr>
<td>FALL</td>
<td></td>
</tr>
<tr>
<td>Clinical Lab Procedures</td>
<td>MA 135 (2)</td>
</tr>
<tr>
<td>Medications/Injections</td>
<td>MA 286 (1)</td>
</tr>
<tr>
<td>Physical/Specialty Exams</td>
<td>MA 287 (1.5)</td>
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<tr>
<td>Sterile Tech/Minor Surgery</td>
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<td>Specialty Procedures</td>
<td>MA 289 (1)</td>
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<tr>
<td>SPRING</td>
<td></td>
</tr>
<tr>
<td>Clinical Experience</td>
<td>MA 281 (2)</td>
</tr>
</tbody>
</table>

**Total:** 21-24

**Suggested electives:**
- Human Diseases AI H 120 (2)
- Applied Pharmacology AI H 130 (2)
- Emergency Medical Care EMT 100 (3)
- Ethics Phil 120 (3)
- Introductory Psychology Psych 100 (3)

Students are required to obtain a grade of “C” or better in all required courses.

### ASSOCIATE DEGREE

Complete Certificate of Achievement and Graduation Requirements as outlined in the Graduation Requirements section of the catalog.

### MEDICAL ASSISTING—MEDICAL INSURANCE

The Medical Insurance Certificate prepares the student for employment as a medical insurance biller with job opportunities in medical offices, clinics, or hospitals.

**CERTIFICATE OF COMPLETION**

**Required Courses**

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Medical Bookkeeping</td>
<td>MA/Account 115 (4)</td>
</tr>
<tr>
<td>Medical Terminology</td>
<td>AI H 111 (3)</td>
</tr>
<tr>
<td>Medical Insurance Billing</td>
<td>MA 185 (3)</td>
</tr>
</tbody>
</table>

**Total:** 10

Students are required to obtain a grade of “C” or better in all required courses.
MEDICAL TRANSCRIPTION

This program provides instruction and experience in medical transcribing procedures to train the medical transcriber who is a health professional responsible for typing medical letters, charts, and reports from tapes dictated by physicians.

Medical transcribers have the option of working in medical offices, clinics, or hospitals, or to be self-employed. Their work is interesting and challenging, and it has excellent income potential, which includes encouraging tax benefits if the transcriber is self-employed.

**CERTIFICATE OF ACHIEVEMENT**

<table>
<thead>
<tr>
<th>Program recommended preparation:</th>
<th>Course Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intro to Info Sys &amp; Appl CIS 100</td>
<td>(3)</td>
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**Required Courses**

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Medical Terminology</td>
<td>H 111</td>
</tr>
<tr>
<td>Intro Med Ass/Transcribe</td>
<td>M A 175</td>
</tr>
<tr>
<td>Beg Medical Transcribing</td>
<td>H Rec 190</td>
</tr>
<tr>
<td>Business English</td>
<td>Bus 138</td>
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</table>

**SPRING**

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adv Medical Transcribing</td>
<td>H Rec 195</td>
</tr>
<tr>
<td>Human Disease</td>
<td>AI H 120</td>
</tr>
<tr>
<td>Anatomy-Physiology</td>
<td>Biol 221</td>
</tr>
</tbody>
</table>

**Total:** (20-23)

**Suggested electives:**

- Medical Assisting-Administrative Certificate of Achievement: (19.5)
- Medical Insurance Certificate of Completion: (10)
- Small Business Ownership: Bus 240 (3)
- Ethics: Phil 120 (3)

Students are required to obtain a grade of “C” or better in all required courses.

ASSOCIATE DEGREE

Complete Certificate of Achievement and Graduation Requirements as outlined in the Graduation Requirements section of the catalog.

MUSIC

Because Orange County is close to the heart of the television, movie, and recording industries, OCC answers a real need to train performing musicians and sound technicians, as well as composers, teachers, instrument-repair people and music-store owners and salespeople.

Our music industry programs are designed to give the serious music student the theory, applied training, and performing experience needed for success in the field they choose. Traditional music courses are integrated with music-industry courses to provide comprehensive programs.

To increase their chances of enjoying long and satisfying careers in a highly competitive industry, we encourage our students to become proficient in a wide variety of musical styles, and to be aware of the many career alternatives open to them.

**MUSIC—BUSINESS EMPLOYEE**

This program will prepare students for employment in music stores, record shops, and other commercial music activities. Many opportunities in the business of music are available to students with a broad general knowledge of how this segment of the music industry functions in addition to traditional musical skills.

**CERTIFICATE OF ACHIEVEMENT**

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Piano 1</td>
<td>Music 141</td>
</tr>
<tr>
<td>Voice 1</td>
<td>Music 145</td>
</tr>
<tr>
<td>Music Industry Studies</td>
<td>Music 155</td>
</tr>
<tr>
<td>Music in America</td>
<td>Music 170</td>
</tr>
</tbody>
</table>

**Total:** (20-23)

**Suggested electives:**

- Acct for Small Business: Acct 100 (3)
- Small Business Ownership: Bus 240 (3)
- Retailing: Mktg 200 (3)
- Beginning Instruments: Music 140AB (2)
- Piano 2: Music 142 (2)
- Voice 2: Music 146 (1)
- Classical Guitar 1: Music 148 (2)
- Studio Guitar 1: Music 151 (1.5)
- Piano 3: Music 241 (2)
- Piano 4: Music 242 (2)

ASSOCIATE DEGREE

Complete Certificate of Achievement and Graduation Requirements as outlined in the Graduation Requirements section of the catalog.
### MUSIC—COMPOSER/ ORCHESTRATOR/COPYIST

This program is designed to give the composer or songwriter a concentrated theoretical background in traditional and commercial music. Numerous opportunities exist for the performance of original musical compositions.

**CERTIFICATE OF ACHIEVEMENT**

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>First Semester</strong></td>
<td></td>
</tr>
<tr>
<td>Ear Training</td>
<td>Music 104AB (3)</td>
</tr>
<tr>
<td>Piano 1</td>
<td>Music 141 (2)</td>
</tr>
<tr>
<td>Harmony &amp; Sightsinging 1</td>
<td>Music 180 (5)</td>
</tr>
<tr>
<td>Music Performing Group*</td>
<td>(2)</td>
</tr>
<tr>
<td><strong>Second Semester</strong></td>
<td></td>
</tr>
<tr>
<td>Piano 2</td>
<td>Music 142 (2)</td>
</tr>
<tr>
<td>Harmony &amp; Sightsinging 2</td>
<td>Music 185 (5)</td>
</tr>
<tr>
<td>Applied Music</td>
<td>Music 290AD (2-4)</td>
</tr>
<tr>
<td>Music Performing Group*</td>
<td>(2)</td>
</tr>
<tr>
<td><strong>Third Semester</strong></td>
<td></td>
</tr>
<tr>
<td>Sophomore Recital</td>
<td>Music 240 (.5)</td>
</tr>
<tr>
<td>Harmony &amp; Sightsinging 3</td>
<td>Music 280 (5)</td>
</tr>
<tr>
<td>Jazz/Rock Theory</td>
<td>Music 287AB (3)</td>
</tr>
<tr>
<td>Applied Music</td>
<td>Music 290AD (2-4)</td>
</tr>
<tr>
<td>Music Performing Group*</td>
<td>(2)</td>
</tr>
<tr>
<td><strong>Total:</strong></td>
<td>(35.5-39.5)</td>
</tr>
</tbody>
</table>

*Music students in this major must participate in at least one major performing group per semester. Students should select a performing group that fits their performance specialty or interest. Vocalists should choose Music 120AD. Instrumentalists should choose from Music 127AD, 132AD, 133AD, 150AB, 230AD, 231AD, 233AD, 234AD. Guitarists should choose Music 129AD.*

**Suggested electives:**
- Computers in Music: Music 102AD (3)
- Voice 1: Music 145 (1)
- Jazz Workshop: Music 234AD (1)
- Music as a Business: Music 262 (2)

**ASSOCIATE DEGREE**

Complete Certificate of Achievement and Graduation Requirements as outlined in the Graduation Requirements section of the catalog.

### MUSIC—CONCERT SOUND ENGINEER

This program will provide students with the knowledge, skills and experience to acquire employment in the field of sound reinforcement and concert sound engineering. Numerous and varied hands-on opportunities to do sound reinforcement on and off campus are provided, as well as opportunities to gain the practical and theoretical knowledge necessary for employment.

**CERTIFICATE OF ACHIEVEMENT**

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>First Semester</strong></td>
<td></td>
</tr>
<tr>
<td>Intro Sound Reinforcement</td>
<td>Music 236AB (3)</td>
</tr>
<tr>
<td>Computers in Music</td>
<td>Music 102AD (3)</td>
</tr>
<tr>
<td>Fundamentals of Music</td>
<td>Music 115 (3)</td>
</tr>
<tr>
<td><strong>Second Semester</strong></td>
<td></td>
</tr>
<tr>
<td>Concert Sound Engineering</td>
<td>Music 237AB (3)</td>
</tr>
<tr>
<td>Recording Techniques</td>
<td>Music 261AB (2)</td>
</tr>
<tr>
<td>History of Rock Music</td>
<td>Music 109 (3)</td>
</tr>
<tr>
<td><strong>Third Semester</strong></td>
<td></td>
</tr>
<tr>
<td>Concert Sound Engineering</td>
<td>Music 237AB (3)</td>
</tr>
<tr>
<td>Adv Recording Techniques</td>
<td>Music 265AD (2)</td>
</tr>
<tr>
<td>Video Workshop</td>
<td>Film 110 (3)</td>
</tr>
<tr>
<td><strong>Total:</strong></td>
<td>(25)</td>
</tr>
</tbody>
</table>

**Suggested electives:**
- Stage Crew Activity: Thart 170AD (1)
- Technical Electronics: Elec 140 (3)

**ASSOCIATE DEGREE**

Complete Certificate of Achievement and Graduation Requirements as outlined in the Graduation Requirements section of the catalog.

### MUSIC—INSTRUMENT REPAIR

The program, unique to Orange Coast College, provides students with theory and hands-on experience in the repair and restoration of all musical instruments. A nationwide demand for instrument technicians creates employment opportunities for the trained and skilled student.

**CERTIFICATE OF COMPLETION**

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>First Semester</strong></td>
<td></td>
</tr>
<tr>
<td>Instrument Repair</td>
<td>Music 250AD (2)</td>
</tr>
<tr>
<td><strong>Second Semester</strong></td>
<td></td>
</tr>
<tr>
<td>Instrument Repair</td>
<td>Music 250AD (2)</td>
</tr>
<tr>
<td><strong>Third Semester</strong></td>
<td></td>
</tr>
<tr>
<td>Instrument Repair</td>
<td>Music 250AD (2)</td>
</tr>
<tr>
<td><strong>Fourth Semester</strong></td>
<td></td>
</tr>
<tr>
<td>Instrument Repair</td>
<td>Music 250AD (2)</td>
</tr>
<tr>
<td><strong>Total:</strong></td>
<td>(8)</td>
</tr>
</tbody>
</table>
MUSIC—MIDI APPLICATIONS

This program is designed for the musician or computer professional who wants a concentrated course of study in the field of computer music. Courses are designed to emphasize the practical application of MIDI (Musical Instrument Digital Interface).

CERTIFICATE OF ACHIEVEMENT

Required Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intro to Info Sys &amp; Appl</td>
<td>CIS</td>
</tr>
<tr>
<td>Computers in Music*</td>
<td>Music</td>
</tr>
<tr>
<td>Fundamentals of Music</td>
<td>Music</td>
</tr>
<tr>
<td>Recording Techniques Workshop</td>
<td>Music</td>
</tr>
</tbody>
</table>

Subtotal: (20)

Select five (5) units from the following:

PASCAL Programming                  | CS    | 115  | (4) |
P++ Programming 1                    | CS    | 150  | (4) |
Video Workshop                      | Film  | 110  | (3) |
Piano 1                             | Music | 141  | (2) |
Piano 2                             | Music | 142  | (2) |
Harmony & Sightsinging 1            | Music | 180  | (5) |
Intro Sound Reinforcement           | Music | 236AB | (3) |
Piano 3                             | Music | 241  | (2) |
Piano 4                             | Music | 242  | (2) |

Subtotal: (20)

Total: (25)

*Music 102AD (3 units) is to be taken 4 times for 12 units.

ASSOCIATE DEGREE

Complete Certificate of Achievement and Graduation Requirements as outlined in the Graduation Requirements section of the catalog.

MUSIC—MUSICAL ENTERTAINER-INSTRUMENTAL

This program is designed to give the aspiring commercial instrumentalist a concentrated theoretical background in traditional and commercial music as well as a look at the music industry.

CERTIFICATE OF ACHIEVEMENT

Required Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>First Semester</td>
<td></td>
</tr>
<tr>
<td>Ear Training</td>
<td>Music</td>
</tr>
<tr>
<td>Piano 1</td>
<td>Music</td>
</tr>
<tr>
<td>Music Industry Studies</td>
<td>Music</td>
</tr>
<tr>
<td>Harmony &amp; Sightsinging 1</td>
<td>Music</td>
</tr>
<tr>
<td>Music Performing Group*</td>
<td>Music</td>
</tr>
</tbody>
</table>

| Second Semester                            |       |
| Piano 2                                    | Music | 142   | (2) |
| History of Jazz                            | Music | 173   | (3) |
| Harmony & Sightsinging 2                   | Music | 185   | (5) |
| Applied Music                              | Music | 290AD | (2-4) |
| Music Performing Group*                    | Music | 290AD | (2-4) |

| Third Semester                             |       |
| Sophomore Recital                          | Music | 240   | (.5) |
| Recording Techniques                       | Music | 261AB | (2) |
| Music as a Business                        | Music | 262   | (2) |
| Jazz/Rock Theory                           | Music | 287AB | (3) |
| Applied Music                              | Music | 290AD | (2-4) |
| Music Performing Group*                    | Music | 290AD | (2-4) |

Subtotal: (40.5-44.5)

*Music students in this major must participate in at least one major performing group per semester. Students should select a performing group that fits their performance specialty or interest. Vocalists should choose Music 120AD. Instrumentalists should choose from Music 127AD, 132AD, 133AD, 150AB, 230AD, 231AD, 233AD, 234AD. Guitarists should choose Music 129AD.

Suggested electives:

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Computers in Music</td>
<td>Music</td>
</tr>
<tr>
<td>Big Band</td>
<td>Music</td>
</tr>
<tr>
<td>Studio Guitar 1</td>
<td>Music</td>
</tr>
<tr>
<td>Studio Guitar 2</td>
<td>Music</td>
</tr>
</tbody>
</table>

ASSOCIATE DEGREE

Complete Certificate of Achievement and Graduation Requirements as outlined in the Graduation Requirements section of the catalog.
**MUSIC—MUSICAL ENTERTAINER—VOCAL**

This program is designed to give the aspiring commercial vocalist a concentrated theoretical background in traditional and commercial music and vocal techniques as well as a look at the music industry.

**CERTIFICATE OF ACHIEVEMENT**

<table>
<thead>
<tr>
<th>Course</th>
<th>Required Courses</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>First Semester</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Piano 1</td>
<td>Music</td>
<td>141</td>
</tr>
<tr>
<td>Popular Vocal Techniques</td>
<td>Music</td>
<td>144AD</td>
</tr>
<tr>
<td>Harmony &amp; Sightsinging 1</td>
<td>Music</td>
<td>180</td>
</tr>
<tr>
<td>Music Performing Group*</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Second Semester</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ear Training</td>
<td>Music</td>
<td>104AB</td>
</tr>
<tr>
<td>Popular Vocal Techniques</td>
<td>Music</td>
<td>144AD</td>
</tr>
<tr>
<td>Music Industry Studies</td>
<td>Music</td>
<td>155</td>
</tr>
<tr>
<td>Applied Music</td>
<td>Music</td>
<td>290AD</td>
</tr>
<tr>
<td>Music Performing Group*</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Third Semester</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>History of Jazz</td>
<td>Music</td>
<td>173</td>
</tr>
<tr>
<td>Sophomore Recital</td>
<td>Music</td>
<td>240</td>
</tr>
<tr>
<td>Adv Pop Vocal Techniques</td>
<td>Music</td>
<td>247AB</td>
</tr>
<tr>
<td>Recording Techniques</td>
<td>Music</td>
<td>261AB</td>
</tr>
<tr>
<td>Music as a Business</td>
<td>Music</td>
<td>262</td>
</tr>
<tr>
<td>Applied Music</td>
<td>Music</td>
<td>290AD</td>
</tr>
<tr>
<td>Music Performing Group*</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Total:</strong></td>
<td></td>
<td>36.5-40.5</td>
</tr>
</tbody>
</table>

*Suggested electives:*
- Basic Guitar: Music 116 (2)
- Recording Techniques: Music 261AB (2)

**ASSOCIATE DEGREE**

Complete Certificate of Achievement and Graduation Requirements as outlined in the Graduation Requirements section of the catalog.

---

**MUSIC—PRIVATE MUSIC TEACHER**

This program provides basic skills for private teaching. Broad-based preparation in musical skills and the “art of teaching” are necessary components for successful private music teachers.

**CERTIFICATE OF ACHIEVEMENT**

<table>
<thead>
<tr>
<th>Course</th>
<th>Required Courses</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>First Semester</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Piano 1</td>
<td>Music</td>
<td>141</td>
</tr>
<tr>
<td>Harmony &amp; Sightsinging 1</td>
<td>Music</td>
<td>180</td>
</tr>
<tr>
<td>Applied Music</td>
<td>Music</td>
<td>290AD</td>
</tr>
<tr>
<td>Music Performing Group*</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Second Semester</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Voice 1</td>
<td>Music</td>
<td>145</td>
</tr>
<tr>
<td>Harmony &amp; Sightsinging 2</td>
<td>Music</td>
<td>185</td>
</tr>
<tr>
<td>Sophomore Recital</td>
<td>Music</td>
<td>240</td>
</tr>
<tr>
<td>Applied Music</td>
<td>Music</td>
<td>290AD</td>
</tr>
<tr>
<td>Music Performing Group*</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Subtotal:</strong></td>
<td></td>
<td>21.5-25.5</td>
</tr>
<tr>
<td>Select three (3) units from the following:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>History &amp; Apprec of Music</td>
<td>Music</td>
<td>100</td>
</tr>
<tr>
<td>Music in America</td>
<td>Music</td>
<td>170</td>
</tr>
<tr>
<td><strong>Total:</strong></td>
<td></td>
<td>24.5-28.5</td>
</tr>
</tbody>
</table>

*Suggested electives:*
- Computers in Music: Music 102AD (3)
- Beginning Instruments: Music 140AB (2)
- Jazz Improvisation: Music 230AD (1)
- Instrument Repair: Music 250AD (2)
- Harmony & Sightsinging 3: Music 280 (2)

**ASSOCIATE DEGREE**

Complete Certificate of Achievement and Graduation Requirements as outlined in the Graduation Requirements section of the catalog.

---

119
MUSIC—STUDIO GUITAR
PERFORMER

A studio guitarist is a complete guitarist and musician who can accurately perform in a variety of musical styles. The courses in this program cover jazz, rock and classical guitar techniques, traditional and commercial music theory and include numerous performance opportunities.

CERTIFICATE OF ACHIEVEMENT

<table>
<thead>
<tr>
<th>Course</th>
<th>First Semester</th>
<th>Second Semester</th>
<th>Third Semester</th>
<th>Total:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>31.5-35.5</td>
</tr>
<tr>
<td>Piano 1</td>
<td>Music 141</td>
<td>Ear Training</td>
<td>Music 129AD</td>
<td>(2)</td>
</tr>
<tr>
<td>Classical Guitar 1</td>
<td>Music 148</td>
<td>Guitar Ensemble</td>
<td>Music 129AD</td>
<td>(2)</td>
</tr>
<tr>
<td>Studio Guitar 1</td>
<td>Music 151</td>
<td>Classical Guitar 2</td>
<td>Music 149</td>
<td>(1.5)</td>
</tr>
<tr>
<td>Harmony &amp; Sightsinging 1</td>
<td>Music 180</td>
<td>Studio Guitar 2</td>
<td>Music 152</td>
<td>(5)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Applied Music</td>
<td>Music 290AD</td>
<td>(2-4)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Guitar Ensemble</td>
<td>Music 129AD</td>
<td>(3)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Music Industry Studies</td>
<td>Music 155</td>
<td>(1)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Sophomore Recital</td>
<td>Music 240</td>
<td>(3)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Recording Techniques</td>
<td>Music 261AB</td>
<td>(2)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Jazz/Rock Theory</td>
<td>Music 287AB</td>
<td>(2)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Applied Music</td>
<td>Music 290AD</td>
<td>(2-4)</td>
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<td></td>
<td></td>
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</tr>
<tr>
<td>Suggested electives:</td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rhythm Study 1</td>
<td>Music 101AB</td>
<td></td>
<td></td>
<td>(1)</td>
</tr>
<tr>
<td>Computers in Music</td>
<td>Music 102AD</td>
<td></td>
<td></td>
<td>(3)</td>
</tr>
<tr>
<td>Popular Vocal Techniques</td>
<td>Music 144AD</td>
<td></td>
<td></td>
<td>(2)</td>
</tr>
<tr>
<td>Voice 1</td>
<td>Music 145</td>
<td></td>
<td></td>
<td>(1)</td>
</tr>
<tr>
<td>Harmony &amp; Sightsinging 2</td>
<td>Music 185</td>
<td></td>
<td></td>
<td>(5)</td>
</tr>
<tr>
<td>Classical Guitar 3</td>
<td>Music 248</td>
<td></td>
<td></td>
<td>(2)</td>
</tr>
<tr>
<td>Studio Guitar 3</td>
<td>Music 271</td>
<td></td>
<td></td>
<td>(1.5)</td>
</tr>
<tr>
<td>Harmony &amp; Sightsinging 3</td>
<td>Music 280</td>
<td></td>
<td></td>
<td>(5)</td>
</tr>
</tbody>
</table>

ASSOCIATE DEGREE

Complete Certificate of Achievement and Graduation Requirements as outlined.
NEURODIAGNOSTIC TECHNOLOGY

Neurodiagnostic Technology (previously known as EEG) is an allied health specialty for diagnosing patients with neurological disorders such as epilepsy, stroke, coma, multiple sclerosis, and others. A competent neurodiagnostic technologist has knowledge of the nervous system and knows how to operate many types of sophisticated instruments properly. Neurodiagnostic technologists are employed in hospitals, clinics, physicians offices, university medical centers and research centers.

Orange Coast College’s Neurodiagnostic program provides theory and clinical experience in Electroencephalography (EEG) and in Evoked Potential (BAEP, PVEP, SSEP) testing as well as an introduction to other neurological testing procedures. Some of the testing procedures include Nerve Conduction testing, Brain Mapping, Telemetry, ENG, Transcranial Doppler (TCD) Studies, polysomnography and more. The program can be completed in approximately 22 months (4 semesters and 1 summer). Completion of the program earns an Associate Degree in Neurodiagnostic Technology. A new group of students begin this program in the fall semester.

ASSOCIATE DEGREE

This is an Associate Degree program which requires an Associate Degree or higher from an accredited college before the certificate will be awarded. Students who do not already have a degree must complete the Orange Coast College Graduation Requirements for the AA Degree including General Education Options 1, 2 or 3.

Students are required to earn a grade of “C” or better in all program courses and prerequisites.

Program prerequisites:

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Health Occupations</td>
<td>Al H</td>
</tr>
<tr>
<td>Anatomy-Physiology</td>
<td>Biol</td>
</tr>
<tr>
<td>Introductory Psychology</td>
<td>Psych</td>
</tr>
<tr>
<td>Technical Math</td>
<td>Tech</td>
</tr>
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</table>

Subtotal: (10.5)

Required Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Medical Terminology</td>
<td>Al H</td>
</tr>
<tr>
<td>Patient Care</td>
<td>Al H</td>
</tr>
<tr>
<td>Intro to Info Sys &amp; Appl</td>
<td>CIS</td>
</tr>
<tr>
<td>Basic EEG</td>
<td>NDT</td>
</tr>
</tbody>
</table>

INTERSESSION

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Neurodiagnostic Lab Practice</td>
<td>NDT</td>
</tr>
</tbody>
</table>

SPRING

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Human Diseases</td>
<td>Al H</td>
</tr>
<tr>
<td>Advanced EEG</td>
<td>NDT</td>
</tr>
<tr>
<td>Clinical Experience 1</td>
<td>NDT</td>
</tr>
<tr>
<td>Neuro Anatomy &amp; Physiology</td>
<td>NDT</td>
</tr>
<tr>
<td>EEG Record Review-Normal</td>
<td>NDT</td>
</tr>
</tbody>
</table>

SUMMER

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clinical Experience 2</td>
<td>NDT</td>
</tr>
</tbody>
</table>

FALL

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Neurologic Disorders</td>
<td>NDT</td>
</tr>
<tr>
<td>Neurodiagnostic Testing EDT</td>
<td>NDT</td>
</tr>
<tr>
<td>Clinical Experience 3</td>
<td>NDT</td>
</tr>
<tr>
<td>EEG Record Review-Abnormal</td>
<td>NDT</td>
</tr>
<tr>
<td>Basic Evoked Potentials</td>
<td>NDT</td>
</tr>
</tbody>
</table>

CERTIFICATE OF COMPLETION

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Advanced Evoked Potentials</td>
<td>NDT</td>
</tr>
<tr>
<td>Microcomputer Applications</td>
<td>NDT</td>
</tr>
</tbody>
</table>

Subtotal: (3.5)

Select one (1) course from the following:

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intro to Info Sys &amp; Appl</td>
<td>CIS</td>
</tr>
<tr>
<td>Statistics for Behavioral Sci</td>
<td>Psych</td>
</tr>
<tr>
<td>Neurodiagnostic Testing EDT</td>
<td>NDT</td>
</tr>
<tr>
<td>EEG Record Review-Abnormal</td>
<td>NDT</td>
</tr>
</tbody>
</table>

Subtotal: (1.5-3)

Total: (6-6.5)

This program is fully accredited by the Commission on Accreditation of Allied Health Education Programs (CAAHEP).

Neurodiagnostic Technology Upgrade

The courses required in this professional upgrade certificate are intended for the advanced neurodiagnostic student or for technologists working in the field of electroneurodiagnostic technology. The required courses reflect the most recent industry changes, and many have listed required prerequisites. Certificates will be awarded through the Consumer and Health Sciences division office.

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Advanced Evoked Potentials</td>
<td>NDT</td>
</tr>
<tr>
<td>Microcomputer Applications</td>
<td>NDT</td>
</tr>
</tbody>
</table>

Subtotal: (3.5)

This program is fully accredited by the Commission on Accreditation of Allied Health Education Programs (CAAHEP).
NUTRITION CARE
Dietetic Technician

Students completing this program are prepared to assist dietitians in maintaining all the nutritional aspects of health care. Options in Nutrition Care or Food Service Management may be chosen through classes and supervised practice during the second year of the program. Graduates from this program are qualified to be employed by acute care and rehabilitation hospitals, as well as by community agencies that provide education in nutrition.

Employment possibilities include:
- Dietetic Technician in Hospital or Extended Care Facility
- Public Health Department
- Community Agency

ASSOCIATE DEGREE PROGRAM

This is an Associate Degree program which requires an Associate Degree or higher from an accredited college before the certificate will be awarded. Students who do not already have a degree must complete the Orange Coast College Graduation Requirements for the AA Degree including General Education Options 1, 2 or 3.

It is recommended that the student complete at least 15-17 units of general education requirements prior to entering the program.

Required prerequisites:
- Health Occupations Al H 010 (.5)
- Medical Terminology Al H 111 (3)
- Sanitation & Safety* FSM 160 (3)

Subtotal: (6.5)

Required Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>FIRST SEMESTER</strong></td>
<td></td>
</tr>
<tr>
<td>Quantity Foods Preparation*</td>
<td>150</td>
</tr>
<tr>
<td>Nutrition*</td>
<td>170</td>
</tr>
<tr>
<td>Patient Care</td>
<td>115</td>
</tr>
<tr>
<td>Supervision &amp; Training Tech*</td>
<td>260</td>
</tr>
<tr>
<td>Careers in Dietetics/Food Sci</td>
<td>100</td>
</tr>
<tr>
<td><strong>SECOND SEMESTER</strong></td>
<td></td>
</tr>
<tr>
<td>Food Production Management*</td>
<td>151</td>
</tr>
<tr>
<td>Applied Nutrition</td>
<td>171</td>
</tr>
<tr>
<td>Health Care Field Exper*</td>
<td>175</td>
</tr>
<tr>
<td>Intro Med Nutrition Therapy</td>
<td>180</td>
</tr>
</tbody>
</table>

*These courses meet the California Department of Health requirement for Dietetic Service Supervisor.

Completion of the first year with a “C” grade in all courses is required before beginning second year.

Course | THIRD SEMESTER | Units |
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Anatomy-Physiology</td>
<td>Biol</td>
<td>221 (4)</td>
</tr>
<tr>
<td>Menu Planning &amp; Purchasing</td>
<td>FSM</td>
<td>250 (3)</td>
</tr>
<tr>
<td>Life Cycle Nutrtn:Mother/Infant</td>
<td>F N</td>
<td>144 (1)</td>
</tr>
<tr>
<td>Life Cycle Nutrtn:Children</td>
<td>F N</td>
<td>145 (1)</td>
</tr>
<tr>
<td>Life Cycle Nutrtn:Later Years</td>
<td>F N</td>
<td>146 (1)</td>
</tr>
<tr>
<td>Intermediate Nutrition Care</td>
<td>N C</td>
<td>280 (2)</td>
</tr>
<tr>
<td>Supervised Practice 1</td>
<td>N C</td>
<td>281 (3)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>FOURTH SEMESTER</strong></td>
<td></td>
</tr>
<tr>
<td>Applied Pharmacology</td>
<td>130</td>
</tr>
<tr>
<td>Food Science (4)</td>
<td>195</td>
</tr>
<tr>
<td>Introductory Chemistry (5)</td>
<td>110</td>
</tr>
<tr>
<td>Advanced Nutrition Care</td>
<td>285</td>
</tr>
<tr>
<td>Supervised Practice 2</td>
<td>286</td>
</tr>
</tbody>
</table>

(49.5-50.5)
Total: (56-57)

Suggested electives:
- Human Diseases Al H 120 (2)
- Current Issues Food/Nutr/Food Sci F N 199AD (.5-1)
- Child Development Hmdv 180 (3)
- Ethics Phil 120 (3)
- Introductory Sociology Soc 180 (3)
- Interpersonal Communication Spch 100 (3)

Upon successful completion of these courses (with grade of “C” or better) and the General Education requirements, students will receive a Letter of Verification from the Program Director confirming that all requirements of the program have been met. Students will then be eligible for membership in the American Dietetic Association and for taking the National Registration Exam administered by the Commission on Dietetic Registration, the American Dietetic Association.

This program has been granted full accreditation by the Commission on Accreditation/Approval for Dietetics Education of the American Dietetics Association, 216 W. Jackson Blvd., Chicago, IL 60606-6995, (312) 899-4876.

Continued Next Column
NUTRITION EDUCATION

Students who graduate from this program are prepared for employment in one of the fastest growing and most prolific industries in Southern California, that which encompasses weight control clinics, health and exercise spas and gymnasiums, community agencies concerned with nutrition education, and manufacturers and distributors of nutritionally related products.

CERTIFICATE OF ACHIEVEMENT

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPRING</td>
<td></td>
</tr>
<tr>
<td>Meal Management F N 120 (2)</td>
<td></td>
</tr>
<tr>
<td>Sanitation &amp; Safety FSM 160 (3)</td>
<td></td>
</tr>
<tr>
<td>Nutrition F N 170 (3)</td>
<td></td>
</tr>
<tr>
<td>Applied Nutrition F N 171 (2)</td>
<td></td>
</tr>
<tr>
<td>Cultural Foods F N 185 (2)</td>
<td></td>
</tr>
<tr>
<td>Intro to Med Nutrition Therapy N C 180 (3)</td>
<td></td>
</tr>
<tr>
<td>FALL</td>
<td></td>
</tr>
<tr>
<td>Anatomy &amp; Physiology Biol 221 (4)</td>
<td></td>
</tr>
<tr>
<td>Life Cycle Nutritn:Mother/Infant F N 144 (1)</td>
<td></td>
</tr>
<tr>
<td>Life Cycle Nutritn:Children F N 145 (1)</td>
<td></td>
</tr>
<tr>
<td>Life Cycle Nutritn:Later Years F N 146 (1)</td>
<td></td>
</tr>
<tr>
<td>Principles of Foods F N 180 (3)</td>
<td></td>
</tr>
<tr>
<td>Careers in Dietetics/Food Sci N C/F N 100 (1)</td>
<td></td>
</tr>
<tr>
<td>Intermediate Nutrition Care N C 280 (2)</td>
<td></td>
</tr>
<tr>
<td>Supervised Practice 1 N C 281 (3)</td>
<td></td>
</tr>
<tr>
<td>Fitness Programs P E 107AD (.5-3)</td>
<td></td>
</tr>
<tr>
<td><strong>Total:</strong> (31.5-34)</td>
<td></td>
</tr>
</tbody>
</table>

Suggested electives:
- Elem Display & Visual Presentation D&VP 180 (3)
- Vegetarian Cuisine F N 125 (2)
- Nutrition/Fitness/Performance F N 136 (2)
- Food for Health/Fitness/Perform F N 136L (1)
- Cooking Lite F N 173 (2)
- Current Issues Food/Nutr/Food Sci F N 199AD (.5-1)
- Child Development Hmdv 180 (3)
- Professional Selling Mktg 110 (3)

ASSOCIATE DEGREE

Complete Certificate of Achievement and Graduation Requirements as outlined in the Graduation Requirements section of the catalog.

OFFICE INFORMATION SYSTEMS

--See COMPUTERIZED OFFICE TECHNOLOGY

—See Also FAMILY & CONSUMER SCIENCES-Food & Nutrition
—See Also FOOD SERVICE MANAGEMENT
ORNAMENTAL HORTICULTURE

The Ornamental Horticulture program prepares students for many attractively paying positions in the nursery industry. These positions include those in production and sales, interior plantscaping, landscape design, and construction and maintenance.

Students may take one or more courses from the program to learn about horticulture for its own sake and for theirs, or they may take the courses required for the Certificate in Achievement in Ornamental Horticulture. Either option is an introduction to natural beauty. The courses have been designed both for full-time students planning to enter the horticulture field and for those people working in one of the many interesting areas of horticulture who wish to expand their horticultural knowledge. Most classes are conducted during convenient evening hours to allow working students to study for a new career and those with jobs in the field of ornamental horticulture to upgrade their skills.

The Horticulture Department boasts excellent facilities, including a well-equipped classroom building set in beautifully landscaped grounds. The grounds themselves have been planted with a large collection of trees, shrubs, ground covers, and vines, and they serve as a laboratory for many of the classes. A nursery with over 6,000 square feet of greenhouse space and 4,000 square feet of shade structures round out this marvelous facility on the Orange Coast College campus.

CERTIFICATE OF ACHIEVEMENT

Required Courses

A. Preliminary courses which should be taken in the first year:

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>FALL</strong></td>
<td></td>
</tr>
<tr>
<td>Botany*</td>
<td>Biol 183 (3)</td>
</tr>
<tr>
<td>Orientation to Horticulture</td>
<td>O H 090 (.5)</td>
</tr>
<tr>
<td>Knowing Your Soils</td>
<td>O H 109 (3)</td>
</tr>
<tr>
<td>Ornamental Trees</td>
<td>O H 181 (3)</td>
</tr>
<tr>
<td><strong>SPRING</strong></td>
<td></td>
</tr>
<tr>
<td>Ornamental Shrubs</td>
<td>O H 182 (3)</td>
</tr>
</tbody>
</table>

Subtotal: (12.5)

*Transfer students should also take Biology 183L.

B. Suggested second year sequence:

Select twelve (12) units from the following:

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>FALL</strong></td>
<td></td>
</tr>
<tr>
<td>Landscape Drafting</td>
<td>O H 111 (1)</td>
</tr>
<tr>
<td>Maintenance &amp; Repair of Small</td>
<td>O H 163 (2)</td>
</tr>
<tr>
<td>Gas Eng &amp; other Gard Equip</td>
<td>O H 170 (1)</td>
</tr>
<tr>
<td>Pest Control Applicators &amp;</td>
<td>O H 184 (3)</td>
</tr>
<tr>
<td>Gardeners P.C.D. Cert</td>
<td>O H 185 (1.5)</td>
</tr>
<tr>
<td>Nursery Practices and Mgmt</td>
<td>O H 187 (2)</td>
</tr>
<tr>
<td>Plant Diseases</td>
<td>O H 285 (3)</td>
</tr>
</tbody>
</table>

ASSOCIATE DEGREE

Complete Certificate of Achievement and Graduation Requirements as outlined in the Graduation Requirements section of the catalog.
PHOTOGRAPHY—STILL

Anyone with an interest in photography, whether beginner, advanced amateur or professional, will find a course or program within the photography program that will teach them new skills or prepare them for a career in photography.

The OCC Photography program is intended to prepare students for employment in a number of specialization areas within the field of professional photography. The student, after completing the first year foundation courses, may elect to take advanced courses in commercial photography, advertising illustration, portraiture, architectural photography, fashion photography, documentary photography, multi-media presentations, photo journalism, retouching and business practices for photographers.

In addition to courses intended to train photographers, the program also includes several black and white and color laboratory classes for professional photographers who wish to learn new skills or for those who are interested in careers as photographic laboratory technicians.

CERTIFICATE OF ACHIEVEMENT

Required Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>First Semester</td>
<td></td>
</tr>
<tr>
<td>Color &amp; Design 2-D Art 110 (3)</td>
<td></td>
</tr>
<tr>
<td>Intro to Professional Photo (4)</td>
<td>(4-5)</td>
</tr>
<tr>
<td>Basic Photography (3)</td>
<td></td>
</tr>
<tr>
<td>View Camera (2)</td>
<td></td>
</tr>
<tr>
<td>History &amp; Aesthetics of Photo</td>
<td></td>
</tr>
<tr>
<td>Second Semester</td>
<td></td>
</tr>
<tr>
<td>History/Apprec Western Art (3)</td>
<td></td>
</tr>
<tr>
<td>Contemporary Art History (3)</td>
<td></td>
</tr>
<tr>
<td>Lab Practices</td>
<td></td>
</tr>
<tr>
<td>Commercial Photo</td>
<td></td>
</tr>
<tr>
<td>Any “100” level photo course (2) minimum</td>
<td></td>
</tr>
<tr>
<td>Third Semester</td>
<td></td>
</tr>
<tr>
<td>Intro to Digital Photography</td>
<td></td>
</tr>
<tr>
<td>Intro to Prof Color Photo</td>
<td></td>
</tr>
<tr>
<td>Art Photography</td>
<td></td>
</tr>
<tr>
<td>Fourth Semester</td>
<td></td>
</tr>
<tr>
<td>Select six (6) units from the following:</td>
<td></td>
</tr>
<tr>
<td>Any “200” level photo courses (6)</td>
<td></td>
</tr>
<tr>
<td>Total:</td>
<td>(38-39)</td>
</tr>
</tbody>
</table>

ASSOCIATE DEGREE

Complete Certificate of Achievement and Graduation Requirements as outlined in the Graduation Requirements section of the catalog.
**POLYSOMNOGRAPHY**

Polysomnographic (PSG) Technology is an allied health specialty for the diagnosis and treatment of disorders of sleep and daytime alertness. The range of sleep disorders is varied but includes common disorders such as narcolepsy, sleep apnea, insomnias and many others. PSG technologists operate a variety of sophisticated electronic monitoring devices which record brain activity (EEG), muscle and eye movement, respiration, blood oxygen and other physiological events. Technologists are also involved in evaluation of various treatment methods.

PSG technologists are employed in Sleep Disorders Centers which can be located in medical centers, hospitals or clinic/office settings. OCC’s PSG program offers a certificate which will provide lectures, laboratory on campus, clinical experience at accredited sleep centers and physician lectures. A major emphasis of the program will be to prepare technologists for Board Registration by the Association of PSG Technologists.

Graduates from OCC’s Neurodiagnostic Technology or Respiratory Care programs may complete the PSG certificate program with one additional year of study. Many courses from these programs are directly related to polysomnography. Students without those backgrounds can complete this certificate within two years. This program will accept students to begin in the fall semester.

**CERTIFICATE OF ACHIEVEMENT**

Program prerequisite or concurrent enrollment:

<table>
<thead>
<tr>
<th>Health Occupations</th>
<th>AI H 010 (.5)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anatomy-Physiology</td>
<td>Biol 221 (4)</td>
</tr>
<tr>
<td>Technical Math</td>
<td>Tech 040 (3)</td>
</tr>
</tbody>
</table>

**Required Courses**

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>FALL</strong></td>
<td></td>
</tr>
<tr>
<td>Medical Terminology</td>
<td>AI H 111 (3)</td>
</tr>
<tr>
<td>Intro to Info Sys &amp; Appl</td>
<td>CIS 100 (3)</td>
</tr>
<tr>
<td>Basic EEG</td>
<td>NDT 110 (4)</td>
</tr>
<tr>
<td>Resp Anatomy &amp; Physiology</td>
<td>Resp C 185 (3)</td>
</tr>
<tr>
<td><strong>SPRING</strong></td>
<td></td>
</tr>
<tr>
<td>Patient Care</td>
<td>AI H 115 (2.5)</td>
</tr>
<tr>
<td>Human Diseases</td>
<td>AI H 120 (2)</td>
</tr>
<tr>
<td>Applied Pharmacology</td>
<td>AI H 130 (2)</td>
</tr>
<tr>
<td>M A Specialty Procedures</td>
<td>M A 289 (1)</td>
</tr>
<tr>
<td>Intro to Neuoroanatomy &amp; Phys</td>
<td>NDT 190 (3)</td>
</tr>
<tr>
<td>Introductory Psychology</td>
<td>Psych 100 (3)</td>
</tr>
<tr>
<td><strong>FALL</strong></td>
<td></td>
</tr>
<tr>
<td>Intro to Polysomnography</td>
<td>PSG 150 (3)</td>
</tr>
<tr>
<td>Polysomnography Testing</td>
<td>PSG 160 (2)</td>
</tr>
<tr>
<td>Polysomnography Clinical 1</td>
<td>PSG 165 (3)</td>
</tr>
<tr>
<td>Polysomnographic Practice</td>
<td>PSG 170 (1)</td>
</tr>
<tr>
<td>Pulmonary Pathology</td>
<td>Resp C 265 (3)</td>
</tr>
<tr>
<td><strong>INTERSESSION</strong></td>
<td></td>
</tr>
<tr>
<td>Polysomnography Clinical 2</td>
<td>PSG 175 (1)</td>
</tr>
<tr>
<td><strong>SPRING</strong></td>
<td></td>
</tr>
<tr>
<td>Applied Pharmacology</td>
<td>AI H 130 (2)</td>
</tr>
<tr>
<td>M A Specialty Procedures</td>
<td>M A 289 (1)</td>
</tr>
<tr>
<td>Polysomnography Record Review</td>
<td>PSG 250 (2.5)</td>
</tr>
<tr>
<td>Advanced Polysomnography</td>
<td>PSG 260 (2)</td>
</tr>
<tr>
<td>Polysomnography Clinical 3</td>
<td>PSG 265 (2)</td>
</tr>
<tr>
<td>Physician Lecture Series</td>
<td>PSG 270 (1)</td>
</tr>
<tr>
<td>Polysomnography Internship</td>
<td>PSG 285 (2)</td>
</tr>
</tbody>
</table>

**Total:** (54)

Continued Next Column
**POLYSOMNOGRAPHY—RESPIRATORY CARE**

This option is recommended for Respiratory Care graduates who would like to cross-train as Polysomnography Technicians.

**CERTIFICATE OF ACHIEVEMENT**

Program option prerequisite:
Respiratory Care Associate Degree

<table>
<thead>
<tr>
<th>Subtotal:</th>
<th>61.5</th>
</tr>
</thead>
</table>

**Required Courses**

<table>
<thead>
<tr>
<th>Course</th>
<th>Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>FALL</strong></td>
<td></td>
</tr>
<tr>
<td>Basic EEG</td>
<td>NDT 110 (4)</td>
</tr>
<tr>
<td>Intro to Polysomnography</td>
<td>PSG 150 (3)</td>
</tr>
<tr>
<td>Polysomnography Testing</td>
<td>PSG 160 (2)</td>
</tr>
<tr>
<td>Polysomnography Clinical 1</td>
<td>PSG 165 (.5)</td>
</tr>
<tr>
<td>Polysomnographic Practice</td>
<td>PSG 170 (1)</td>
</tr>
<tr>
<td>Intro to Info Sys &amp; Appl</td>
<td>CIS 100 (3)</td>
</tr>
<tr>
<td><strong>INTERSESSION</strong></td>
<td></td>
</tr>
<tr>
<td>Polysomnography Clinical 2</td>
<td>PSG 175 (1)</td>
</tr>
<tr>
<td><strong>SPRING</strong></td>
<td></td>
</tr>
<tr>
<td>Intro to Neuroanatomy &amp; Phys</td>
<td>NDT 190 (3)</td>
</tr>
<tr>
<td>Polysomnography Record Review</td>
<td>PSG 250 (2.5)</td>
</tr>
<tr>
<td>Advanced Polysomnography</td>
<td>PSG 260 (2)</td>
</tr>
<tr>
<td>Polysomnography Clinical 3</td>
<td>PSG 265 (2)</td>
</tr>
<tr>
<td>Physician Lecture Series</td>
<td>PSG 270 (1)</td>
</tr>
<tr>
<td>Polysomnography Internship</td>
<td>PSG 285 (2)</td>
</tr>
</tbody>
</table>

| Total: | 88.5 |

(27)
RADIOLOGIC TECHNOLOGY (DIAGNOSTIC)

The Radiologic Technologist prepares demonstrations of human anatomy on an x-ray film or fluoroscopic screen for diagnostic use by a radiologist or other medical specialist. Graduates of the program are eligible for examination by the American Registry of Radiologist Technologists. Successful applicants have the right to use the title “Registered Radiologic Technologist” (RT(R)). In order to practice in California, the R.T. must also apply for certification by the Department of Health Services in Sacramento. Completion of the Associate in Arts degree and two-year certificate program qualifies the student for eligibility for the state C.R.T. Examination. A bachelor degree program has been articulated with CSU Northridge.

The Orange Coast College Radiologic Technology program is accredited by the Joint Review Committee on Education in Radiologic Technology and approved by the California Department of Health Services and is affiliated with numerous hospitals in Orange County. In this training consortium, students are rotated through planned learning experiences. Classrooms are well equipped and include on-campus energized x-ray laboratories.

Program application process is accomplished by taking program prerequisite, Allied Health 010. This short-term course is mandatory for all prospective program applicants. See current class schedule for specific course meeting times. Although applications are accepted throughout the year, the Radiologic Technology program starts only in the fall semester of every school year.

In addition to the Allied Health 010 course, the program has other prerequisites which must be completed with grade “C” or better before program entry. Students with prior Radiologic Technology training or experience may be eligible for a waiver of Allied Health 010 and/or advanced program standing.

The Radiologic Technology program is a full-time (two years including two summer sessions) program. Successful program completion requires the following: 1) completion of all required Radiologic Technology courses as outlined in catalog, 2) completion of approximately 1900 clinical hours, and 3) completion of all requirements for Associate in Arts degree as required by Orange Coast College. These specific program completion requirements must be satisfied within the two-year time frame of the Radiologic Technology program. Eligibility for the post program state and registry examinations are dependent upon meeting these requirements. It is highly recommended that the program applicant first complete all units of the General Education requirement before program entry. This program requires the student to participate in clinical experience concurrent with classroom courses. Clinical responsibilities will be arranged by the Radiologic Technology faculty and will include evening and/or weekend assignments. The student receives no salary for this clinical experience but will receive course credit toward program completion.

Radiologic Technology is a rapidly expanding allied health profession.

<table>
<thead>
<tr>
<th>Employment possibilities include:</th>
<th>ASSOCIATE DEGREE PROGRAM</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hospitals</td>
<td>This is an Associate Degree program which requires an Associate Degree or higher from an accredited college before the certificate will be awarded. Students who do not already have a degree must complete the Orange Coast College Graduation Requirements for the AA Degree including General Education Options 1, 2 or 3.</td>
</tr>
<tr>
<td>Imaging Centers</td>
<td>Program prerequisite:</td>
</tr>
<tr>
<td>Private Offices</td>
<td>High School graduate, G.E.D., or California Proficiency Exam. A Preliminary group of courses which must be taken prior to enrollment in the major course sequence as outlined in &quot;B&quot;:</td>
</tr>
<tr>
<td>Medical Clinics</td>
<td>Health Occupations</td>
</tr>
<tr>
<td>Industry</td>
<td>Medical Terminology</td>
</tr>
<tr>
<td>Sales</td>
<td>Anatomy-Physiology*</td>
</tr>
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</table>

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>FIRST YEAR</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>FALL</strong></td>
<td></td>
</tr>
<tr>
<td>Patient Care</td>
<td>Al H 115 (2.5)</td>
</tr>
<tr>
<td>Rad Physics &amp; Protection</td>
<td>Rad T 110 (3)</td>
</tr>
<tr>
<td>Beg Radiologic Practice</td>
<td>Rad T 165 (1.5)</td>
</tr>
<tr>
<td>Rad Positioning/Critque 1</td>
<td>Rad T 170 (3)</td>
</tr>
<tr>
<td>Clinical Lab 1</td>
<td>Rad T 171 (1)</td>
</tr>
<tr>
<td>Radiographic Imaging</td>
<td>Rad T 180 (3)</td>
</tr>
</tbody>
</table>

| **INTERSESSION** | |
| Clinical Lab 2 | Rad T 172 (1) |

| **SPRING** | |
| Human Diseases | Al H 120 (2) |
| Rad Positioning/Critque 2 | Rad T 175 (3) |
| Clinical Lab 3 | Rad T 176 (5.5) |
| Radiographic Pathology | Rad T 185 (1) |
| General Education | |

| **SUMMER** | |
| Clinical Lab 4 | Rad T 177 (3) |

| **SECOND YEAR** | |
| | |
| **FALL** | |
| Digital Imaging & Computer Applications | Rad T 265 (3) |
| Rad Positioning/Critque 3 | Rad T 270 (3) |
| Clinical Lab 5 | Rad T 271 (7.5) |
| General Education | |

Continued Next Page
RELIgIOUS STUDIES

Completing the Religious Studies Certificate of Achievement program provides students with an in-depth background and broad understanding of religion. Students may work toward an Associate in Arts degree or upper division status as a Religious Studies major under Plan B. Religious Studies helps one to understand all cultures, including the American culture with its rich religious diversity. This program will prepare the student for world understanding and world travel.

CERTIFICATE OF ACHIEVEMENT

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
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</thead>
<tbody>
<tr>
<td>Intro to Religious Studies</td>
<td>100</td>
</tr>
<tr>
<td>World Religions</td>
<td>110</td>
</tr>
<tr>
<td>Introduction to the Bible</td>
<td>125</td>
</tr>
<tr>
<td>History of Christianity</td>
<td>128</td>
</tr>
<tr>
<td>History of Judaism</td>
<td>140</td>
</tr>
<tr>
<td>Eastern Thought</td>
<td>150</td>
</tr>
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<td><strong>Subtotal</strong></td>
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Select six (6) units from the following:

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<thead>
<tr>
<th>Course</th>
<th>Units</th>
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</thead>
<tbody>
<tr>
<td>Philosophy of Religion</td>
<td>115</td>
</tr>
<tr>
<td>Ethics</td>
<td>120</td>
</tr>
<tr>
<td>Life &amp; Times of Jesus</td>
<td>130</td>
</tr>
<tr>
<td>Mysticism and Meditation</td>
<td>145</td>
</tr>
<tr>
<td>Contemp Topics:Eastern Europe</td>
<td>155</td>
</tr>
<tr>
<td>Islam</td>
<td>160</td>
</tr>
<tr>
<td>The Bible as Literature</td>
<td>180</td>
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<tr>
<td><strong>Subtotal</strong></td>
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</table>

Suggested Schedule of Classes

**First Semester**

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
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</thead>
<tbody>
<tr>
<td>Intro to Religious Studies</td>
<td>Rel St 100</td>
</tr>
<tr>
<td>World Religions</td>
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<tr>
<td>One Course Group B List</td>
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**Second Semester**

<table>
<thead>
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<tr>
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<td>Rel St 125</td>
</tr>
<tr>
<td>History of Christianity</td>
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</tr>
<tr>
<td>One Course Group B List</td>
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</table>

**Third Semester**

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>History of Judaism</td>
<td>Rel St 140</td>
</tr>
<tr>
<td>Eastern Thought</td>
<td>Rel St 150</td>
</tr>
<tr>
<td>One Course Group C List</td>
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</tr>
</tbody>
</table>

**Fourth Semester**

<table>
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<tr>
<th>Course</th>
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<tbody>
<tr>
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</tr>
<tr>
<td><strong>Subtotal</strong></td>
<td><strong>33</strong></td>
</tr>
</tbody>
</table>

This program will meet major requirements for the Associate in Arts degree but has not been articulated with any particular four-year institution. Students should not expect that they will necessarily meet the lower division requirements at specific colleges or universities. Students should consult the Transfer Information section of this catalog for specific information.

ASSOCIATE DEGREE

Complete Certificate of Achievement and Graduation Requirements as outlined in the Graduation Requirements section of the catalog.

Continued Next Column
RESPIRATORY CARE

Respiratory Care is an allied health specialty dealing with the diagnosis, treatment, and management of patients with acute and chronic diseases affecting the pulmonary system. Respiratory Care Practitioners/Respiratory Therapists work in all areas within the hospital, especially within the critical care areas with patients who are in a life-threatening phase of their illness. Additionally, some Respiratory Care Practitioners/Respiratory Therapists work with home care agencies to treat patients in their homes. Duties include analysis of pulmonary function and blood gases, artificial ventilation, CPR, assessment of pulmonary status, airway care, etc. Specialties in Respiratory Care include Adult Critical Care, Neonatal and Pediatric Critical Care, Pulmonary Function Testing, Home Care and Rehabilitation, Management and Education.

The Respiratory Care program at Orange Coast College is a two-year program beginning each fall semester. The student must complete the program prerequisites prior to entering the program. This leads to a Certificate of Achievement with the strong recommendation to complete General Education course requirements to obtain the Associate in Arts degree. Courses within the program include lectures, practice of procedures and techniques in the simulated laboratory on campus, approximately 1000 hours of clinical practice within area hospitals practicing the latest procedures in medicine, and lectures/discussions with physician specialists.

The Respiratory Care program at Orange Coast College is fully accredited. Program graduates are eligible for California legal certification (licensure) and Certification (CRTT) and Registry (RRT) by the National Board for Respiratory Care. The employment outlook for Respiratory Care Practitioners/Respiratory Therapists is very good throughout the United States. Most graduates obtain jobs within the Orange County/Long Beach areas.

Employment possibilities include:
- Respiratory Therapist
- Respiratory Therapy Specialist
- Respiratory Care Practitioner

ASSOCIATE DEGREE PROGRAM

This is an Associate Degree program which requires an Associate Degree or higher from an accredited college before the certificate will be awarded. Students who do not already have a degree must complete the Orange Coast College Graduation Requirements for the AA Degree including General Education Options 1, 2 or 3.

All courses must be completed with grade of “C” or better.

Prerequisites:
Health Occupations  Al H 010  (.5)
Anatomy-Physiology  Biol 221  (4)

Required Courses
Course                                      Units

<table>
<thead>
<tr>
<th>FALL</th>
<th></th>
<th>Units</th>
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<tr>
<td>Al H</td>
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<td>Al H</td>
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<tr>
<td>Biol</td>
<td>114</td>
<td>(2)</td>
</tr>
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<td>Chem</td>
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<td>(5)</td>
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<td>Resp C</td>
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<tr>
<td>Resp C</td>
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<td>Resp C</td>
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<tr>
<td>Resp C</td>
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<td>(1)</td>
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<tr>
<td>Spch</td>
<td>100</td>
<td>(3)</td>
</tr>
<tr>
<td>Spch</td>
<td>110</td>
<td></td>
</tr>
<tr>
<td>Resp C</td>
<td>192</td>
<td>(1)</td>
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<tr>
<td>Resp C</td>
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<td>Resp C</td>
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<tr>
<td>Resp C</td>
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<td>Resp C</td>
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<td>Resp C</td>
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<td>Resp C</td>
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<td>Resp C</td>
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<td>Resp C</td>
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<td>Resp C</td>
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</tr>
<tr>
<td>Resp C</td>
<td>290</td>
<td>(2)</td>
</tr>
</tbody>
</table>

Total:  (61.5)

Fully accredited Respiratory Therapist Program by the American Medical Association.

State License: Legally Certified Respiratory Care Practitioner

National Credential: RRT, CRTT, CPFT, by the National Board for Respiratory Care (NBRC)

Persons with experience as a respiratory therapist/technician or formal education in a respiratory therapy program may be eligible for advanced standing in the program. Contact the Program Coordinator for further information. Program requires successful completion of a comprehensive national exam for graduation.

ASSOCIATE DEGREE

Complete Certificate of Achievement and Graduation Requirements as outlined in the Graduation Requirements section of the catalog.

The following certificate is pending state approval at the time of catalog publication.

Continued Next Column
SPEECH-LANGUAGE PATHOLOGY ASSISTANT

The Speech-Language Pathology Assistant program will provide the community with professionally trained personnel to assist the Speech Pathologist in this specialized field and to provide services in multiple settings to a diverse population in the administration of therapeutic and screening services.

Employment possibilities include:
- Private Offices
- Hospitals
- Educational Institutes
- Rehabilitation Centers

ASSOCIATE DEGREE PROGRAM

This is an Associate Degree program which requires an Associate Degree or higher from an accredited college before the certificate will be awarded. Students who do not already have a degree must complete the Orange Coast College Graduation Requirements for the AA Degree including General Education Options 1, 2 or 3.

All courses must be completed with grade of “C” or better.

Prerequisites:
- Anatomy-Physiology Biol 221 (4)
- Health Occupations Al H 010 (.5)
- Child Development Hmdv 180 (3)

Subtotal: (7.5)

Required Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Patient Care Al H 115</td>
<td>2.5</td>
</tr>
<tr>
<td>Medical Terminology Al H 111</td>
<td>3</td>
</tr>
<tr>
<td>Intro to Linguistics Anth 190</td>
<td>3</td>
</tr>
<tr>
<td>Intro Speech Pathology Asst SLPA 100</td>
<td>2</td>
</tr>
<tr>
<td>Speech/Language/Hearing Dev SLPA 115</td>
<td>2.5</td>
</tr>
<tr>
<td>Speech-Language Admin Proc SLPA 120</td>
<td>2</td>
</tr>
<tr>
<td>Early Child Dev Thru Play EC 155</td>
<td>3</td>
</tr>
<tr>
<td>Early Childhood Laboratory EC 156</td>
<td>2</td>
</tr>
<tr>
<td>Observe/Record Behavior EC 165</td>
<td>2</td>
</tr>
<tr>
<td>Intro to Commun Disorders SLPA 140</td>
<td>3</td>
</tr>
<tr>
<td>Intro to Phonetics SLPA 150</td>
<td>3</td>
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<tr>
<td>Clinical Experience 1 SLPA 160</td>
<td>.5</td>
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<tr>
<td>Human Diseases Al H 120</td>
<td>2</td>
</tr>
<tr>
<td>Screen/Therapeutic Process SLPA 180</td>
<td>3</td>
</tr>
<tr>
<td>Clinical Experience 2 SLPA 190</td>
<td>2</td>
</tr>
<tr>
<td>The Exceptional Child Hmdv 210</td>
<td>3</td>
</tr>
<tr>
<td>Adult/Geriatric Disorders SLPA 200</td>
<td>2</td>
</tr>
<tr>
<td>Clinical Experience 3 SLPA 250</td>
<td>4</td>
</tr>
</tbody>
</table>

Total: (52)

TECHNICAL WRITING

Orange Coast College’s technical writing certificate of completion identifies students who are prepared for many entry-level technical writing positions. Students will also be prepared to pursue technical writing interests by entering technical writing programs at four year universities; however, students should not expect that they will necessarily meet the lower division requirements at specific colleges or universities by completing the certificate.

For the technical writing certificate of completion a student must complete 15 units as described below with a grade of “C” or better in all courses.

CERTIFICATE OF COMPLETION

Required Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Freshman Composition Engl 100</td>
<td>(3)</td>
</tr>
<tr>
<td>Technical Report Writing Engl 105</td>
<td>(3)</td>
</tr>
</tbody>
</table>

Subtotal: (6)

Communication skill elective

Select one (1) course from the following:
- Critical Reasoning, Reading, Writing thru Nonfiction Engl 102 (3)
- Honors Critical Reasoning, Reading, Writing thru Nonfiction Engl 102H (3)
- Script Writing Engl 127 (3)
- Public Relations in Commun Comm 120 (3)
- Interpersonal Communications Spch 100 (3)
- Public Speaking Spch 110 (3)

Subtotal: (3)

Visual Presentation & Production Layout

Select six (6) units from the following:
- Product Illustration Art 118 (2)
- Newspaper Production Comm 115AD (3-7)
- Publication Design/Production Comm 118 (3)
- Intro to Info Sys & Micro Appl CIS 100 (3)
- Desktop Publishing CIS 103 (4)
- Basic Drafting Practices Draft 110 (4)
- Engineering Drafting Design 1 Draft 115 (4)
- Intro Computer Graphics DMA 181 (3)
- Illus & Computer Graphics 1 DMA 190 (4)
- Video Workshop Film 110 (3)
- Computer Use in Technology Comp HT 100 (3)
- Survey of High Technology Comp HT 108 (3)
- Basic Photography Photo 120 (3)

Subtotal: (15)

Total: (52)
WELDING TECHNOLOGY
Welding Technology is the application of the art and science of joining metals. Welding technologists have important roles in the fabrication and construction of nuclear and fossil fuel power plants, heavy equipment, agricultural machinery, petrochemical plants, bridges, buildings, floating and underwater vessels, automobiles, appliances, and projects for national security. Specifically anything involving metals, from miniature electronic devices to sophisticated space projects, will require the skills of the expert welding technologist. These highly skilled members of the technological team apply practical working knowledge of welding processes, welding metallurgy and welding code standards in solving problems of welding design and production. The field is open to men and women. The OCC Welding Department is licensed to qualify (certify) welders to code standards.

WELDING TECHNOLOGY
The Certificate of Achievement program in Welding Technology is for those who desire advanced knowledge of welding for employment as welding technicians, welding inspectors, welding engineers, welding supervisors, and advanced welders. Students also completing the required general education requirements and electives may earn the Associate in Arts degree. In addition, many OCC welding courses are transferable and can be used by those students who are interested in the welding engineering degree program at Cal Poly San Luis Obispo. Whatever the case, a person’s chances for the job of their choice are much higher when they have the technical background as evidenced by earning our Certificate of Achievement in welding.

CERTIFICATE OF ACHIEVEMENT

<table>
<thead>
<tr>
<th>Required Courses</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>FALL</strong></td>
<td></td>
</tr>
<tr>
<td>Technical Report Writing</td>
<td>Engl 105 (3)</td>
</tr>
<tr>
<td>Arc &amp; Oxy Welding (3)</td>
<td>Weld 100 (3-4)</td>
</tr>
<tr>
<td>(Or)</td>
<td></td>
</tr>
<tr>
<td>Arc &amp; Oxy Welding (4)</td>
<td>Weld 101 (3)</td>
</tr>
<tr>
<td>Welding Math &amp; Science</td>
<td>Weld 120 (3)</td>
</tr>
<tr>
<td><strong>SPRING</strong></td>
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</tr>
<tr>
<td>Advanced Welding (3)</td>
<td>Weld 200 (3-4)</td>
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<tr>
<td>(Or)</td>
<td></td>
</tr>
<tr>
<td>Advanced Welding (4)</td>
<td>Weld 201 (3)</td>
</tr>
<tr>
<td>Welding Metallurgy</td>
<td>Weld 230 (3)</td>
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</tbody>
</table>

**TOTAL: (28-30)**

Suggested electives:
- Arc-Oxy Weld (Open Lab) Weld 115AD (1-2)
- GTAW (Gas Tungsten) Arc Welding Weld 130AD (1.5)
- Arc-Oxy Weld (Open Lab) Weld 215AD (1-2)
- Pipe Welding Weld 250AD (3)

ASSOCIATE DEGREE
Complete Certificate of Achievement and Graduation Requirements as outlined in the Graduation Requirements section of the catalog.

WELD TESTING
The Weld Testing Certificates of Completion will be awarded upon successful completion of a proficiency test for each identified level (e.g., Level I, II, etc.) within a category of welding (e.g., SMAW, FCAW, GTAW, GMAW or Pipe). The indicated Weld Testing class must be repeated for each type of certificate received. Higher levels of certification will potentially lead to better paying jobs within the industry.

BASIC WELDING (SMAW)

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arc &amp; Oxy Welding</td>
<td>Weld 100 (3)</td>
</tr>
<tr>
<td>Weld Testing Basic</td>
<td>Weld 105AD (0.5)</td>
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<tr>
<td><strong>TOTAL: (3.5)</strong></td>
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</tbody>
</table>

This Certificate of Completion certifies mastery of basic Shielded Metal Arc Welding (SMAW) Levels I, II, III, or IV.

INTERMEDIATE WELDING (SMAW)

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
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</thead>
<tbody>
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<td>Weld 100 (3)</td>
</tr>
<tr>
<td>Weld Testing Intermediate</td>
<td>Weld 106AB (0.5)</td>
</tr>
<tr>
<td>Arc &amp; Oxy Weld Pract (1-2)</td>
<td>Weld 115AD(1) minimum</td>
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<tr>
<td><strong>TOTAL: (4.5)</strong></td>
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</table>

This Certificate of Completion certifies mastery of intermediate Shielded Metal Arc Welding (SMAW) Levels V or VI.

ADVANCED WELDING (SMAW)

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
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</thead>
<tbody>
<tr>
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<tr>
<td>Weld Testing Advanced</td>
<td>Weld 107AC (0.5)</td>
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<tr>
<td>Arc &amp; Oxy Weld Pract (1-2)</td>
<td>Weld 115AD (3) minimum</td>
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<tr>
<td>Adv Arc &amp; Oxy Weld Pract (1-2)</td>
<td>Weld 215AD</td>
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<tr>
<td>Advanced Welding</td>
<td>Weld 200 (3)</td>
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<td><strong>TOTAL: (9.5)</strong></td>
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</table>

This Certificate of Completion certifies mastery of first level advanced welding in Shielded Metal Arc Welding (SMAW) Levels VII, VIII and IX.
### ADVANCED I WELDING (FCAW)

**CERTIFICATE OF COMPLETION**

<table>
<thead>
<tr>
<th>Course</th>
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<tbody>
<tr>
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<tr>
<td>Arc &amp; Oxy Welding Pract (1-2)</td>
<td>115AD (3 minimum)</td>
</tr>
<tr>
<td>Adv Arc &amp; Oxy Weld Pract (1-2)</td>
<td>215AD</td>
</tr>
<tr>
<td>Advanced Welding</td>
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</tr>
</tbody>
</table>

(9.5)

This Certificate of Completion certifies mastery of first level advanced welding in Flux-Cored Arc Welding (FCAW) Levels I, II, & IV.

### ADVANCED II WELDING (FCAW)

**CERTIFICATE OF COMPLETION**

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
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<tbody>
<tr>
<td>Arc &amp; Oxy Welding</td>
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<tr>
<td>Weld Testing FCAW (.5)</td>
<td>109AD (.5)</td>
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<td>Weld Testing FCAW</td>
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<tr>
<td>Arc &amp; Oxy Welding Pract (1-2)</td>
<td>115AD (5 minimum)</td>
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(11.5)

This Certificate of Completion certifies mastery of second level advanced welding in Flux-Cored Arc Welding (FCAW) Levels V, VI, VII, VIII, or IX.

### GAS METAL ARC WELDING (GMAW)

**CERTIFICATE OF COMPLETION**

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<th>Course</th>
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(6.5)

This Certificate of Completion certifies mastery of skills necessary for Gas Metal Arc Welding (GMAW) Levels I, II, III, IV or V.

### PIPE

**CERTIFICATE OF COMPLETION**

<table>
<thead>
<tr>
<th>Course</th>
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<tr>
<td>Arc &amp; Oxy Welding</td>
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<td>Weld Testing Pipe</td>
<td>111AB (.5)</td>
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<td>Adv Arc &amp; Oxy Welding</td>
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<tr>
<td>Pipe Welding and Adv GTAW</td>
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(9.5)

This Certificate of Completion certifies mastery of skills necessary or Pipe Levels I and/or II.

### GAS TUNGSTEN ARC WELDING (GTAW)

**CERTIFICATE OF COMPLETION**

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<thead>
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<tr>
<td>Weld Testing GTAW</td>
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<td>Gas Tungsten Arc Welding</td>
<td>130AD (1.5)</td>
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</table>

(5)

This Certificate of Completion certifies mastery of skills necessary for Gas Tungsten Arc Welding (GTAW) Level I.
Course Descriptions
Transfer Courses

All courses numbered 100 or higher are transferable to the California State Universities (CSU). Courses that are transferable to the University of California are designated ‘UC.' Some of these courses have limits on the amount of credit that is granted. See the UC Transferable Course List available in the Counseling Center or Transfer Center for these limitations.

Courses that are non-credit or not AA degree applicable are designated with the letter ‘N’ preceding the course number. Identification of courses that have been accepted into the California Articulation Number (CAN) system appears after the course title.

ACCOUNTING

Accounting 100—Accounting for Small Business (3)
Accounting for small businesses in services and retail. The course includes basic accounting procedures, preparation and analysis of financial statements, banking, payroll processing, and forms. May be taken for grades or on a credit-no credit basis. Three hours. Transfer Credit: CSU; UC Offered: F.S.

Accounting 101—Financial Accounting (4) (CAN BUS 2)
A course covering the fundamentals of financial accounting of the corporate entity. Includes the analysis, recording, and summarizing of accounting transactions on the accrual basis. Emphasis on accounting as an information system meeting the demands of users for decision making. This course may also be offered online. Five hours. Transfer Credit: CSU; UC Offered: F.S.

Accounting 102—Managerial Accounting (4) (CAN BUS 4)
Prerequisite: Accounting 101.
The second semester accounting course emphasizes managerial accounting. The primary aim is to use accounting information as a decision making tool in order for management to achieve the organization's financial goals and objectives. Five hours. Transfer Credit: CSU; UC Offered: F.S.

Accounting 110—Microcomputer Accounting (3)
Prerequisite: Accounting 100 or 101.
Computerized accounting course designed to develop employable skills utilizing integrated accounting and electronic spreadsheet software; evaluation and comparison of commercial software; and analysis of financial reporting. This course may also be offered online. May be taken for grades or on a credit-no credit basis. Four hours. Transfer Credit: CSU Offered: F.S.

Accounting 111—Federal Income Tax (3)
Introduction to federal income taxation theory and practice as applied to individuals. Covers gross income, business and personal deductions, exemptions, tax credits, properly transactions, and tax computation. Includes problem solving and tax return preparation. May be taken for grades or on a credit-no credit basis. Three hours. Transfer Credit: CSU Offered: F.S.

Accounting 112—Accounting with QuickBooks (2)
Prerequisite: Accounting 100 or 101.
QuickBooks is a complete computerized accounting system for small businesses. Topics include a review of basic accounting concepts, preparation of business reports and graphs, and the creation of a company using QuickBooks accounting. May be taken for grades or on a credit-no credit basis. Two hours lecture, one hour non-lecture. Transfer Credit: CSU Offered: F.S.

Accounting 114—Volunteer Income Tax Assistance (VITA) (3)
Recommended preparation: Accounting 111.
This hands-on course provides training and an experiential service-learning opportunity in the preparation of federal and California individual income tax returns. After attending training and review classes and passing the IRS and California individual income tax exams, the student volunteers will provide a minimum of twenty hours of free tax assistance to community residents with low to moderate income, disabilities, and to non-English speaking, and elderly taxpayers. May be taken for grades or on a credit-no credit basis. 3.75 hours lecture, 1.25 hours non-lecture. Transfer Credit: CSU Offered: S. Inter.

Accounting 115—Medical Bookkeeping (4)
Terminology, techniques, application, hands-on training of accounts receivable and accounts payable systems, and payroll as it pertains to the medical office. Course includes computerized procedures. Same as Medical Assisting 115. Students completing Accounting 115 may not receive credit for Medical Assisting 115. Four hours. Transfer Credit: CSU Offered: F.S.

Accounting 210—Cost Accounting (3)
Prerequisite: Accounting 102.
Principles of cost accounting, cost determination procedures, control and analysis of costs, and managerial cost analysis applications. Included will be accounting for materials, labor, factory overhead, job and process cost systems, standard cost accounting, budgeting, and statistical approaches to cost evaluation. May be taken for grades or on a credit-no credit basis. Three hours. Transfer Credit: CSU Offered: F.S.

Accounting 211—Intermediate Accounting (4)
Prerequisite: Accounting 102.
Financial accounting theory and practice. Reviews and builds upon concepts learned in earlier accounting courses. Emphasizes preparation and analysis of more complex accounting records and financial statements for corporations, including the underlying principles involved. Five hours. Transfer Credit: CSU Offered: F.S.

AIRLINE TRAVEL CAREERS

Airline Travel Careers 105AC—Public Service for Airline Travel Careers (2-4)
Field service training for students to utilize communication, social skills, and knowledge of airline and travel industry. Classroom plus field service will enable students to utilize skills in corporate, travel, airport, airline, community and public service environments. This formal internship program enables students to work at their own level to recruit, train, and supervise other students. Four hours or eight hours lecture/field service. Transfer Credit: CSU Offered: F.S.

Airline Travel Careers 110—Personal Development, Appearance, Image and Attitude (1.5) (9 week course)
Personal development to include appearance, image, attitude, lifestyle decisions, etiquette, and wellness. Personality development, techniques to build confidence, and professional and business skills to secure successful employment. Three hours. Transfer Credit: CSU Offered: F.S.

Airline Travel Careers 111—Travel Careers Survey (1.5) (9 week course)
Survey of travel careers including airlines, airports, train, cruise/adventure travel, tours, hospitality, corporate, sporting agencies, general/commercial aviation, and support businesses. Three hours. Transfer Credit: CSU Offered: F.S.

Airline Travel Careers 112—Flight Attendant Qualifications and Opportunities (1.5) (9 week course)
Survey of flight attendant and inflight service team qualifications and opportunities for employment, including base stations, responsibilities, salary schedule, and benefits. Three hours. Transfer Credit: CSU Offered: F.S.

Airline Travel Careers 114—Employment Skills—Written (1.5) (9 week course)
Written skills for becoming employed, including resume, application, business letters, self-evaluation, and marketing plan, and an updated personal register of employment data. Employment testing, labor organizations, and affirmative action will be discussed. Three hours. Transfer Credit: CSU Offered: F.S.

Airline Travel Careers 115—Employment Interviewing Techniques (1.5) (9 week course)
Build confidence for interview process, design self-marketing plan, analyze interview techniques and employment tests, evaluate interviewer’s questions and expected answers, use of video taped interviews and critique. Three hours. Transfer Credit: CSU Offered: F.S.

Airline Travel Careers 116—Travel Industry Operations and Terminology (1.5) (9 week course)
Preparation for stringent demands of airline travel career training and FAA exams to include industry terminology, airline codes, schedules, Official Airline Guide, federal agencies, airport operations, history, airline deregulation, mergers and acquisitions and their effects. Three hours. Transfer Credit: CSU Offered: F.S.
Airline Travel Careers 117—Management—Travel/Aviation (1.5) (9 week course)

Travel/aviation management to include successful presentations, business writing skills, employee recruiting, selection, training and supervision, goal setting, team building, time management, customer service, and delegation. Three hours. Transfer Credit: CSU Offered: as needed.

Airline Travel Careers 118—Overcome Fear of Flight Workshop (1.5) (9 week course)

Overcome and understand fear of flight through knowledge of theory of flight, flight crew training, safety precautions, incident statistics, aircraft familiarization, physiological and psychological factors. Anxieties reducing techniques: breathing, creative visualization and imagery. Offered on a credit-no credit basis only. Three hours. Transfer Credit: CSU Offered: as needed.

Airline Travel Careers 119—Travel Safety Inflight and Ground (1.5) (9 week course)

Travel safety and security to include ground and inflight equipment, passenger psychology, airport security, federal regulations, safety precautions while traveling, anti-terrorism and hijacking discussion. Three hours. Transfer Credit: CSU Offered: F-S.

Airline Travel Careers 120—Service Excellence Inflight and Ground (1.5) (9 week course)

Service techniques and presentation for inflight and ground operations. Identification and pronunciation of foods and beverages plus knowledge of equipment to provide quality service while developing a personal serving style. Three hours. Transfer Credit: CSU Offered: F-S.

Airline Travel Careers 121—Travel Geography—United States (1.5) (9 week course)

This course provides the traveler and industry employee with information for maximizing the travel experience to include regional accents and dialects, shopping, historical and recreational tourist destinations, and regional culture and cultural diversity for the United States. Three hours. Transfer Credit: CSU Offered: S.

Airline Travel Careers 122—Travel Geography—Northern Europe (1.5) (9 week course)

This course provides the traveler and industry employee with information for maximizing the travel experience to include regional accents and dialects, shopping, historical and recreational tourist destinations, and regional culture and cultural diversity for Scandinavia, the British Isles, the Low Countries. Three hours. Transfer Credit: CSU Offered: as needed.

Airline Travel Careers 123—Travel Geography—Africa (1.5) (9 week course)

This course provides the traveler and industry employee with information for maximizing the travel experience to include customs, entry requirements, currency, language and dialects, shopping, historical and recreational tourist destinations, and regional culture and cultural diversity for Africa. Three hours. Transfer Credit: CSU Offered: as needed.

Airline Travel Careers 124—Travel Geography—The Americas (1.5) (9 week course)

Traveler’s information for maximizing sightseeing to include culture, currency, language, shopping, tourist destinations and information. Canada, Mexico, Caribbean, Central America and South America. Three hours. Transfer Credit: CSU Offered: F.

Airline Travel Careers 125—Travel Geography—Southern Europe (1.5) (9 week course)

This course provides the traveler and industry employee with information for maximizing the travel experience to include regional accents and dialects, shopping, historical and recreational tourist destinations, and regional culture and cultural diversity for Greece, Spain, Portugal, Italy, Austria, Germany, Switzerland, and France. Three hours. Transfer Credit: CSU Offered: F.

Airline Travel Careers 126—Travel Geography—Eastern Europe (1.5) (9 week course)

This course provides the traveler and industry employee with information for maximizing the travel experience to include regional accents and dialects, shopping, historical and recreational tourist destinations, and regional culture and cultural diversity for Russia and Republics, Czechoslovakia, Hungary, Poland, Yugoslavia, Romania, and Albania. Three hours. Transfer Credit: CSU Offered: F.

Airline Travel Careers 127—Travel Geography—Pacific Rim (1.5) (9 week course)

This course provides the traveler and industry employee with information for maximizing the travel experience to include regional accents and dialects, shopping, historical and recreational tourist destinations, and regional culture and cultural diversity for Australia, New Zealand, Japan, South Korea, Hong Kong, China, Taiwan, Thailand, Philippines, Tahiti, Samoa, Fiji, Singapore, Malaysia, Indonesia, and Inochina. Three hours. Transfer Credit: CSU Offered: S.

Airline Travel Careers 128—Travel Geography—The Americas (1.5) (9 week course)

This course provides the traveler and industry employee with information for maximizing the travel experience to include regional accents and dialects, shopping, historical and recreational tourist destinations, and regional culture and cultural diversity for Africa, The Americas (1.5). Three hours. Transfer Credit: CSU Offered: as needed.

Airline Travel Careers 129—Computer Reservation Systems 1 (3)

Recommended preparation: Airline Travel Careers 111 and 116.

Introduction to all computer travel industry reservation and ticketing systems. The SABRE system will be used for computer terminal experience; customer service role playing. Two hours lecture, two hours non-lecture. Transfer Credit: CSU Offered: F-S.

Airline Travel Careers 130—Computer Reservations Systems 2 (1.5) (9 week course)

Prerequisites: Airline Travel Careers 129.

Advanced computer travel industry reservation and ticketing systems utilizing the SABRE system. Reservations, customer service, and role playing are emphasized. One and one-half hours lecture, one and one-half hours non-lecture. Transfer Credit: CSU Offered: F-S.

Airline Travel Careers 131—Intercultural Awareness and Etiquette (1.5) (9 week course)

This course will provide the student with intercultural awareness and multicultural insight into the cultures of the world including Latin, Asian, Middle Eastern, African, and European countries. Curriculum includes: values, historical beliefs, and religion, plus cultural etiquette to include social practices, gestures, body language, eating, drinking practices, and business behavior. Three hours. Transfer Credit: CSU Offered: F-S.

Airline Travel Careers 132—Intercultural Awareness and Etiquette (1.5) (9 week course)

This course will provide the student with intercultural awareness and multicultural insight into the cultures of the world including Latin, Asian, Middle Eastern, African, and European countries. Curriculum includes: values, historical beliefs, and religion, plus cultural etiquette to include social practices, gestures, body language, eating, drinking practices, and business behavior. Three hours. Transfer Credit: CSU Offered: F-S.

Airline Travel Careers 133—Intercultural Awareness and Etiquette (1.5) (9 week course)

This course will provide the student with intercultural awareness and multicultural insight into the cultures of the world including Latin, Asian, Middle Eastern, African, and European countries. Curriculum includes: values, historical beliefs, and religion, plus cultural etiquette to include social practices, gestures, body language, eating, drinking practices, and business behavior. Three hours. Transfer Credit: CSU Offered: F-S.

Airline Travel Careers 134—Intercultural Awareness and Etiquette (1.5) (9 week course)

This course will provide the student with intercultural awareness and multicultural insight into the cultures of the world including Latin, Asian, Middle Eastern, African, and European countries. Curriculum includes: values, historical beliefs, and religion, plus cultural etiquette to include social practices, gestures, body language, eating, drinking practices, and business behavior. Three hours. Transfer Credit: CSU Offered: F-S.

Airline Travel Careers 135—Intercultural Awareness and Etiquette (1.5) (9 week course)

This course will provide the student with intercultural awareness and multicultural insight into the cultures of the world including Latin, Asian, Middle Eastern, African, and European countries. Curriculum includes: values, historical beliefs, and religion, plus cultural etiquette to include social practices, gestures, body language, eating, drinking practices, and business behavior. Three hours. Transfer Credit: CSU Offered: F-S.

Airline Travel Careers 136—Intercultural Awareness and Etiquette (1.5) (9 week course)

This course will provide the student with intercultural awareness and multicultural insight into the cultures of the world including Latin, Asian, Middle Eastern, African, and European countries. Curriculum includes: values, historical beliefs, and religion, plus cultural etiquette to include social practices, gestures, body language, eating, drinking practices, and business behavior. Three hours. Transfer Credit: CSU Offered: F-S.

Airline Travel Careers 137—Intercultural Awareness and Etiquette (1.5) (9 week course)

This course will provide the student with intercultural awareness and multicultural insight into the cultures of the world including Latin, Asian, Middle Eastern, African, and European countries. Curriculum includes: values, historical beliefs, and religion, plus cultural etiquette to include social practices, gestures, body language, eating, drinking practices, and business behavior. Three hours. Transfer Credit: CSU Offered: F-S.

Allied Health

Allied Health 010—Health Occupations (1.5)

(4 week course)

Introduction to the allied health careers and programs at Orange Coast College including presentations of each allied health program. Required for admission to most allied health programs. This course may also be offered online. Offered on a credit-no credit basis only. Four hours. Offered: F-S.

Allied Health 111—Medical Terminology (3)

Recommended preparation: Biology 221.

Development of medical vocabulary emphasizing the building of terms utilizing prefixes, combining forms and suffixes. Includes symptomatic, therapeutic, diagnostic and operative terms along with terms related to diagnostic tests. Students learn the meaning and spelling of medical terms and the application of these terms to comprehend medical record documents. This course may also be offered online. Three hours. Transfer Credit: CSU Offered: F-S.

Allied Health 115—Patient Care (2.5) (9 week course)

Prerequisites: Allied Health 010; non-native speakers must complete ESL 151AB (exemption based on assessment results).

Corequisite: Allied Health 111.

A pre-clinical preparation to be taken no more than six months prior to the first scheduled allied health clinical internship. An orientation to the clinical setting to include interpersonal communication, legal and ethical issues, an overview of health care finance, basic patient care techniques, universal precautions, cardiopulmonary resuscitation, emergency medical interventions, the psychological aspects of the ill and dying patient, and the psychological aspects of being employed as a health care professional. Three hours lecture, three hours non-lecture. Transfer Credit: CSU Offered: F-S.

Allied Health 116—Advanced Patient Care (2) (8 week course)

Prerequisite: Allied Health 115.

Multi-skills preparation for the allied health professional including management communication skills, phlebotomy, with injection of contrast media, and basic electrocardiography. Three hours lecture, three hours laboratory. Transfer Credit: CSU Offered: S.

Allied Health 120—Human Diseases (2)

Prerequisite: Biology 221; Allied Health 111 recommended.

The study of disease processes and diseases affecting each body system. Includes etiology, pathophysiological mechanisms, methods of diagnosis, manifestations and treatment of each disease. Recent completion of human anatomy and physiology is recommended before attempting this class. Two hours. Transfer Credit: CSU Offered: F-S.

Allied Health 130—Applied Pharmacology (2)

Prerequisite: Biology 221.

Common drug categories, methods, and legal aspects of drug administration is emphasized and includes action, indication, hazards, metabolism and excretion. Calculation of drug dosages and solutions. Use of drugs in the treatment of various disease processes. Two hours. Transfer Credit: CSU Offered: S.
Allied Health 199AD—Current Issues in Allied Health (5) (1-9 week course)
This course deals with current issues in the allied health profession. Topics vary. See class schedule. May be taken for grades or on a credit-no credit basis. One to nine hours. Transfer Credit: CSU Offered: F.S.

Allied Health 280—Supervisory Management for Health Care Professionals (2)
Procedures for developing personnel programs and desirable employer/employee relationships in health care facilities. Selection, placement, orientation, training, counseling, rating, promotion, and scheduling of personnel. Also includes basic budgeting techniques. Two hours. Transfer Credit: CSU Offered: as needed.

AMERICAN STUDIES

American Studies 100—Institutions (3)
A one-semester survey of selected political, social, economic, and cultural institutions of the United States and California. Some topics discussed will include the role of the media in the U.S., “American national character” and the American political party system. May be taken for grades or on a credit-no credit basis. Three hours. Transfer Credit: CSU; UC credit limitation Offered: F;S;Sum.

ANTHROPOLOGY

Anthropology 100—Cultural Anthropology (3) (CAN ANTH 4)
The analysis of social structure, family, kinship, belief, and rite. The determinants of culture and personality. The social analysis of three societies. The methods and perspectives of anthropology. This course may also be offered online. Three hours. Transfer Credit: CSU; UC credit limitation Offered: F;S;Sum.

Anthropology 100H—Honors Cultural Anthropology (3)
The analysis of social structure, family, kinship, belief, and rite. The determinants of culture and personality. The social analysis of three societies. The methods and perspectives of anthropology. Three hours. Transfer Credit: CSU; UC credit limitation Offered: as needed.

Anthropology 102—Native American (3)
An introduction to the development of Native American (Indian) cultures prior to the introduction of European Civilization in the Western Hemisphere and the cultural conflicts generated by the European invasion and the position of Native American life in contemporary America. May be taken for grades or on a credit-no credit basis. Three hours. Transfer Credit: CSU; UC Offered: F.S.

Anthropology 105—Anthropology of Nonverbal Behavior (3)
An analysis and individual awareness of nonverbal behavior in human interaction with emphasis on western cultural patterns. Attention is given to the various levels or segments of nonverbal human interaction, including gesture, spatiality, body positions, and expression laughter. Foundations and developmental patterns of nonverbal dimensions are explored. Same as Sociology 105. Students completing Anthropology 105 may not receive credit for Sociology 105. May be taken for grades or on a credit-no credit basis. Three hours. Transfer Credit: CSU; UC Offered: F.S.

Anthropology 105—Anthropology of Nonverbal Behavior (3)
An analysis and individual awareness of nonverbal behavior in human interaction with emphasis on western cultural patterns. Attention is given to the various levels or segments of nonverbal human interaction, including gesture, spatiality, body positions, and expression laughter. Foundations and developmental patterns of nonverbal dimensions are explored. Same as Sociology 105. Students completing Anthropology 105 may not receive credit for Sociology 105. May be taken for grades or on a credit-no credit basis. Three hours. Transfer Credit: CSU; UC Offered: F.S.

Anthropology 110—Comparative Cultures (3)
An examination of the cultural similarities and differences that exist in the major areas of the world. Non-western societies will be compared and contrasted with one another and with western societies. Employees in multinational companies, general education students, and anthropology majors will benefit from this course. May be taken for grades or on a credit-no credit basis. Three hours. Transfer Credit: CSU; UC Offered: F.S.

Anthropology 120—Natural History and Cultures of the Southwest (3)
An introduction to the natural history of the Southwest including the geology, ecology and cultures of the region. The interrelationship between the human populations and their environments, past and present, is examined. Same as Natural Science 120. Students completing Anthropology 120 may not receive credit for Natural Science 120. May be taken for grades or on a credit-no credit basis. Three hours. Transfer Credit: CSU; UC Offered: S;odd yrs.

Anthropology 140—Ethnomathematics (3)
Ethnomathematics places emphasis on the development of mathematics as a cultural product. The course includes contributions from historical figures and how gender, race, politics, and social interests over time have influenced the development of mathematical constructs and its cultural origins. Three hours. Transfer Credit: CSU; UC Offered: F.

Anthropology 150—Multicultural Behavior (3)
Multicultural approaches to cultural diversity including immigration policy, affirmative action, and bilingual debates. Intercultural comparisons including Native American, African American, Hispanic American, Asian American, and European American cultural traditions. Social science theories and methodologies for development of positive intercultural relationships. Same as Sociology 150. Students completing Anthropology 150 may not receive credit for Sociology 150. May be taken for grades or on a credit-no credit basis. Three hours. Transfer Credit: CSU; UC Offered: F.S.

Anthropology 185—Physical (3) (CAN ANTH 2)
As an introductory survey course, the class will cover three major areas in particular: 1) evolutionary theory, 2) the theories of man’s origin and his evolution based upon comparative anatomy, biochemical studies and the fossil record, and 3) the origin and evolution of man’s culture and social organizations as revealed by the archaeological record and biochemical variations in modern man, individual adaptations and growth and development studies. Three hours. Transfer Credit: CSU; UC Offered: F;S;Sum.

Anthropology 185L—Physical Anthropology Laboratory (1)
Prerequisite: Anthropology 185 or concurrent enrollment.
This course covers laboratory exercises on human genetics, comparative primate anatomy, morphological characteristics of hominid fossils, and techniques of forensic anthropology. May be taken for grades or on a credit-no credit basis. Three hours laboratory. Transfer Credit: CSU; UC Offered: F;S;Sum.

Anthropology 190—Introduction to Linguistics (3)
Linguistic analysis and language structures from many areas of the world. Descriptive and historical linguistics. Relationships between language and culture. Three hours. Transfer Credit: CSU; UC Offered: as needed.
Architectural Technology 110—Introduction to Architectural Design and Theory (3)
Prerequisite: Architectural Technology 105.
A study of perceptual and visual phenomena as applied to both two- and three-dimensional design principles and architectural theory. Two hours lecture, three hours studio. Transfer Credit: CSU; UC credit limitation Offered: F.

Architectural Technology 130—Architectural Design 2 (3)
Prerequisite: Architectural Technology 115.
Recommended preparation: Concurrent enrollment in Architectural Technology 270 and 285.
An advanced course dealing with concepts pertaining to architectural form, space, structure and organization. Focus is on the consideration of program elements, function, spatial organization, and the relationship of design elements to human and aesthetic determinants. Two hours lecture, three hours studio. Transfer Credit: CSU; UC credit limitation Offered: F.

Architectural Technology 180—Architectural Drafting and Construction Documents (4)
Recommended preparation: Concurrent enrollment in Architectural Technology 110 and 105 when offered.
A basic course focusing on the preparation of drawings as a media for an understanding of building systems, materials, products and code requirements for residential and wood frame construction. Further emphasis is placed on lettering and notations, dimensions, and the use of symbols and conventions as a means of architectural communications. Two hours lecture, six hours studio. Transfer Credit: CSU Offered: F.S.

Architectural Technology 185—Architectural Planning and Construction Documents (4)
Prerequisite: Architectural Technology 180.
Recommended preparation: Concurrent enrollment in Architectural Technology 115.
An advanced course dealing with two-story construction and site planning for multifamily use. Concentration is on components and systems as they pertain to two-story, multi-family structures, as well as related construction documents. The study is also made of space planning, concrete masonry, and heavy timber construction. Two hours lecture, six hours studio. Transfer Credit: CSU Offered: S.

Architectural Technology 220—Building Materials and Systems (4)
Prerequisite: Architectural Technology 185.
The study of architectural materials and principles of building systems as typically applied in commercial and industrial building. Three hours lecture, four hours non-lecture. Transfer Credit: CSU Offered: F.

Architectural Technology 225—Land and Building Development (3)
A general survey of land development principles and procedures used prior to the actual construction of structures. Site analysis and planning, mapping, regulatory controls, obtaining entitlements, grading, road and street design, utility systems, principles of real property value, and project financing will be covered. Same as Construction Technology 225. Students completing Architectural Technology 225 may not receive credit for Construction Technology 225. Three hours. Transfer Credit: CSU Offered: F.

Architectural Technology 250—Building Codes and Standards (2)
Prerequisite: Architectural Technology 105.
Introduction to the codes and standards prevalent in the Southern California area. Emphasis is on Title 24 and Americans With Disabilities Act regulations, the Uniform Building Code, and local enforcement as applied to building design. Two hours. Transfer Credit: CSU Offered: S.

Architectural Technology 266—Architectural Design 3 (4)
Recommended preparation: Architectural Technology 285 and concurrent enrollment in Architectural Technology 270.
An advanced course dealing with the design of a commercial-type building. Emphasis is on the problem solving process, development of design techniques, and graphic presentation forms. Two hours lecture, seven hours studio. Transfer Credit: CSU Offered: S.

Architectural Technology 290—History of Architecture 1 (3)
A study of the development of architecture from primitive shelters throughout the complex structures of the Renaissance. Focuses on styles of architects who have made significant contributions. Emphasis and discussion on political, economic and cultural influences in the evolution of architectural history. Three hours. Transfer Credit: CSU; UC credit limitation Offered: F.

Architectural Technology 296—History of Architecture 2 (3)
Study of the development of architecture from the 18th century to the present. Focuses on the styles of architecture in various historical periods, highlighting architects who have made significant contributions. Special emphasis on the architecture of the 20th century, emphasis and discussion on political, economic, social and cultural influences in the evolution of architectural history. Three hours. Transfer Credit: CSU; UC credit limitation Offered: S.
Art 100—History and Appreciation of Western Art (3) (CAN ART 14)
A survey of painting, sculpture, and architecture beginning with the Proto-Renaissance (Late Gothic) and concluding with Post Impressionism. The course will relate major developments in the arts to the historical and social events of the period. May be taken for grades or on a credit/no-credit basis. Three hours. Transfer Credit: CSU; UC credit limitation Offered: as needed.

Art 101—History and Appreciation of Western Art (3) (CAN ART 4)
A survey of painting, sculpture, and architecture beginning with the Proto-Renaissance (Late Gothic) and concluding with Post Impressionism. The course will relate major developments in the arts to the historical and social events of the period. May be taken for grades or on a credit-no credit basis. Three hours. Transfer Credit: CSU; UC credit limitation Offered: as needed.

Art 102—Contemporary Art History (3) (CAN ART 16)
A basic course in the visual organization of the principles and elements of design. Selected fundamental concepts using line, color, mass, value, and texture in two-dimensional applications. Required for art majors and certificate programs. Six hours lecture-studio. Transfer Credit: CSU; UC Offered: F;S;Sum.

Art 103—History of Asian Art: China, Korea, Japan (3)
A survey of the painting, sculpture, architecture, and minor arts of China, Korea, and Japan, emphasizing their relationship to the philosophy and religions of Asia. May be taken for grades or on a credit-no credit basis. Three hours. Transfer Credit: CSU; UC Offered: F;S.

Art 104—Art of India and Southeast Asia (3)
Hindu, Buddhist, and Jain arts as expressed in architecture, art, and painting. Indian influence on the arts of Nepal, Tibet, Kashmir, Sri Lanka, Java, Cambodia, Thailand, and Burma. Religious and philosophical influence on the arts and architecture. May be taken for grades or on a credit-no credit basis. Three hours. Transfer Credit: CSU; UC Offered: as needed.

Art 106—Picture Framing (1.5)
How to frame prints, photographs, oils, watercolors, stitchery, needlepoint, etc., using correct frame, backing and molding. One hour lecture, two hours non-lecture. Transfer Credit: CSU Offered: F;S.

Art 107—Introduction to Art (3)
An introduction to the crafts and materials created by man in his attempt to satisfy his aesthetic needs. Elements of design and an awareness of historical context and cultural diversity will be sought. Required for art majors and Certificate programs. Six hours lecture-studio. Transfer Credit: CSU; UC Offered: F;S;Sum.

Art 108—Women in Art (3)
Women artists and the image of women in art from the paleolithic period to the present day. Art criticism, the feminist art movement, and the status of contemporary women artists. May be taken for grades or on a credit-no credit basis. Three hours. Transfer Credit: CSU; UC Offered: as needed.

Art 110—Color and Design: Two-Dimensional (3) (CAN ART 14)
A basic course in the visual organization of the principles and elements of design. Selected fundamental concepts using line, color, mass, value, and texture in two-dimensional applications. Required for art majors and certificate programs. Six hours lecture-studio. Transfer Credit: CSU; UC Offered: F;S;Sum.

Art 111—Color and Design: Three-Dimensional (3) (CAN ART 16)
Prerequisite: Art 110. Explores the basic concepts of three-dimensional form in visual art and design. Studio practice using basic materials. Required for art majors and recommended for certificate programs. Six hours lecture-studio. Transfer Credit: CSU; UC Offered: F;S.

Art 112—Application of Color Theory (3)
Prerequisite: Art 110. Investigates the dimensions of color through the aspects of visual application of color theory. Emphasis will be structured around the development and articulation of sensory concepts. Recommended for art majors and certificate programs. Six hours lecture-studio. Transfer Credit: CSU; UC Offered: S.

Art 113—Computer Advertising Design and Copywriting (3)
A course covering the fundamentals of advertising copywriting, advertising layout and paste-up, with an introduction to hands-on experience using the Macintosh computer. This course will prepare art and advertising students to think in both the graphic and verbal modalities. Same as Marketing 113. Students completing Art 113 may not receive credit for Marketing 113. May be taken for grades or on a credit-no credit basis. Three hours lecture, three hours non-lecture. Transfer Credit: CSU Offered: F;S.

Art 115—Lettering and Computer Typography (3)
History and development of basic letter forms, with calligraphic origins. Lettering as a design form emphasized. Hand lettering logotype/symbol, computer and mechanical typography from professionals’ point of view. Class projects oriented toward portfolio samples. Recommended for art majors and practicing art professionals. Six hours lecture-studio. Transfer Credit: CSU Offered: F;S;Sum.

Art 117—Rapid Illustration Techniques (3)
Prerequisite: Art 120. Course expands upon freehand drawing skills. Illustration methods of determining design solutions and as final presentations. Techniques drawn from areas of graphic and advertising design, industrial design and interior design. Emphasis on acquiring pieces suitable for student’s portfolio. Recommended for art majors and practicing professionals. May be taken for grades or on a credit-no credit basis. Six hours lecture-studio. Transfer Credit: CSU Offered: F;S.

Art 119—Product Illustration 1 (2)
For the beginner through semi-professional levels of drawing skill. Principles of line, shade, shadow, highlight, reflection, color, materials and graphic presentation. Sketching and rendering using various media and papers. May be taken for grades or on a credit-no credit basis. Three hours. Transfer Credit: CSU Offered: F;S.

Art 119—Product Illustration 2 (2)
Prerequisite: Art 118. Continuation of Product Illustration 1 to include more detailed renderings. May be taken for grades or on a credit-no credit basis. Three hours. Transfer Credit: CSU Offered: F;S.

Art 120—Freehand Drawing (3) (CAN ART 8)
The student will draw natural and artificial forms from observation using a variety of media on paper, apply visual devices that affect the illusion of three-dimensional space on a flat surface, and apply critical thought to affect justifiable interpretations of content and meaning in visual statements. Six hours studio. Transfer Credit: CSU; UC credit limitation Offered: F;S;Sum.

Art 120H—Honors Freehand Drawing (3)
The student will draw natural and artificial forms from observation using a variety of media on paper, apply visual devices that affect the illusion of three-dimensional space on a flat surface, and apply critical thought to affect justifiable interpretations of content and meaning in visual statements. Six hours studio. Transfer Credit: CSU; UC credit limitation Offered: as needed.
Art 121AD—Life Drawing (3) (CAN ART 24)
Prerequisite: Art 120.
Figure drawing from the model. Study of volumes, foregrounding and composition of the human form. Required of art majors. Six hours lecture-studio. Transfer Credit: CSU; UC Offered: F-S.

Art 122—Human Anatomy for Artists (3)
Prerequisite: Art 110.
A drawing and study course using the human figure as a model. Emphasis will be on human anatomy and how it relates to drawing the figure. This course is recommended for art majors. Six hours non-lecture. Transfer Credit: CSU; UC Offered: as needed.

Art 125—Perspective Drawing (3)
Drawing of three-dimensional objects using perspective as a tool. Emphasis on fundamentals and different procedures used. Emphasizes methods which are directly related to the artist’s needs including short-cuts. Recommended for art majors and certificate programs. Six hours lecture-studio. Transfer Credit: CSU; UC Offered: F-S.

Art 130—Painting 1 (3) (CAN ART 10)
Prerequisite: Art 110 and 120.
Students will develop the basic craft of painting landscape, still life, and the figure using selected media. Students will apply and practice a creative approach to painting to achieve an understanding of color, space, form, and composition. Six hours lecture-studio. Transfer Credit: CSU; UC Offered: F-S.

Art 131AC—Painting 2 (3)
Prerequisite: Art 130.
A continuation of Painting 1 with emphasis on personal expression. Alternating painting mediums introduced. Six hours lecture-studio. Transfer Credit: CSU; UC Offered: F-S.

Art 141—Sculpture 1 (3) (CAN ART 12)
Exploration of sculptural material and concepts. Technical experiences may include modeling, casting and fabricating with sculptural media. Six hours lecture-studio. Transfer Credit: CSU; UC Offered: F-S.

Art 142AD—Life Sculpture (3)
Exploration of figurative sculpture from the model emphasizing structure and expressive potential. Technical experiences may include armature building, clay modeling and hand-building, moldmaking and casting in various media. Required of art majors. May be taken for grades or on a credit-no credit basis. Six hours non-lecture. Transfer Credit: CSU; UC Offered: F-S.

Art 143AD—Story Illustration Techniques (3)
Prerequisite: Art 121AD.
Principles of story illustration applied to various drawings and painting media. Creative and imaginative application of theories and techniques and accurate representation. Six hours lecture-studio. Transfer Credit: CSU Offered: F-S.

Art 145—Exhibition Design (Gallery) (2)
Gallery and exhibition design—the processes, materials and design concepts as they relate to the operation of a gallery or museum. Experience and emphasis on problems involved in planning and preparing exhibits, bulletin boards, wall cases and art portfolios. Recommended for art majors. Two hours lecture, four hours practical. Transfer Credit: CSU Offered: F-S.

Art 147—Jewelry 1 (3) (CAN ART 26)
Application of the basic concepts of design related to two- and three-dimensional crafts. Projects in hand wrought jewelry fabrication (sterling silver, copper and brass), copper enameling and small three-dimensional wood construction. May be taken for grades or on a credit, no-credit basis. Six hours lecture-studio. Transfer Credit: CSU Offered: F-S.

Art 149—Introduction to Ceramics (1.5)
Introduction to ceramics, including basic forms, glazing techniques, and use of the potter’s wheel. Historical aspects and contemporary applications will be explored. May be taken for grades or on a credit-no credit basis. Six hours non-lecture. Transfer Credit: CSU; UC Offered: F-S.

Art 150—Ceramics 1 (3) (CAN ART 6)
Basic pottery forms. Handbuilding techniques, introduction to the sculptural and 2-dimensional use of clay. The course will explore traditional pottery forms and move toward the development of concepts based on the main directions of contemporary ceramics. Introduction to firing and glazing. Basic techniques in raku, earthenware, stoneware and porcelain. Six hours lecture-studio. Transfer Credit: CSU; UC Offered: F-S.

Art 151AC—Ceramics 2 (3)
Prerequisite: Art 150.
Introduction to the potter’s wheel including functional form combinations of thrown forms and other ceramic sculpture techniques. Six hours lecture-studio. Transfer Credit: CSU; UC Offered: F-S.

Art 160—Advertising Design 1 (3)
Prerequisite: Art 110 and 120.
Introduction to principles of layout and design as applied to advertising and graphic design. Basic visual design techniques are emphasized using a variety of art media including photography. Required for advertising design certificate. Six hours lecture-studio. Transfer Credit: CSU Offered: F.

Art 161—Advertising Design 2 (3)
Prerequisite: Art 160.
Design and preparation of finished work for reproduction. Emphasis on presentation and technique. Projects include advertising illustration, packing, collateral materials and preparation of material for professional portfolio. Required for advertising design certificate. Six hours lecture-studio. Transfer Credit: CSU Offered: S.

Art 163—Computer Art Production (4)
Computer production art and traditional paste up skills that relate to the design of mechanical and computer advertising art for printing. Eight hours lecture-studio. Transfer Credit: CSU Offered: F-S.

Art 170—Printmaking 1 (3) (CAN ART 20)
Studio problems in relief and intaglio printing: monoprints, lino cuts, woodcuts and collagraphs. Six hours lecture-studio. Transfer Credit: CSU; UC Offered: F-S;Sum.

Art 171AC—Printmaking 2 (3)
Prerequisite: Art 170.
Continued studio problems in relief and intaglio processes, as well as monoprints and various combined processes and registration techniques with emphasis on development of personal expression. Six hours lecture-studio. Transfer Credit: CSU; UC Offered: F-S;Sum.

Art 180—Professional Studies (2)
Prerequisite: Art 110 or 120.
Exploration and identification of areas of employment and professional activity in art. Techniques of obtaining employment, such as the evaluation of artwork and the construction of a portfolio of art samples. Emphasis on access to information through guest lecturers, films and field trips. Required reading of selected materials. Four hours lecture-studio. Transfer Credit: CSU Offered: as needed.

Art 195—Art of Western Europe (1-3)
A varied selection of national and international academic field studies. Opportunities to visit cities throughout the world for first-hand observation of major artistic achievements, such as architecture, art museums, sculpture and other significant historical sites. May be taken for grades or on a credit-no credit basis. Transfer Credit: CSU Offered: Sum.

Art 202—Contemporary Art Theory (1) (8 week course)
Prerequisite: Art 102 and/or Art 210AD.
An in-depth theory and philosophic examination of contemporary art issues and movements to be presented in a group seminar environment to include lecture, slides, discussion, field trips to galleries and studios, as well as individual research. May be taken for grades or on a credit-no credit basis. Two hours. Transfer Credit: CSU Offered: as needed.

Art 210AD—New Concepts (3)
Prerequisite: Art 102 and 110.
Interactive video as a medium for electronic imagery, personal content, documentation and conceptual concerns. Experimentation with other media and various art forms such as performance, bookworks and environments of light and sound. Six hours lecture-studio. Transfer Credit: CSU; UC Offered: as needed.
Art 220AD—Figure Composition (3)
Prerequisite: Art 121AD.
Advanced drawing emphasizing a deeper involvement with structure, composition and experimentation. Still life, landscape and live models will be used as the basis for compositions. Six hours lecture-studio. Transfer Credit: CSU; UC Offered: F-S.

Art 235AD—Experimental Painting (3)
Prerequisite: Art 110 and/or portfolio.
Exploration and presentation of painting using contemporary mixed media and materials in non-traditional contexts for the purpose of developing individual expressive directions. Experimentation with various painting supports and non-traditional media. Six hours lecture-studio. Transfer Credit: CSU; UC Offered: F-S.

Art 236AD—Life Painting (3)
Prerequisite: Art 121AD and 130.
A course in figure painting using the live model. Various painting media and analysis of light, shade, and color will be covered. May be taken for grades or on a credit-no credit basis. Six hours studio. Transfer Credit: CSU; UC Offered: F-S.

Art 241AC—Sculpture 2 (3)
Prerequisite: Art 141.
Advanced study in the creative use of techniques and materials of sculpture with an emphasis on mold making and casting. Six hours lecture-studio. Transfer Credit: CSU; UC Offered: F-S.

Art 243AD—Bronze Casting (3)
Art bronze casting using the lost-wax method and sand casting pattern. Six hours lecture-studio. Transfer Credit: CSU Offered: as needed.

Art 245AC—Exhibition Design (2)
Prerequisite: Art 145.
Continued work in gallery and exhibition design. Directed emphasis in the use of the environment as a means of communication, assigned individual responsibility for specific areas of installation of professional shows in the gallery. Management of art openings and receptions. Two hours lecture, four hours studio. Transfer Credit: CSU Offered: F-S.

Art 247AC—Jewelry 2 (3)
Prerequisite: Art 147.
A continuation of Jewelry 1. Further development of hand wrought jewelry fabrication techniques to include explorations in casting, hollow form construction, linking device and lapidary. Emphasis will also be on individual student’s field of interest. May be taken for grades or on a credit-no credit basis. Six hours lecture-studio. Transfer Credit: CSU Offered: F-S.

Art 263AD—Painting in Watercolor (3)
Prerequisite: Art 110 and 120.
Materials, methods, composition, design and color for both still life and landscape. Six hours lecture-studio. Transfer Credit: CSU; UC Offered: F-S; Sum.

ASSESSMENT OF PRIOR LEARNING
Assessment of Prior Learning 101—Introduction to Assessment of Prior Learning (2)
Recommended preparation: Eligibility for English O99 or English as a Second Language 160AB or concurrent enrollment.
Students who have non-collegiate learning experiences that qualify for college credit may be prepared for a formal assessment of prior learning in this course. Students will write narrative and descriptive essays which chronicle and analyze their past experiences and identify what they learned as a result of those experiences. This course may also be offered online. Offered on a credit-no credit basis only. Four hours. Transfer Credit: CSU Offered: F-S; Sum.

ASSESSMENT OF PRIOR LEARNING 102—Advanced Assessment of Prior Learning (2)
Prerequisite: Assessment of Prior Learning 100.
Students who have non-collegiate learning experiences that qualify for college credit may be prepared for a formal assessment of prior learning in this course. Students will prepare a portfolio which chronicles their past experiences, identifies what was learned, and documents the evaluation of that learning. A fee for evaluation of portfolio will be required. Limit of 30 units of assessed credit. This course may also be offered online. Offered on a credit-no credit basis only. Four hours. Transfer Credit: CSU Offered: F-S; Sum.

ASSESSMENT OF PRIOR LEARNING 103—Advanced Assessment of Prior Learning (3)
Prerequisite: Assessment of Prior Learning 100.
Students who have non-collegiate learning experiences that qualify for college credit may be prepared for a formal assessment of prior learning in this course. Students will prepare a portfolio which chronicles their past experiences, identifies what was learned, and documents the evaluation of that learning. A fee for evaluation of portfolio will be required. Limit of 30 units of assessed credit. This course may also be offered online. Offered on a credit-no credit basis only. Four hours. Transfer Credit: CSU Offered: F-S; Sum.

ASSESSMENT OF PRIOR LEARNING 104—Advanced Assessment of Prior Learning (3)
Prerequisite: Assessment of Prior Learning 100.
Students who have non-collegiate learning experiences that qualify for college credit may be prepared for a formal assessment of prior learning in this course. Students will prepare a portfolio which chronicles their past experiences, identifies what was learned, and documents the evaluation of that learning. A fee for evaluation of portfolio will be required. Limit of 30 units of assessed credit. This course may also be offered online. Offered on a credit-no credit basis only. Four hours. Transfer Credit: CSU Offered: F-S; Sum.

ASSESSMENT OF PRIOR LEARNING 105—Advanced Assessment of Prior Learning (3)
Prerequisite: Assessment of Prior Learning 100.
Students who have non-collegiate learning experiences that qualify for college credit may be prepared for a formal assessment of prior learning in this course. Students will prepare a portfolio which chronicles their past experiences, identifies what was learned, and documents the evaluation of that learning. A fee for evaluation of portfolio will be required. Limit of 30 units of assessed credit. This course may also be offered online. Offered on a credit-no credit basis only. Four hours. Transfer Credit: CSU Offered: F-S; Sum.

ASSESSMENT OF PRIOR LEARNING 106—Advanced Assessment of Prior Learning (3)
Prerequisite: Assessment of Prior Learning 100.
Students who have non-collegiate learning experiences that qualify for college credit may be prepared for a formal assessment of prior learning in this course. Students will prepare a portfolio which chronicles their past experiences, identifies what was learned, and documents the evaluation of that learning. A fee for evaluation of portfolio will be required. Limit of 30 units of assessed credit. This course may also be offered online. Offered on a credit-no credit basis only. Four hours. Transfer Credit: CSU Offered: F-S; Sum.

ASSESSMENT OF PRIOR LEARNING 107—Advanced Assessment of Prior Learning (3)
Prerequisite: Assessment of Prior Learning 100.
Students who have non-collegiate learning experiences that qualify for college credit may be prepared for a formal assessment of prior learning in this course. Students will prepare a portfolio which chronicles their past experiences, identifies what was learned, and documents the evaluation of that learning. A fee for evaluation of portfolio will be required. Limit of 30 units of assessed credit. This course may also be offered online. Offered on a credit-no credit basis only. Four hours. Transfer Credit: CSU Offered: F-S; Sum.

ASSESSMENT OF PRIOR LEARNING 108—Advanced Assessment of Prior Learning (3)
Prerequisite: Assessment of Prior Learning 100.
Students who have non-collegiate learning experiences that qualify for college credit may be prepared for a formal assessment of prior learning in this course. Students will prepare a portfolio which chronicles their past experiences, identifies what was learned, and documents the evaluation of that learning. A fee for evaluation of portfolio will be required. Limit of 30 units of assessed credit. This course may also be offered online. Offered on a credit-no credit basis only. Four hours. Transfer Credit: CSU Offered: F-S; Sum.

ASSESSMENT OF PRIOR LEARNING 109—Advanced Assessment of Prior Learning (3)
Prerequisite: Assessment of Prior Learning 100.
Students who have non-collegiate learning experiences that qualify for college credit may be prepared for a formal assessment of prior learning in this course. Students will prepare a portfolio which chronicles their past experiences, identifies what was learned, and documents the evaluation of that learning. A fee for evaluation of portfolio will be required. Limit of 30 units of assessed credit. This course may also be offered online. Offered on a credit-no credit basis only. Four hours. Transfer Credit: CSU Offered: F-S; Sum.

ASTRONOMY
Astronomy 100—Elementary Astronomy (3)
Introduction to the origin, evolution and structure of the solar system, stars, galaxies, and the universe. Historical milestones in the science of astronomy from ancient times to the space age. Consideration of current controversies in astronomy and the future of astronomical research and space exploration. May be taken for grades or on a credit-no credit basis. Three hours. Transfer Credit: CSU; UC credit limitation Offered: F-S.

Astronomy 100H—Honors Elementary Astronomy (3)
Introduction to the origin, evolution, and structure of the solar system, stars, galaxies, and the universe. Historical milestones in the science of astronomy from ancient times to the space age. Consideration of current controversies in astronomy and the future of astronomical research and space exploration. May be taken for grades or on a credit-no credit basis. Three hours. Transfer Credit: CSU; UC credit limitation Offered: as needed.

Astronomy 100L—Elementary Astronomy Laboratory (1)
Prerequisite: Astronomy 100; Recommended preparation: Math 010.
A beginning laboratory course designed for non-science majors. It will provide practical experience with the scientific method through outdoor astronomical observations and indoor analysis of experimental data. Same as Natural Science 100LA. Students completing Astronomy 100L may not receive credit for Natural Science 100LA. May be taken for grades or on a credit-no credit basis. Three hours laboratory. Transfer Credit: CSU; UC Offered: F-S; Sum.

Astronomy 101—Planetary Astronomy (3)
An introduction to the current solar system family surveying each of the individual constituents. A comparative study will be made of the nine planets and their satellites and a detailed look at comets, asteroids and interplanetary debris will be undertaken. An overview of the formation, evolution and structure of the solar nebula will be presented. Current topics on interplanetary missions, other planetary system candidates, and extraterrestrial life will be discussed. May be taken for grades or on a credit-no credit basis. Three hours. Transfer Credit: CSU; UC Offered: F-S.
### Astronomy 102—Stellar Astronomy (3)
A detailed study of the formation, structure, and evolution of the sun and stars, including an overview of binary systems, variable stars, Supernovae Types I and II, white dwarfs, neutron stars, black holes, and other stellar phenomena. A survey of particle physics and special and general relativity will also be included. May be taken for grades or on a credit-no credit basis. Three hours. **Transfer Credit:** CSU; UC Offered: F.S.

### Astronomy 103—Cosmology (3)
An introduction to the origin and evolution of the universe with emphasis on the major cosmological models. Galaxy types, gravitational lensing, non-luminous matter, and the cosmological constant will be studied. An overview of particle physics and special and general relativity will be included. May be taken for grades or on a credit-no credit basis. Three hours. **Transfer Credit:** CSU; UC Offered: as needed.

### Astronomy 108—Preparation for Observational Astronomy (2)
An introduction to the methods and techniques of observational astronomy, telescope principles, and operations as applied to public viewing of astronomical phenomena. This course is designed for students to operate the telescopes and assist the public in observing objects in the night sky. May be taken for grades or on a credit-no credit basis. One hour lecture, three hours non-lecture. **Transfer Credit:** CSU Offered: F.S.Sum.

### Astronomy 120—Special Topics in Modern Astronomy (3)
**Prerequisite:** Astronomy 100.
Review of major unanswered questions of Nature and the Universe with emphasis on current astrophysical research. The course will provide practical experience in using the scientific method and available evidence to formulate one’s own opinions regarding the answers to these questions. Discussions will include the theories of relativity and the possibility of extraterrestrial life, as well as the impact of modern space science on the environment, philosophy, society and the destiny of humanity. May be taken for grades or on a credit-no credit basis. Three hours. **Transfer Credit:** CSU; UC Offered: S.

#### AVIATION AND SPACE

### Aviation and Space 125—Air Traffic Control For Pilots (1.5) (9 week course)
**Prerequisite:** Aviation and Space 130, or private pilot’s license.
Principles of air traffic control for piloting aircraft. Three hours. **Transfer Credit:** CSU Offered: S.

### Aviation and Space 130—Aviation Ground School (5)
Introductory course for commercial pilot program. Preparation for private pilot’s written examination. Navigation, weather, aircraft and engines and federal aviation regulations will be discussed. Five hours. **Transfer Credit:** CSU Offered: F.S.

### Aviation and Space 132—Air Traffic Control For Pilots (1.5) (9 week course)
**Prerequisite:** Aviation and Space 130, or private pilot’s license.
Intermediate air navigation (not celestial). Meets navigation requirements for commercial and airline transport pilots. Navigation instruments required. Three hours. **Transfer Credit:** CSU Offered: F.

### Aviation and Space 133—Aviation—Meteorology (3)
**Prerequisite:** Aviation and Space 130, or private pilot’s license.
Preparation for instrument pilot written exam; refresher for rated instrument pilot. Three hours. **Transfer Credit:** CSU Offered: F.S.

### Aviation and Space 134—Aviation Instrument Ground School (3)
**Prerequisite:** Aviation and Space 130, or private pilot’s license.
Preparation for instrument pilot written exam; refresher for rated instrument pilot. Three hours. **Transfer Credit:** CSU Offered: F.S.

### Aviation and Space 135—Aircraft Engines (3)
**Prerequisite:** Aviation and Space 130, or private pilot’s license.
An advanced course for pilots in aircraft engine operation and includes turbo-supercharging, ignition, carburetion, injection, accessories and engine performance charts. One of the courses fulfilling the requirements in preparation for the FAA commercial pilot’s examination. Three hours. **Transfer Credit:** CSU Offered: as needed.

### Aviation and Space 136—Soaring—Glider Ground School (3)
Preparation for private pilot’s (glider) certificate: basic glider aerodynamics, instruments, oxygen and radio operation, weather, navigation, Federal Air Regulations, soaring and basic cross country soaring ground school. Three hours. **Transfer Credit:** CSU Offered: as needed.

### Aviation and Space 137—Air Traffic Control For Pilots (1.5) (9 week course)
**Prerequisite:** Private pilot’s license.
FAA rules related to pilot performed maintenance: electrical, fuel, hydraulic systems, airframe and powerplant. Three hours. **Transfer Credit:** CSU Offered: as needed.

### Aviation and Space 138—Aerodynamics (3)
**Prerequisite:** Aviation and Space 130, or private pilot’s license.
An advanced course for pilots in aircraft aerodynamics and performance. Preparation for the commercial pilot’s examination. Three hours. **Transfer Credit:** CSU Offered: as needed.

### Aviation and Space 139—Aviation Ground School, Advanced (3)
**Prerequisite:** Aviation and Space 130, or private pilot’s license; Aviation and Space 132 and 133 recommended. Refresher for experienced pilots and preparation for commercial examination. Meteorology, FAA regulations, navigation, radio navigation, flight planning and communication procedures are covered. Three hours. **Transfer Credit:** CSU Offered: S.

### Aviation and Space 140—Flight Instructor Ground School (3)
**Prerequisite:** Aviation and Space 139.
Preparation for the flight instructor written examination. Fundamentals of teaching and learning, and ground and flight instruction procedures. Three hours. **Transfer Credit:** CSU Offered: as needed.

### Aviation and Space 141AB—Flight Simulator Course (2)
**Prerequisite:** 120 hours flight time and completion of Aviation and Space 134, or concurrent enrollment, or completion of FAA instrument pilot written examination. Preparation for the FAA instrument flight test and for instrument-rated pilots who want to maintain their proficiency. Two hours. **Transfer Credit:** CSU Offered: F.S.

### Aviation and Space 145—Turbine Aircraft Systems (3)
**Prerequisite:** Aviation and Space 130 and 134.
Advanced course for pilots concentrating on turbine aircraft systems such as those found on the Boeing 737-200 and Cessna Citation. Information can be used in preparation for type rating training or flight engineer written exam. Three hours. **Transfer Credit:** CSU Offered: S.

### Aviation and Space 155—Private Pilot Flight Maneuvers (3)
Practical application of private pilot flight maneuvers. Three hours. **Transfer Credit:** CSU Offered: as needed.

### Aviation and Space 180—Basic Air Transportation (3)
Broad overview of the aerospace industry, the history of flight, and history of commercial air transportation. Three hours. **Transfer Credit:** CSU Offered: F.

### Aviation and Space 191—GPS Navigation and Electronic Flight Planning (3)
Introductory course for the new or experienced pilot to GPS navigation as used in VFR and IFR navigation. GPS instrument en route and approach procedures will be covered, and the use of GPS to drive a moving map display. The use of a personal computer in planning cross country flight logs using current software such as FlightStar and DUATS Cirrus will be covered. Three hours. **Transfer Credit:** CSU Offered: F.S.

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**All courses numbered 100 or higher are transferable to the California State Universities (CSU). Courses that are transferable to the University of California are designated “UC.” Some of these courses have limits on the amount of credit that is granted. See the UC transferable Course List available in the Counseling Center or Transfer Center for these limitations. Course numbers followed by an AB, AC, or AD may be repeated once, twice or three times respectively. Courses that are non-credit or not AA applicable are designated with the letter “N” preceding the course number.**
Information in italics designates the semester(s) in which the course is offered. The Division Office reserves the right to make changes as budget or other constraints warrant. F=Fall, S=Spring, Sum=Summer, Int=Intersession

Aviation Technology 151—General 2 (3) (9 week course)
Fundamental theory of electricity. Practical experience in calculating and determining electrical circuit problems, and battery inspection and servicing. Three hours lecture, nine hours laboratory. Transfer Credit: CSU Offered: F.

Aviation Technology 152—General Airframe and Powerplant 1 (2) (9 week course)
Theory of fuel systems and lines and fittings. Practical experience in repair, check, service, overhaul, testing and troubleshooting of fuel systems, and system component parts. Two hours lecture, eight hours non-lecture. Transfer Credit: CSU Offered: F.

Aviation Technology 153—General 3 (3) (9 week course)
Theory of materials used in aircraft, processes of inspection, cleaning of parts, hardware identification and other fasteners. Practical experience in hardware selection, installation, material selection, and cleaning and corrosion control. Three hours lecture, ten and one-half hours laboratory. Transfer Credit: CSU Offered: F.

Aviation Technology 154—General 4 (2)
Basic math. Theory and practical experience in a variety of aircraft math, physics, weight and balance calculations, and varied problems. Practical experience in weight and balance of aircraft. Three hours lecture, one-half hour non-lecture. Transfer Credit: CSU Offered: F.

Aviation Technology 155—General 5 (1)
Fundamental theory of drafting and blueprints. Practical experience in drawing, sketches of repairs, alterations, schematics, blueprint reading, and varied use of graphs and charts. One and one-half hours lecture, one and one-half hours laboratory. Transfer Credit: CSU Offered: F.

Aviation Technology 160—Air and Power 1 (6)
Prerequisite: Aviation Technology 151.
Fundamental theory relating to aircraft electrical systems, ice and rain, and fire protection systems. Practical experience in disassembly, repair, overhaul, inspection, testing of electrical components and systems. Four hours lecture, eight hours laboratory. Transfer Credit: CSU Offered: S.

Aviation Technology 161—Airframe 1 (5.5)
Prerequisite: Aviation Technology 153.
Fundamental theory relating to aircraft structures. Practical experience in sheet metal, composites, wood, riveting, fabric, inspection and painting. Three hours lecture, eight hours laboratory. Transfer Credit: CSU Offered: S.

Aviation Technology 162—Airframe 2 (3)
Prerequisite: Aviation Technology 153.
Fundamental theory of assembly, control systems and rigging. Practical experience in rigging, assembly, disassembly, repair, overhaul, testing, inspection, and operation of component parts of the control system. Two hours lecture, four and one-half hours laboratory. Transfer Credit: CSU Offered: F.

Aviation Technology 163—Airframe 3 (4.5)
Prerequisite: Aviation Technology 150 and 153.
Fundamental theory of hydraulic, pneumatic and landing gear systems. Practical experience in disassembly, repair, overhaul, test, inspection, and operation of component parts. Two hours lecture, seven hours laboratory. Transfer Credit: CSU Offered: S.

Aviation Technology 170—Powerplant Systems 1 (4)
Prerequisite: Aviation Technology 152.
Fundamental theory of aircraft reciprocating engines. Practical experience in overhauling, repair, assembling, testing and troubleshooting various powerplants. Three hours lecture, nine and one-half hours laboratory. Transfer Credit: CSU Offered: F.

Aviation Technology 171—Powerplant Systems 2 (4)
Prerequisite: Aviation Technology 170.
Fundamental theory of propellers and lubrication system components. Practical experience in overhauling, repair, testing, and troubleshooting different types of systems and components. Two and one-half hours lecture, five hours laboratory. Transfer Credit: CSU Offered: F.

Aviation Technology 172—Powerplant Systems 3 (3)
Prerequisite: Aviation Technology 150.
Fundamental theory of disassembly, repair, overhaul, inspection, and testing of ignition components. Three hours lecture, nine and one-half hours laboratory. Transfer Credit: CSU Offered: F.

Aviation Technology 173—Powerplant Theory and Maintenance 2 (6)
Prerequisite: Aviation Technology 150 and 153.
Fundamental theory and overhaul of turbine engines, starting systems and system components. Practical experience in disassembly, repair, overhaul, inspection, and testing of turbine engines and components. Three and one-half hours lecture, ten hours laboratory. Transfer Credit: CSU Offered: S.

Aviation Technology 174—Powerplant Systems 4 (5.5)
Prerequisite: Aviation Technology 151.
Fundamental theory of ignition systems and practical experience in disassembly, repair, overhaul, inspection, and testing of ignition components. Three hours lecture, nine and one-half hours laboratory. Transfer Credit: CSU Offered: F.
Aviation Technology 180—Airframe and Power-plant Instrumentation (2.5) (9 week course)
A survey and limited practical experience of basic instrument systems used in private, corporate, and commercial aircraft. Included is aircraft nomenclature, acronyms, and use of computer-based training systems. Three and one-half hours lecture, five hours non-lecture. Transfer Credit: CSU Offered: F.

Aviation Technology 181—Communication and Navigation Systems (2) (9 week course)
Prerequisite: Aviation Technology 180.
A survey and limited practical experience of basic avionics systems used in navigational, communication, and flight management systems as applied to private, corporate, and commercial aircraft. Included is aircraft nomenclature, acronyms, and use of computer-based training systems. Three hours lecture, three and one-half hours non-lecture. Transfer Credit: CSU Offered: S.

Aviation Technology 182—Airframe Avionics Systems (5.5)
Prerequisite: Aviation Technology 182.
A survey and limited practical experience of basic avionics systems used in navigational, communication, and flight management systems as applied to private, corporate, and commercial aircraft. Included is aircraft nomenclature, acronyms, and use of computer-based training systems. Three hours lecture, three and one-half hours non-lecture. Transfer Credit: CSU Offered: S.

Aviation Technology 188—Avionics Rules and Regulations (1.5) (9 week course)
A basic course focusing on the rules and regulations of communication, navigation and electronic equipment as they apply to aircraft. Emphasis is placed on Federal Aviation Regulations and Federal Communication Commission regulations as they apply to the servicing and repair of aircraft navigation, communication and general electronics. Preparation for FCC Radio Telephone Operator’s License examination is covered. Three hours. Transfer Credit: CSU Offered: S.

Aviation Technology 290—Helicopter Maintenance (4)
Prerequisite: Aviation Technology 140; airframe and/or powerplant license or in process. Maintenance of helicopters, helicopter rotor systems, power trains, unique system features, instrumentation, and design construction. Practical experience in dismantling, inspection, repair, assembly, testing and troubleshooting a variety of helicopters and system components. Two hours lecture, six hours laboratory. Transfer Credit: CSU Offered: S.

BACTERIOLOGY
(See Biology 210)

BIOLOGY
(See also Ecology)

Biology 100—Principles of Biology (4)
A general study of life processes with emphasis on biological molecules, cells, heredity, evolution and diversity of life. Suitable as a general education elective for the non-science major. Three hours lecture, three hours laboratory. Transfer Credit: CSU; UC credit limitation Offered: F;S;Sum.

Biology 114—Basic Microbiology (2) (9 week course)
Introduction to theory and techniques of microbiology as applied to human nutrition, disease, immunity and the environment. No science prerequisite. Two hours lecture, two hours laboratory. Transfer Credit: CSU Offered: F.

Biology 125—Human Biology (3)
A transferable general education biology course for students not majoring in the life sciences. Emphasis on relationships of biology to human beings with particular attention to the most current work on molecular genetics, heredity, fertility, genetic engineering, the immune system, AIDS, cancer and drug effects on the nervous system. May be taken for grades or on a credit/no credit basis. Three hours. Transfer Credit: CSU; UC Offered: as needed.

Biology 140—The Biology of Drugs (1) (9 week course)
A survey of psychoactive recreational drugs emphasizing history, biological effects upon the human body, uses and origins. Will not deal with legal, moral or social implications. Two hours. Transfer Credit: CSU Offered: as needed.

Biology 160—Biology of Sexually Transmitted Diseases (2) (9 week course)
Designed to meet community needs and needs of those seeking transfer credit in a non-lab biology course in anatomy, physiology and immunology of sexually transmitted diseases. May be taken for grades or on a credit/no credit basis. Four hours. Transfer Credit: CSU Offered: as needed.

Biology 181—Cell and Molecular Biology (4) (CAN BIOL 2)
Prerequisite: Chemistry 130 or one year of high school chemistry with a grade of “C” or better. Non-native speaking students must be eligible to enter ESL 131AB and 135AB. This course is designed for the major in the biological sciences and the pre-health professions major. Emphasis is on the cellular and molecular biology of human cells and organisms. Three hours lecture, three hours laboratory. Transfer Credit: CSU; UC Offered: F;S.

Biology 182—Zoology (3) (CAN BIOL 4)
Prerequisite: Biology 181 required for biology majors. Includes the basic aspects of histology, morphology, physiology and behavior of vertebrate and invertebrate animals. Emphasizes comparing the variety of mechanisms animals have evolved to solve common biological problems. Three hours. Transfer Credit: CSU; UC Offered: F;S.

Biology 182L—Zoology Lab (1) (CAN BIOL 4)
Prerequisite: Biology 182, or concurrent enrollment. A laboratory course emphasizing animal phylogeny, anatomy, and physiology using representative types. One-half hour lecture, two and one-half hours lab. Transfer Credit: CSU; UC Offered: F;S.

Biology 183—Botany (3) (CAN BIOL 6)
Prerequisite: Biology 181 required for biology majors. Includes the dynamics of plants and their processes with particular emphasis on the structure and function of living plants. Three hours. Transfer Credit: CSU; UC Offered: F;S.

Biology 183L—Botany Lab (1) (CAN BIOL 6)
Prerequisite: Biology 183, or concurrent enrollment. A course in the dynamics of plants and their processes with particular emphasis on the structure and function of living things. Three hours laboratory. Transfer Credit: CSU; UC Offered: F;S.

Biology 199—Special Topics in Biotechnology (1)
Prerequisite: Biology 250 or concurrent enrollment. A weekly seminar series featuring speakers from universities and industry. The seminars will focus on current biotechnology topics. Offered on a credit/no credit basis only. One hour seminar. Transfer Credit: CSU Offered: F.

Biology 210—General Microbiology (5) (CAN BIOL 14)
Prerequisite: One semester of college chemistry or biology. Fundamentals of bacteriology, mycology, virology, and parasitology. Includes the dynamics of plants and their processes with particular emphasis on the structure and function of living things. Three hours lecture, six hours laboratory. Transfer Credit: CSU; UC Offered: F;S.
Biology 221—Food and Microorganisms (2) (9 week course)
Prerequisite: Biology 114 or 210.
Role of microorganisms in the production of and the spoilage of food. May be taken for grades or on a credit-no-credit basis. Two hours lecture, two hours laboratory. Transfer Credit: CSU Omitted: as needed.

Biology 220—General Human Anatomy (5) (CAN BIOL 10)
Introduction to the structure and design of the human body. Includes structural components and body system interactions. Students will participate in the laboratory. Appropriate for students interested in human anatomy. Satisfies requirements for nursing, physical therapy and physical education majors. Three hours lecture, six hours laboratory. Transfer Credit: CSU; UC credit limitation Omitted: F,S,Sum.

Biology 220H—Honors General Human Anatomy (5)
Introduction to the structure and design of the human body. Includes structural components and body system interactions. Students will participate in the laboratory. Appropriate for students interested in human anatomy. Satisfies requirements for nursing, physical therapy, and physical education majors. Three hours lecture, six hours laboratory. Transfer Credit: CSU; UC credit limitation Omitted: F-S,Sum.

Biology 221—Anatomy-Physiology (4)
Anatomy and physiology as a combined discipline. This course may also be offered online. Three hours lecture, three hours laboratory. Transfer Credit: CSU; UC credit limitation Omitted: F,S,Sum.

Biology 223—Sectional Anatomy (4)
Prerequisite: Biology 221.
A study of the structures of the human body in serial sections. Three hours lecture, three hours laboratory. Transfer Credit: CSU Omitted: F.

Biology 225—Introduction to Physiology (5) (CAN BIOL 12)
Prerequisite: Biology 220 and Chemistry 110.
Presents the biological functions of the human body. Basic concepts and practical applications are stressed. Laboratory participation is required. Meets requirements for pre-nursing, physical therapy and physical education majors. Three hours lecture, six hours laboratory. Transfer Credit: CSU; UC credit limitation Omitted: S.

Biology 225H—Honors Introduction to Physiology (5)
Prerequisite: Biology 220 or 220H and Chemistry 110.
Presents the biological functions of the human body. Basic concepts and practical applications are emphasized. Laboratory participation is required. Meets requirements for pre-nursing, physical therapy, and physical education majors. Three hours lecture, six hours laboratory. Transfer Credit: CSU; UC credit limitation Omitted: S.

Biology 226—Advanced Sectional Anatomy (2)
Prerequisite: Biology 221 and 223.
An in-depth study of specific areas of the human body in serial sections. Designed for Diagnostic Medical Sonography and Radiologic Technology. Emphasis is on structures observable on ultrasound scans. Two hours lecture, three hours non-laboratory. Transfer Credit: CSU Omitted: S.

Biology 230—Structure and Function of Cells (3)
Prerequisite: Biology 181 and Chemistry 180.
The molecular basis of cellular processes will be explored, including organelar functions, biogenesis and organization, the cytoskeleton, cell-cell communication, and the regulation and coordination of cellular processes. Special attention will be given to current scientific literature. Transfer Credit: CSU Omitted: F.

Biology 250—Laboratory Methods in Biotechnology (5)
Prerequisite: Biology 181 and Chemistry 180.
This laboratory-based course is an introduction to modern biotechnological techniques. Labs involve cloning and sequencing, restriction analysis, PCR, Southern analysis and genetic manipulation of DNA in bacteria and yeast. Lecture emphasizes the molecular biology that allows these lab applications, as well as the molecular biology of the organisms used. Three hours lecture, six hours laboratory. Transfer Credit: CSU Omitted: F.

Biology 251—Advanced Laboratory Methods in Biotechnology (5)
Prerequisite: Biology 250.
This course will simulate research laboratory and industrial settings with weekly lab meetings. Laboratory experiences will include plant and animal tissue culture, DNA and DNA isolation, genomic library construction and analysis, and PCR. Lecture will primarily focus on the theory behind the uses of biotechnology in research laboratory and industrial settings. Transfer Credit: CSU Omitted: S.

Biology 250—Evolutionary Ecology (4)
Prerequisite: Biology 181.
For majors in the biological sciences. Evolutionary and ecological principles and their relevance at several levels of organization. Includes principles governing classification of life, principles of evolution, conditions for life, adaptations to the environment, analysis of ecological niches, population, and community/ecosystem ecology from an evolutionary viewpoint. 3.75 hours lecture, 2.25 hours lab. Transfer Credit: CSU; UC credit limitation Omitted: F-S.

Biology 280—Molecular Biology 1: Biochemistry (2) (9 week course)
Prerequisite: Biology 181 and completion of Chemistry 220 and concurrent enrollment in Chemistry 225.
An introduction to the chemistry of biology. This course is designed to satisfy transfer requirements for biology majors. Four hours. Transfer Credit: CSU; UC credit limitation Omitted: S.

Biology 281—Molecular Biology 1: Biochemistry (2) (9 week course)
Prerequisite: Biology 181 and completion of Chemistry 220, and concurrent enrollment in Chemistry 225.
An introduction to the chemistry of biology. Four hours. Transfer Credit: CSU; UC credit limitation Omitted: as needed.

Biology 281H—Molecular Biology 1: Biochemistry (2) (9 week course)
Prerequisite: Biology 281 or 281H.
An introduction to molecular biology emphasizing gene structure and function. Four hours. Transfer Credit: CSU; UC credit limitation Omitted: as needed.

BROADCASTING ARTS

Broadcasting Arts 105—Broadcast Journalism (3)
An overview of television news and documentary production. Practical experience including writing, producing, field reporting for cable news show. Three hours. Transfer Credit: CSU Omitted: F.

Broadcasting Arts 202—Agents, Actors, and Writers (1.5) (9 week course)
Introduction to the business relationship between an agent and actor, performer, or writer. The course will include preparation of a promotional portfolio, resume, contract, and the interview. Three hours. Transfer Credit: CSU Omitted: as needed.

BUSINESS

(For Business Mathematics see Business 125)

Business 100—Introduction to Business (3)
A survey of the many dimensions of business with a focus on careers: organization, management, marketing, legal aspects, international business, business climate, financial operations, the banking system, and investments. Three hours. Transfer Credit: CSU; UC Omitted: F-S,Sum.

Business 105—Introduction to Law (3)
A study of the American legal system beginning with a historical overview and then moving through the courts system, the process of legislation, civil versus criminal issues, torts and contracts, and related business and property law. May be taken for grades or on a credit-no-credit basis. Three hours. Transfer Credit: CSU Omitted: F-S.
Business 107—MS Windows (1) (9 week course)
This course develops skills in using the Microsoft Windows and DOS operating systems and includes configuring the desktop to meet individual needs and installing and using other software and hardware designed for MS Windows. Also, the student will be communicating with other computer and users and using the Internet and the e-mail. Same as CIS 107. Students completing Business 107 may not receive credit for CIS 107. May be taken for grades or on a credit/no-credit basis. One and one-half hours lecture, one and one-half hours non-lecture. Transfer Credit: CSU Offered: F;S;Sum.

Business 110—Business Law (3) (CAN BUS 12)
The course will have as its focus the legal system and its effect on the business environment including the sources of law, the law's impact on society and business, ethical considerations, business and personal torts and crimes, the regulatory environment, labor and management issues, contracts, and personal and real property. Three hours. Transfer Credit: CSU; UC credit limitation Offered: F;S;Sum.

Business 115—Business Law 2 (3)
Fundamental laws of commercial paper, secured transactions, uniform commercial code, bankruptcy, insurance, partnerships, corporations, estates, and international transactions are discussed. Three hours. Transfer Credit: CSU; UC credit limitation Offered: F;S;Sum.

Business 117—International Business Law (3)
Examines the legal aspects of conducting business with a foreign country or a business within a foreign country. Includes legal organizations of business, bankruptcy, taxation, credit limitation, and ways to settle disputes within other countries. May be taken for grades or on a credit-no credit basis. Three hours. Transfer Credit: CSU Offered: as needed.

Business 118—Introduction to International Business (3)
Provides the basic tools and perspective necessary to understand the international business environment. Explores the changing nature of the primary business, economic and political institutions. Explores the nature of the transnational, foreign trade, foreign exchange and world capital and money markets. Will attempt to better understand the strains and ruptures being created in a world comprised of post-industrial, developing and less-developed nations. Focus is on what the individual will need to know and understand to be an effective learner and performer in our rapidly developing world economy. Three hours. Transfer Credit: CSU Offered: F.S.

Business 119—Advanced International Business (3)
Prerequisite: Business 118.
Advanced course provides the student with the operating knowledge necessary to be an effective professional in an international environment. Nation analysis, risk analysis, foreign trade flows, foreign capital flows, analysis, and the critical problems and issues of the day are covered by working professionals in the field. Emphasis is on relevancy and bottom-line effectiveness. May be taken for grades or on a credit-no credit basis. Three hours. Transfer Credit: CSU Offered: as needed.

Business 120—Personal Financial Success (3)
Personal financial planning addressing the fundamentals of career planning, budgeting, investments, housing, insurance, taxation, estate planning, retirement planning, consumer credit, and spending. May be taken for grades or on a credit-no credit basis. Three hours. Transfer Credit: CSU Offered: F.S.

Business 125—Business Mathematics (3)
Mathematics as applied to business problems, such as interest, mortgages, consumer borrowing, annuities, installment buying, taxation, etc. Three hours. Transfer Credit: CSU Offered: F.S.

Business 126—Introduction to E-Commerce (2) (9 week course)
Recommended preparation: Computer Information Systems 122
This course introduces the concept of e-business models, including those of successful online businesses. Students will design, implement, and maintain a secure web-based business that accepts electronic orders and payments. Same as Computer Information Systems 126. Students completing Business 126 may not receive credit for CIS 126. May be taken for credit or on a credit-no credit basis. Four hours lecture, two hours non-lecture. Transfer Credit: CSU Offered: F;S;Sum.

Business 133—Professional Presentations Using PowerPoint (2)
This course demonstrates how proven, effective presentation techniques can blend with the technology of computer-generated graphics to create dynamic, colorful, and exciting presentations. May be taken for grades or on a credit-no credit basis. Two hours lecture, one hour non-lecture. Transfer Credit: CSU Offered: F;S;Sum.

Business 134—Excel (3)
Topics include spreadsheet concepts, model building, formula development using functions, database features. The student will create graphs and keyboard macros. Same as Computer Information Systems 134. Students completing Business 134 may not receive credit for CIS 134. May be taken for grades or on a credit-no credit basis. Three hours lecture, one hour non-lecture. Transfer Credit: CSU Offered: F;S;Sum.

Business 135—Advanced Microcomputer Applications (3)
Prerequisite: Business 130.
A course in advanced microcomputer business applications using spreadsheet and database management software on the IBM PC. Topics include developing spreadsheet formulas, developing and using keyboard macros, building a comprehensive spreadsheet model, writing practical business programs using a database language and interfacing application software. Emphasis using application software as a decision-making tool. May be taken for grades or on a credit-no credit basis. Three hours lecture, one hour non-lecture. Transfer Credit: CSU Offered: as needed.

Business 136—Business Planning Concepts (1.5) (9 week course)
Prerequisite: Basic knowledge of accounting and Lotus 1-2-3.
Designed to introduce and demonstrate to students the tools employed by Fortune 500 companies to solve actual business problems incorporating hands-on applications using LOTUS 1-2-3. May be taken for grades or on a credit-no credit basis. Three hours. Transfer Credit: CSU Offered: as needed.

Business 137—Business English Mechanics (3)
Basic English mechanics for business writing including punctuation, reinforcement of business terminology, spelling of commonly used business terms and phrases, homonyms and pseudonyms essential for effective business writing. May be taken for grades or on a credit-no credit basis. Three hours. Transfer Credit: CSU Offered: as needed.

Business 138—Business English (3)
Prerequisites: English 100 with grade of 'C' or better.
Designed to develop skills in applying, planning, writing, and verbalizing techniques essential to effective communication in business while emphasizing opportunities and responsibilities of business communicators. Critical and analytical thinking will be an essential component of all assignments, as will the current need for an awareness of the global business environment. Students will need a fundamental knowledge of English and the mechanics of writing. Three hours. Transfer Credit: CSU Offered: F.S.

Business 140—Public Relations (3)
Recommended preparation: Typing skill.
Components of effective public relations including publicity, advertising, media relations and problem solving. Scope of present-day public relations practice. Three hours. Transfer Credit: CSU Offered: F.S.

Business 161—Electronic Calculator - Touch Operations (1) (9 week course)
Develop speed and accuracy by touch on the electronic display/calculator. Emphasis on special timesaving device features. May be taken for grades or on a credit-no credit basis. One hour lecture, one hour non-lecture. Transfer Credit: CSU Offered: F.S.
Business 170—Career and Professional Success Skills (3)
Learn skills and strategies to survive and succeed in a fast changing and highly competitive business environment. Emphasis on effective job search, marketing yourself, emerging career and business opportunities, professional image and project skills, mastering change, and key communication skills. Transfer Credit: CSU Offered: as needed.

Business 200—Business Finance (3)
Prerequisite: Accounting 101.
Fundamentals of financial management addressing organization, financial analysis and planning, working capital, budget process, sources of financing, mergers and acquisitions. Three hours. Transfer Credit: CSU Offered: as needed.

Business 210—Securities Investment (3)
The basic concepts of investing in stocks and bonds with emphasis on market mechanics, types of orders, role of market professionals, margin accounts, selling short, commissions, and choosing a broker. Comprehensive study of approaches to price patterns, value investing, and the development of a rational investment philosophy. Prepares students for Business 212, Practical Investment Management. May be taken for grades or on a credit-no credit basis. Transfer Credit: CSU Offered: F,S.

Business 212—Practical Investment Management (3)
Modern stock and bond portfolio management practices and techniques. Focus is on risk management strategies, ethical issues, and industry standards as they relate to conflicts of interest, performance measurement, and presentation of results. May be taken for grades or on a credit-no credit basis. Three hours. Transfer Credit: CSU Offered: F,S.

CARDIOVASCULAR TECHNOLOGY

Cardiovascular Technology 100—Introduction to Electrocardiography (2)
Prerequisite: Biology 221.
Electrocardiographic interpretation and testing procedures for the ECG technician. Includes anatomy and electrophysiology of the cardiac conduction system; basic cardiac rhythms, including sinus, atrial, junctional, and ventricular arrhythmias and heart blocks. Two hours lecture, one hour laboratory. Transfer Credit: CSU Offered: F,S.

Cardiovascular Technology 130—Introduction to Invasive Cardiology (3)
Prerequisite: Cardiovascular Technology 160. Corequisite: Cardiovascular Technology 150.
Introduction to the concepts of cardiac catheterization primarily for diagnosis of coronary artery disease. Includes hemodynamics, cardiovascular radiologic safety, aseptic and sterile field maintenance, pressure monitoring equipment, catheters, and contrast used for catheterization. Catheterization techniques, drug pharmacology used in the procedures and complications of cardiac catheterization. Three hours. Transfer Credit: CSU Offered: F,S.

Cardiovascular Technology 150—Advanced Electrocardiography (2)
Prerequisite: Cardiovascular Technology 100.
Advanced procedures in electrocardiographic testing including stress testing, Holter monitoring and pacemakers. Advanced arrhythmias including ventricular conduction disturbances, effects of drugs, electrolyte imbalances, myocardial infarction and cardiac pharmacology. Two hours lecture, one hour non-lecture. Transfer Credit: CSU Offered: S.

Cardiovascular Technology 160—Cardiac Anatomy/Pathophysiology (3)
Prerequisite: Allied Health 111 and Biology 221.
Cardiac anatomy, physiology, and pathology. Course includes cardiovascular structures, hemodynamics, cardiac output and blood pressure, coronary artery disease and myocardial infarction, valvular diseases, infectious diseases, cardiac tumors and myopathies and congenital heart disease. Three hours. Transfer Credit: CSU Offered: F.

Cardiovascular Technology 170—ECG Clinical Experience (3)
Prerequisite: Allied Health 115 and Cardiovascular Technology 160.
Corequisite: Cardiovascular Technology 150.
Practice within a health care facility in areas of routine ECG testing, stress testing, monitor technician, Holter monitoring, and pacemaker evaluation. Offered on a credit-no credit basis only. One hour lecture, sixteen hours clinical/laboratory. Transfer Credit: CSU Offered: S.

Cardiovascular Technology 200—Introduction to Echocardiography (3)
Prerequisite: Cardiovascular Technology 160.
Corequisite: Cardiovascular Technology 205.
Introduction to echocardiography. Equipment, techniques, uses for diagnosis. Includes M-mode, 2D, and Doppler. Recognition of specific echocardiographic patterns and abnormalities. Three hours. Transfer Credit: CSU Offered: F.

Cardiovascular Technology 205—Introduction to Echocardiography Lab (1)
Corequisite: Cardiovascular Technology 200.
Skill development in using echocardiographic imaging equipment, machine adjustments, and obtaining correct views on M-mode, 2-dimensional, Doppler and color flow echocardiograms under direct supervision. Includes exercises in recognition of cardiac anatomy and pathology towards diagnostic evaluation of cardiac function. Three hours. Transfer Credit: CSU Offered: F.

Cardiovascular Technology 210—Echocardiography Clinical Lab 1 (5)
Prerequisite: Cardiovascular Technology 160.
Corequisite: Cardiovascular Technology 200 and 205.
Experience in echocardiography in a clinical facility to include conferences or lectures by physicians, sonographers, and guest lecturers to relate patient clinical presentations to diagnostic findings. Offered on a credit-no credit basis only. Twenty-four hours clinical, one hour discussion/seminar. Transfer Credit: CSU Offered: F.
CHEMISTRY

Chemistry 100—Principles of Chemistry (3)
Nonmathematical chemistry for students not majoring in science. Emphasis on relationship of chemistry to the human body with particular attention to drugs of all kinds, food, metabolism, cancer and environmental contaminants. Includes concepts of structure of matter, bonding, acid-base chemistry, organic chemistry and thermodynamics. May be taken for grades or on a credit-no credit basis. Three hours. Transfer Credit: CSU; UC credit limitation Offered: F.S.

Chemistry 100L—Chemistry in the Laboratory (1)
Prerequisite: Chemistry 100 or 101, or concurrent enrollment.
Chemical Laboratory experience to complement and supplement topics covered in Chemistry 100 and 101. Introduction to measurement methods, chemical analysis, chemical synthesis and various laboratory techniques. Includes experiments related to the chemistry of food, drugs, pollution and consumer products. May be taken for grades or on a credit-no credit basis. Three hours non-lab. Transfer Credit: CSU; UC credit limitation Offered: as needed.

Chemistry 101—Chemistry and the Environment (3)
Nonmathematical chemistry for students not majoring in science. Emphasis on relationship of chemistry to the environment including the topics of energy resources, air pollution, water pollution, pesticides and toxic wastes. Chemical concepts are introduced as needed for understanding of topics. May be taken for grades or on a credit-no credit basis. Three hours. Transfer Credit: CSU; UC credit limitation Offered: as needed.

Chemistry 110—Introductory Chemistry (5) (CAN CHEM 6)
Prerequisite: Mathematics 010 with grade of ‘C’ or better.
An introduction to the basic principles of inorganic, organic and biochemistry. Not intended for students planning to take Chemistry 180 or 130. May be taken for grades or on a credit-no credit basis. Four and one-half hours lecture, two and one-half hours laboratory. Transfer Credit: CSU; UC credit limitation Offered: F.S.; Sum.

CHEMISTRY

Chemistry 130—Preparatory General Chemistry (4)
Recommended preparation: Within the last two years, the student must have either completed intermediate algebra with a grade of ‘C’ or better or passed the mathematics matriculation exam at a level resulting in placement in trigonometry or higher in CCCC or equivalent; and it is recommended that the student be eligible to enroll in ESL 160AB or in English 100 or have completed either. Introduction to the principles, calculations and laboratory techniques of chemistry. For students planning to take Chemistry 180. May be taken for grades or on a credit-no credit basis. Three and one-half hours lecture, two and one-half hours laboratory. Transfer Credit: CSU; UC credit limitation Offered: F.S.; Sum.

Chemistry 180—General Chemistry (5) (CAN CHEM 2)
Prerequisite: Math 030 (or appropriate placement) and Chemistry 130 or appropriate placement based on chemistry assessment plus one year of high school chemistry.Safety prerequisite: ESL students must be eligible to enter ESL 131AB and ESL 135AB.
This course studies gases, solutions, reactions, bonding theories, acid-base, and redox theory. Four hours lecture, five hours laboratory. Transfer Credit: CSU; UC Offered: F.S.

Chemistry 200—Organic Chemistry (3)
Prerequisite: Chemistry 180 with grade of ‘C’ or better.
A study of organic compounds and their reactions from the standpoint of structure, mechanisms and kinetics. Introduction to spectroscopic methods of identification. Three hours. Transfer Credit: CSU; UC Offered: F.

Chemistry 220—Organic Chemistry Laboratory (2)
Prerequisite: Concurrent enrollment in Chemistry 220.
Theory and techniques of separation, purification, synthesis and analysis of organic compounds including instrumental methods of chromatography and spectrosopy. One hour lecture, five hours laboratory. Transfer Credit: CSU; UC Offered: F.

Chemistry 225—Organic Chemistry (3)
Prerequisite: Chemistry 220 with a grade of ‘C’ or better.
Further study of the structures, reactions, mechanisms and kinetics of organic compounds. Introduction to biologically important compounds and natural products. Three hours. Transfer Credit: CSU; UC Offered: S.

Chemistry 226—Organic Chemistry Laboratory (2)
Prerequisite: Chemistry 221.
Corequisite: Chemistry 225.
Further applications of laboratory theory and techniques in the synthesis and analysis of organic compounds including instrumental methods of chromatography and spectrosopy. Includes the separation and analysis of some biologically important compounds. One hour lecture, five hours laboratory. Transfer Credit: CSU; UC Offered: S.
Chemistry 250—Quantitative Analysis (4) (CAN CHEM 12)
Prerequisite: Chemistry 185 with grade of ‘C’ or better. Principles and techniques of gravimetric, volumetric and instrumental methods. Two hours lecture, six hours laboratory. Transfer Credit: CSU; UC Offered: as needed.

Chemistry 281—Protein Chemistry Laboratory (1)
Prerequisite: Biology 281 or 281H or concurrent enrollment.
This laboratory course will focus on experimental methods involving the purification and analysis of protein. The students will gain hands-on experience with spectrophotometry, enzyme purification and kinetics, ion exchange, affinity, and gel filtration chromatography. SDS-Polyacrylamide electrophoresis, and Western blot analysis. Three hours laboratory. Transfer Credit: CSU Offered: S.

COMMUNICATIONS

Communication 111—Editing and Production Skills (1) (9 week course)
Prerequisite: Eligibility for English N09 or ESL 155AB or qualifying OCC placement. Beginning journalists will acquire skills in accurate copy editing and newspaper production. Students will use the Associated Press Stylebook and learn various editing marks, beginning page layout, and paste-up skills. May be taken for grades or on a credit-no credit basis. Two hours. Transfer Credit: CSU Offered: F.

Communications 050AD—Supervised Tutoring (0)
Provides the tutee with supervised peer tutorial services necessary to increase the probability of succeeding in course work. Enrollment is open all semester. This course may be repeated as necessary. Offered on a no credit basis only. Two hours arranged. Offered: F.

Communications N060AD—Supervised Study (2.5-2)
A laboratory-based course to improve reading, writing, listening, and speaking skills in English or other languages offered by the college. Students will work independently according to a diagnostic and prescriptive study plan completed under the supervision of the course instructor. Includes periodic tutorials, completion of individualized lab assignments, and a final assessment of student progress. Enrollment is open all semester. Offered on a credit-no credit basis only. One to four hours laboratory. Not applicable to AA degree. Offered: F-S-Sum.

Communications N070—Writing on the Job (1.5) (9 week course)
Recommended preparation: Eligibility for English 099 OR eligibility for ESL 151AB and ESL 155AB.
Introduction to the role of communication on the job and practice in common forms of writing at work and in the supervision of the course instructor. Includes periodic tutorials, completion of individualized lab assignments, and a final assessment of student progress. Enrollment is open all semester. Offered on a credit-no credit basis only. Three hours. Not applicable to AA degree. Offered: F-S-Sum.

Communications 100—Mass Communications (3) (CAN JOUR 4)
A study and analysis of the major media—newspapers, magazines, radio and television—covering how they function, how they affect society and society’s effect upon them. Advertising, TV commercials, and their effects upon behavior will be stressed. Three hours. Transfer Credit: CSU; UC Offered: F-S-Sum.

Communications 110—News Writing and Reporting (3)
Prerequisite: English 100, or concurrent enrollment. Beginning journalists will acquire skills to write practical news stories under deadline pressure with a focus on accuracy, balance, and style. Writing assignments will include police stories, obituaries, speech coverage, round-ups, and feature stories. Also covered: basic interviewing techniques, journalistic style, editing, the importance of a free press, and the media’s responsibilities in reporting the news. May be taken for grades or on a credit-no credit basis. Three hours. Transfer Credit: CSU; UC Offered: F-S-Sum.

Communications 112—Advanced News Writing and Reporting (3)
Prerequisite: Communications 110.
Taught on video display terminals, the course covers advanced reporting techniques, the handling of controversial stories, human interest stories, editorials and stories in which fairness is the critical issue. Three hours. Transfer Credit: CSU; UC Offered: as needed.

Communications 114—Advertising Copywriting (3)
A survey of advertising copywriting with exercises in techniques of writing copy for advertisements, radio and television commercials and merchandise packaging. Includes studies of advertising layout and design so that the copywriter can creatively prepare an entire ad. Discusses the relationships between ad creator and consumer, advertiser and merchantiser. Same as Marketing 114. Students completing Communications 114 may not receive credit for Marketing 114. May be taken for grades or on a credit-no credit basis. Three hours. Transfer Credit: CSU Offered: F-S-Sum.

Communications 115AD—Newspaper Production (3-7)
Prerequisite: Communications 110 or concurrent enrollment.
Students will assist in all aspects of newspaper planning, writing, design, and production. Requires writing news and feature stories on deadline, commentary, writing headlines, designing pages, editing, and layout techniques. Students will use state-of-the-art computer design, graphics, and word processing software in a professional setting. May be taken for grades or on a credit-no credit basis. Two hours lecture, five to seventeen hours non-lecture. Transfer Credit: CSU Offered: F-S.

Communications 117AD—Feature Writing (3)
Prerequisite: Communications 110 and English 100 or concurrent enrollment.
A writing workshop focusing on student writing and marketing in-depth non-fiction feature articles. Emphasis will be on guiding students in developing feature articles and consonant stories from the idea stage through publication and finding suitable markets for publication. The course is designed for beginning, intermediate, and advanced writers seeking practice and input in producing lengthy feature articles. Same as English 117AD. Students completing Communications 117AD may not receive credit for English 117AD. May be taken for grades or on a credit-no credit basis. Three hours. Transfer Credit: CSU Offered: F-S.

Communications 118—Publication Design and Production (3)
Introductory overview of print media with emphasis on magazine and advertising design. Production techniques, layout and composition, typography, photography, printing, media selection, logo design, and the uses of color are examined. May be taken for grades or on a credit-no credit basis. Three hours. Transfer Credit: CSU Offered: F-S-Sum.

Communications 119—Writing for Advertising and Public Relations (3)
In studying the basics of writing for the two distinct but related crafts of advertising and public relations, students will develop skills to tailor material for specific target-markets and to customize styles for the broad array of both paid for and free-placement media. May be taken for grades or on a credit-no credit basis. Three hours. Transfer Credit: CSU Offered: F-S-Sum.

Communications 120—Public Relations in Communications (3)
Recommended preparation: Communications 110. Serves as an introduction to public relations as a profession. Students will survey job opportunities and develop skills necessary to perform in the field. Basic instruction in writing, publication layout and organizational skills. Projects will include production of a brochure, report or newsletter. Three hours. Transfer Credit: CSU Offered: as needed.

Communications N150AD—Tutoring Skills/Tutorial Center (1)
Tutoring skill development and demonstration of competencies required for certification. This course is designed for students majoring in interpersonal relation skills, communication and study skills techniques, human and cultural awareness. Techniques in listening, speaking, reading, and writing, as well as analysis of appropriate tutor behavior in classroom and other tutorial center. Open registration. May be taken for grades or on a credit-no credit basis. Eleven hours lecture, forty-five hours field clinical. Fifty-six hours total for the course. Not applicable to AA degree. Offered: F-S-Sum.

Communications N151AD—Tutoring Skills (1)
Tutoring skills and techniques development. Students will demonstrate competencies in techniques and skills that are factors for academic achievement through the tutoring process. This course is designed as an extension of Communications N150AD; however, enrollment is open to all students who wish training in tutoring. May be taken for grades or on a credit-no credit basis. One and one-half hours lecture, one and one-half hours laboratory. Not applicable to AA degree. Offered: F-S.
Communications 172A—Classroom Tutoring (1)
Individual, small group, and/or in-class tutoring. Advanced exercises relating to tutoring techniques, group study sessions for vocabulary, English, and academic study development. Individual conferences with instructors, small group meetings with other tutors and continued self-evaluation activities. Student will demonstrate competencies in subject content and tutoring skills in classroom setting. Arranged hours with coordinator/instructor, classroom instructor, or small group tutor meetings. May be taken for grades or on a credit-no credit basis. One-half hour lecture, two and one-half hours laboratory. Not applicable to AA degree. Offered: F.S.

Communications 173A—Master Tutoring (1)
Prerequisite: Communications 170 AD or N150AD or N152AD.
Advanced tutors with at least one semester of tutoring experience with a minimum of 45 tutoring sessions will assist other peer tutors in related subject areas. Student shall demonstrate competencies in reasoning ability, critical thinking, creativity and problem-solving ability to assist in developing student self-esteem and discipline to establish higher and more challenging academic standards. May be taken for grades or on a credit-no credit basis. One-half hour lecture, two and one-half hours laboratory. Not applicable to AA degree. Offered: F.S.

Communications 171—Braille Transcribing (3)
Offered: F;S;Sum.
Transfer Credit: CSU
Transcription from elementary through college. May be taken for grades or on a credit-no credit basis. Three hours.

Communications N153 AD—Master Tutoring (1)
Prerequisite: Communications 170 AD or N150AD or N152AD.
Advanced tutors with at least one semester of tutoring experience with a minimum of 45 tutoring sessions will assist other peer tutors in related subject areas. Student shall demonstrate competencies in reasoning ability, critical thinking, creativity and problem-solving ability to assist in developing student self-esteem and discipline to establish higher and more challenging academic standards. May be taken for grades or on a credit-no credit basis. One-half hour lecture, two and one-half hours laboratory. Not applicable to AA degree. Offered: F.S.

Communications 170—Braille Transcribing (3)
Offered: F;S.
Transfer Credit: CSU
Operation of the Perkins braille-writer, braille alphabet, Arabic and Roman numbers and contractions. Production of braille books and materials. For sighted students. May be taken for grades or on a credit-no credit basis. Three hours. Transfer Credit: CSU Offered: F.S.

Communications 171—Braille Transcribing (2) (3)
Prerequisite: Communications 170.
For sighted students. Increasing skill and accuracy in use and operation of the Perkins braille-writer and other braille production equipment, completion of the rest of the 189 contractions, methods and materials of production of braille books and their efficient distribution to blind students and adults. May be taken for grades or on a credit-no credit basis. Three hours. Transfer Credit: CSU Offered: F.S.

Communications 172—Braille Transcribing Format 1 (1)
Prerequisite: Communications 170.
Detailed discussion of the new Code of Braille Textbook Format and Techniques and its application to actual textbook transcription from elementary through college. May be taken for grades or on a credit-no credit basis. Two hours. Transfer Credit: CSU Offered: as needed.

Communications 173—Braille Transcribing Format 2 (1)
Prerequisite: Communications 172.
Continuation of Braille Transcribing Format 1. May be taken for grades or on a credit-no credit basis. Two hours. Transfer Credit: CSU Offered: as needed.

Communications 175—American Sign Language, Beginning (4)
Basic American Sign Language (ASL or American). Emphasis is on grammar, syntax, vocabulary and expressive and receptive skills. May be taken for grades or on a credit-no credit basis. Four hours. Transfer Credit: CSU; UC Offered: F.S.

Communications 215 AD—Coast Report Editorial Board (1)
Prerequisite: Must be editor on Coast Report staff.
This course is for the editorial board of the student newspaper. The editors will meet once per week to discuss policy matters, the upcoming issue and the instructor’s critique of the past one. The editors will also spend time supervising the paste-up of the paper. May be taken for grades or on a credit-no credit basis. One hour. Transfer Credit: CSU Offered: F.S.

Communications 285AB—Photojournalism (3-5)
Prerequisite: Communications 285AB.
This course is a continuation of Communications 285AB. Instruction is offered at intermediate/advanced and advanced levels. Two hours lecture, six to twelve hours non-lecture. Transfer Credit: CSU Offered: F.S.

Computer and High Technology 105—DOS for CAD/CAM (1) (9 week course)
Designed to provide students with the basic understanding of computers and their applications under the DOS operating system as applied to CAD/CAM. May be taken for grades or on a credit-no credit basis. Two hours. Transfer Credit: CSU Offered: S.

Computer and High Technology 100—Computer Use in Technology (3)
An introduction to the current state of computer hardware and software technology for the student enrolled in technical courses. An overview for the person who wants to understand computers and automation in industry. Not a programming course. Three hours. Transfer Credit: CSU Offered: F.S.

Computer and High Technology 101—Robotics (3)
An introductory course in robotics theory and operation designed for technical majors desiring a background in robotics and automation techniques. The course will include the following topic areas: robot history, terminology, robot classification, programming, specifications for work cells, servo-control systems, path control safety. Three hours. Transfer Credit: CSU Offered: as needed.
Computer and High Technology 104—Alternate Energy Vehicle Construction and Conversion (4)
This course will investigate, compare and contrast alternative energy sources for use in transportation including electric, solar, fuel cells, hydrogen storage, flywheels and other energy sources. Students will engage in hands-on experiments. An on-going project in electric car construction and/or conversion will be part of the course. May be taken for grades or on a credit-no credit basis. Three hours lecture, four hours non-lecture. Transfer Credit: CSU Offered: F.S.

Computer and High Technology 106—Manufacturing Computer Simulation (2) (9 week course)
Introduction to the design and development of simulations for manufacturing processes using software and computers. The design will consist of analyzing a manufacturing process, identifying individual components of the process and building software elements to represent those components. May be taken for grades or on a credit-no credit basis. One and one-half hours lecture, two and one-half hours non-lecture. Transfer Credit: CSU Offered: as needed.

Computer and High Technology 107—Electronic Circuit Computer Simulation (2) (9 week course)
Prerequisite: Electronics Technology 180 or 155.
Introduction to the design and development of simulations for electronic circuits using software and computers. The design will consist of analyzing the circuit, obtaining components from software component database, and building the circuit. Circuit will then be activated and tested in the software. Troubleshooting techniques using software instrumentation will be covered. May be taken for grades or on a credit-no credit basis. One and one-half hours lecture, two and one-half hours non-lecture. Transfer Credit: CSU Offered: as needed.

Computer and High Technology 108—Survey of High Technology (3)
An exploratory course in areas of high technology which includes computer applications in industry, digital electronics, robotics and automation trends, blueprint reading and CAD/CAM. Course is geared for students who have no prior experience in any of the topic areas and for the general education or general interest student. May be taken for grades or on a credit-no credit basis. Three hours. Transfer Credit: CSU Offered: F.

Computer and High Technology 109—Internet Web Publishing for Technology (2) (9 week course)
Prerequisite: Computer and High Technology 109.
Design, development, and authoring of World Wide Web home pages using HTML tags and other software tools with an emphasis toward business and industry. Comparisons of commercial editors to HTML will be analyzed and contrasted. May be taken for grades or on a credit-no credit basis. Two hours lecture, four hours non-lecture. Transfer Credit: CSU Offered: F.S.

Computer and High Technology 209—Internet Web Publishing for Technology (2) (9 week course)
Prerequisite: Computer and High Technology 109.
Design, development, and authoring of World Wide Web home pages using HTML tags and other software tools with an emphasis toward business and industry. Comparisons of commercial editors to HTML will be analyzed and contrasted. May be taken for grades or on a credit-no credit basis. Two hours lecture, four hours non-lecture. Transfer Credit: CSU Offered: F.S.

Computer Information Systems 104—DOS and Utilities (2)
Prerequisite: Basic knowledge of a personal computer.
Course covers MS/DOS commands, effective use of a hard disk, creation and use of batch files. Commercially prepared utilities are also included. May be taken for grades or on a credit-no credit basis. Two hours lecture, one hour non-lecture. Transfer Credit: CSU Offered: F.S.Sum.

Computer Information Systems 106—Introduction to Unix (4)
Prerequisite: Computer Information Systems 107 or Business 107 or Computer Information Systems 100 or Computer Science 111.
An introductory course in the UNIX operating system. Students will develop skills in using the UNIX file system and the standard UNIX commands for sorting and searching, as well as the vi editor and the sed, grep, and UNIX regular expressions. Students will write UNIX shell scripts and be introduced to the fundamentals of multi-user process control. Three and one-half hours lecture, one and one-half hours non-lecture. Transfer Credit: CSU Offered: F.S.

Computer Information Systems 107—Microcomputer Application (4) (9 week course)
This course develops skills in using the Microsoft Windows and DOS operating systems and includes configuring the desktop to meet individual needs and installing and using other software and hardware designed for MS Windows. Also, the student will be communicating with other computers and users and using the Internet and the e-mail. Same as Business 107. Students completing Computer Information Systems 107 may not receive credit for Business 107. May be taken for grades or on a credit-no credit basis. One and one-half hours lecture, one and one-half hours non-lecture. Transfer Credit: CSU Offered: F.S.Sum.

Computer Information Systems 110—PC Concepts: A+ Certification Preparation (2) (9 week course)
Introduction to the hardware concepts of a personal computer and the broad range of hardware and software technologies. The course will prepare the student for the A+ Certification exams sponsored by the Computing Technology Industry Association and certifies the competency of entry-level service technicians in the computer industry. May be taken for grades or on a credit-no credit basis. Three hours lecture, two hours non-lecture. Transfer Credit: CSU Offered: F.S.Sum.

Computer Information Systems 112—Educational Applications of Technology (2) (9 week course)
This course will provide the student with the educational applications of technology, including multimedia, Internet skills, graphics, research, video, audio, presentation and computer skills, basic networking processes, downloads, software resources, basic troubleshooting skills, scanners, and basic hardware and software evaluations. May be taken for grades or on a credit-no credit basis. Four hours. Transfer Credit: CSU Offered: F.S.Sum.
Computer Information Systems 122—Introduction to the Internet (1.5) (9 week course)

This course will provide an overview of the Internet—past, present, and future. Browsers will be used to access e-mail, search the World Wide Web, and subscribe to news groups. Students will use FTP to download and upload files, start a Telnet session, and create basic web pages. May be taken for grades or on a credit-no credit basis. Three hours lecture, one and one-half hours non-lecture. Transfer Credit: CSU Offered: F;S;Sum.

Computer Information Systems 123—Introduction to Web Page Design (2) (9 week course)

Prerequisite: Computer Information Systems 122.

This course will provide a practical understanding of the HTML tags to design a web page. Notepad and other software tools will be used to teach text formatting commands, background formatting, hyperlinks, e-mail links, tables, forms, image maps, and frames. Students will also learn to insert various types of images, videos, and sound files into a web page. May be taken for grades or on a credit-no credit basis. This course may also be offered online. Four hours lecture, two hours non-lecture. Transfer Credit: CSU Offered: F;S;Sum.

Computer Information Systems 124—Introduction to FrontPage (2) (9 week course)

Recommended preparation: Computer Information Systems 122.

Provides students with a practical understanding of Microsoft FrontPage to design web pages and manage web sites. Students will insert various types of images, videos, and sound files into a web page. May be taken for grades or on a credit-no credit basis. Four hours lecture, two hours non-lecture. Transfer Credit: CSU Offered: F;S;Sum.

Computer Information Systems 126—Introduction to E-Commerce (2) (9 week course)

Recommended preparation: Computer Information Systems 122.

This course introduces the concept of e-business models, including those of successful online businesses. Students will design, implement, and maintain a secure web-based business that accepts electronic orders and payments. Same as Business 126. Students completing CIS 126 may not receive credit for Business 126. May be taken for grades or on a credit-no credit basis. Four hours lecture, two hours non-lecture. Transfer Credit: CSU Offered: F;S;Sum.

Computer Information Systems 134—Excel (3)

Topics include spreadsheet concepts, model building, formula development using functions, database features. The student will create graphs and keyboard macros. Same as Business 134. Students completing CIS 134 may not receive credit for Business 134. May be taken for grades or on a credit-no credit basis. Three hours lecture, one hour non-lecture. Transfer Credit: CSU Offered: F;S;Sum.

Computer Information Systems 171—JavaScript Programming (2) (9 week course)

Recommended preparation: Computer Information Systems 123.

For students who already know how to create Web pages JavaScript is a scripting language that is used to create interactive web pages. Students will use the JavaScript object model to write programs that access the JavaScript Window, Document, History, and Link objects. Students will also create and process interactive HTML forms. May be taken for grades or on a credit-no credit basis. Two hours lecture, four hours laboratory. Transfer Credit: CSU Offered: F;S;Sum.

Computer Information Systems 172—Java Servlet Programming (2) (9 week course)

Recommended preparation: Computer Science 170.

Students will use Java language and Java Servlet API to create dynamic web sites. Topics will include initialization, processing HTML form data, handling client requests, generating responses, handling cookies, and dealing with session tracking. This course may also be offered online. May be taken for grades or on a credit-no credit basis. Four hours. Transfer Credit: CSU Offered: F;S;Sum.

Computer Information Systems 173—Java Server Pages (JSP) (2) (9 week course)

Recommended preparation: Computer Science 170.

Students will use the Java Server Pages to create dynamic web sites. Topics will include JSP scripting elements, expressions, scriptlets and declarations, JavaBeans, custom JSP tag libraries, JDBC, applets, and servlets. This course may also be offered online. May be taken for grades or on a credit-no credit basis. Four hours. Transfer Credit: CSU Offered: F;S;Sum.

Computer Information Systems 191—Local Area Networking (4)

Prerequisite: Computer Information Systems 104 or knowledge of DOS.

Course includes installing and maintaining a local area network. The commands, booting procedure, security and network management will be covered. Three and one-half hours lecture, one and one-half hours laboratory. Transfer Credit: CSU Offered: F;S;Sum.

Computer Information Systems 195—Microcomputer Data Communications (3)

Terminology and technology used in data communications. Uses concepts of both hardware and software in order to understand principles of communication theory. Three hours. Transfer Credit: CSU Offered: F;S.

Computer Information Systems 223—Advanced Web Page Design (2) (8 week course)

Recommended preparation: Computer Information Systems 123 or Computer & High Technology 209.

For students who already know how to create web pages using HTML, this course covers advanced features of web page design. Topics include creating and using style sheets, using DHTML, working with scripts, and concepts of information exchange with XML. Four hours lecture, two hours non-lecture. Transfer Credit: CSU Offered: F;S;Sum.

Computer Information Systems 224—Active Server Pages (2) (8 week course)

Prerequisite: Computer Information Systems 171.

Designed for students who know how to create web pages using HTML and JavaScript. Active Server Pages (ASP) allows server-side scripting to build dynamic web pages and manipulation of databases. May be taken for grades or on a credit-no credit basis. Four hours lecture, two hours non-lecture. Transfer Credit: CSU Offered: F;S;Sum.

COMPUTER SCIENCE

Computer Science 010—Introductory Programming Concepts through C (2) (9 week course)

Using the C programming language this course develops introductory programming techniques and concepts through lectures, demonstrations, and many in-class and out-of-class programming assignments. Offered on a credit-no credit basis only. Three and one-half hours lecture, one and one-half hours non-lecture. Offered: F;S;Sum.

Computer Science 111—Introduction to Information Systems and Programming (4) (CAN BUS 6)

Provides a general background in information systems and programming. Personal computers will be used to write programs in Visual Basic. In addition, students will learn file concepts, operating systems, and how to use application software such as electronic spreadsheet, database management, and Internet. Open to all majors and no prior computer experience is necessary. Satisfies lower division computer requirements for business majors at some California State University campuses. Three and one-half hours lecture, one and one-half hours non-lecture. Transfer Credit: CSU; UC Offered: F;S;Sum.
Computer Science 113—BASIC (1) (9 week course)
Features and applications of BASIC. May be taken for grades or on a credit-no credit basis. Two hours lecture, one hour laboratory. Transfer Credit: CSU Offered: F-S-Sum.

Computer Science 115—PASCAL Programming (4) (CAN CSCI 12)
Recommended preparation: Computer Science 111. Designed to provide the student with a general background in computer programming concepts and applications using the structured programming approach in Pascal language. Emphasis is on a systematic approach to problem solving using the computer. This is a transfer course for the computer science major. This course may also be offered online. Three and one-half hours lecture, one and one-half hours laboratory. Transfer Credit: CSU; UC Offered: F-S-Sum.

Computer Science 116—Computer Architecture (4)
Prerequisite: Computer Science 115 or 150. A course in the architecture of computers. Topics will include Boolean algebra and computer arithmetic, digital logic, micro and macro architecture, Assembly language, Performance, Datapath and control, memory hierarchies, interfacing and peripherals, and multiprocessing. Three and one-half hours lecture, one and one-half hours non-lecture. Transfer Credit: CSU; UC Offered: F.

Computer Science 118—First Course in Visual Basic (4)
Recommended preparation: Computer Information Systems 107 or Business 107. The first course in Visual Basic programming language includes the concept of object-based programming, forms, controls, properties, events, frames, menus, built-in functions, message boxes, programming in Visual Basic, file processing, and developing applications with multiple forms. This course may also be offered online. May be taken for grades or on a credit-no credit basis. Three and one-half hours lecture, one and one-half hours non-lecture. Transfer Credit: CSU; UC Offered: F-S-Sum.

Computer Science 119—Second Course in Visual Basic (4)
Prerequisite: Computer Science 118. Second course in Visual Basic programming language. Topics include the concept of multiple document interface forms, data bound controls, more advanced controls, use of Crystal reports control, Windows API calls, DDE, OLE, DII files, RDO, Activex controls, building custom controls and building custom class objects. May be taken for grades or on a credit-no credit basis. Three and one-half hours lecture, one and one-half hours non-lecture. Transfer Credit: CSU; UC Offered: F-S-Sum.

Computer Science 121—Advanced Basic (1) (9 week course)
Prerequisite: Computer Science 113, or knowledge of BASIC. File concepts, control breaks and system definition used in BASIC. May be taken for grades or on a credit-no credit basis. Two hours lecture, one hour laboratory. Transfer Credit: CSU Offered: F-S-Sum.

Computer Science 150—C++ Programming Language 1 (4) (CAN CSCI 16)
Prerequisite: Computer Science 115 or 118 or 170 or Computer Science 270 or Engineering 270 or Mathematics 270. First course in ANSI/ISO Standard C++ programming language using structured programming techniques. Topics include data types, strings, operators, expressions, control flow, storage classes, input/output, functions, pointers, arrays, preprocessor, structures, unions, file I/O, enumerated data types, standard library routines, function overloading, function templates, and namespaces. May be taken for grades or on a credit-no credit basis. Three and one-half hours lecture, one and one-half hours discussion. Transfer Credit: CSU; UC Offered: F-S-Sum.

Computer Science 152—Windows Programming in C++ (4)
Prerequisite: Computer Science 150. Students will use the Visual C++ programming language and the Microsoft Foundation Classes (MFC). Topics include AppWizard, ClassWizard, event handling, graphics, DocView, database, and Internet applications. May be taken for grades or on a credit-no credit basis. Three and one-half hours lecture, one and one-half hours non-lecture. Transfer Credit: CSU; UC Offered: F.

Computer Science 165—Access Programming (4)
Prerequisite: Computer Science 115, or previous programming experience using a structured language. Computer programming on a microcomputer such as IBM PC using Microsoft Access. Topics include database concepts, creating, editing, displaying, sorting, indexing, and summarizing data; generating reports; writing programs using structured programming techniques. May be taken for grades or on a credit-no credit basis. Three and one-half hours lecture, one and one-half hours non-lecture. Transfer Credit: CSU Offered: F-S.

Computer Science 170—Java Programming (4)
Recommended preparation: Computer Science 111 or Computer Information Systems 100. A beginning course in the Java programming language, object-oriented programming, the Java run-time environment, and the core application programming interfaces (APIs) that will enable students to design and implement applets and stand-alone applications. In addition to the core language features, several of the Java API facilities will be introduced. This course may also be offered online. May be taken for grades or on a credit-no credit basis. Three and one-half hours lecture, two hours non-lecture. Transfer Credit: CSU; UC Offered: F-S.

Computer Science 200—Data Structures (4)
Prerequisite: Computer Science 250. A study of data abstraction, algorithmic analysis, and common data structures. Data structures studied include linked lists, stacks, queues, trees, priority queues, tables, graphs, and files. Algorithms studied include searching, sorting, pattern-matching, tree traversal, and balancing. This is a core course for students who want to study advanced programming, computer science or engineering. Programming assignments in C++. Four hours lecture, one hour laboratory. Transfer Credit: CSU; UC Offered: S.

Computer Science 240—Microcomputer System Development (4)
Prerequisite: Computer Science 115 or 150. A course in personal computer Assembly language. Topics include microcontrollers, hardware fundamentals, instruction set, addressing modes, timer and interrupt operations, interrupt handling, Assembler passes, Assembler directives, Assembly language format, and Assembly language programming style. May be taken for grades or on a credit-no credit basis. Three hours lecture, two hours non-lecture. Transfer Credit: CSU; UC Offered: S.

Computer Science 250—C++ Programming Language 2 (4)
Prerequisite: Computer Science 150. Second course in ANSI/ISO Standard C++ programming language using object-oriented programming techniques. Topics include OOP concepts, function and operator overloading, inline functions, creating classes, constructors and destructors, new and delete operators, copy constructor, inheritance, friend functions and classes, data conversion, multiple inheritance, dynamic, abstract classes, static data and functions, class templates, exception handling RTTI and Standard Template Library. May be taken for grades or on a credit-no credit basis. Three and one-half hours lecture, one and one-half hours discussion. Transfer Credit: CSU; UC Offered: F-S.

Computer Science 270—Computer Programming for Engineering, Mathematics and Sciences (4) (CAN CSCI 20)
Prerequisite: Mathematics 157 or 180 or 182H. Programming techniques and numerical analysis for digital computers emphasizing applications in science, mathematics, and engineering. Fortran programming with laboratory work on digital computers. Same as Engineering 270 and Math 270. Students completing C S 270 may not receive credit for Engineering 270 or Math 270. Four hours. Transfer Credit: CSU; UC Offered: S.

Computer Science 280AD—Current Topics in Computing (1-4) (9-18 week course)
Prerequisite: Depends on topic. Course covers topics currently receiving attention by the computer industry. Topics will be determined at the time of course offering. May be taken for grades or on a credit-no credit basis. One to four hours lecture, 0-3 hours non-lecture. Transfer Credit: CSU; UC credit limitation Offered: F-S-Sum.
COMPUTERIZED OFFICE TECHNOLOGY

Computerized Office Technology 118—Advanced Computer Keyboarding (1.5) (9 week course)
The student will develop basic keyboarding skills on a computer keyboard using correct stroking techniques on letter, number, and symbol keys. Emphasis on developing accuracy and speed. No credit will be given to students who can already type 30 wpm. This course may also be offered online. Offered on a credit-no credit basis only. Two hours lecture, three hours laboratory. Transfer Credit: CSU Offered: F;S;Sum.

Computerized Office Technology 111AB—Keyboarding Speed and Accuracy (1.5) (9 week course)
Prerequisite: Computerized Office Technology 109.
Development of keyboarding skills on a microcomputer for students who know how to type by touch. Speed and accuracy development using a variety of teaching aids and software for diagnostic, prescriptive drills. May be taken concurrently with another typing course if desired. Offered on a credit-no credit basis only. Two hours lecture, three hours laboratory. Transfer Credit: CSU Offered: F;S;Sum.

Computerized Office Technology 113—Beginning Word Processing 1 (1.5) (9 week course)
Prerequisite: Computerized Office Technology 109.
Keyboarding on the computer for students who can type by touch control and know alphabetic, numeric, and symbolic keys presented in COT 109. Speed and accuracy on straight copy material and formatting of memos, business letters, reports, and tables will be emphasized. This course may also be offered online. May be taken for grades or on a credit-no credit basis. Two hours lecture, three hours laboratory. Transfer Credit: CSU Offered: F;S;Sum.

Computerized Office Technology 116—Beginning Word Processing 2 (1.5) (9 week course)
Prerequisite: Computerized Office Technology 113.
Improving keyboarding skills on the microcomputer using Microsoft Word. Emphasis on formatting, typing personal and business letters, memos, lists, tables, reports with special features, and employee documents from increasingly difficult material. This course may also be offered online. May be taken for grades or on a credit-no credit basis. Two hours lecture, three hours laboratory. Transfer Credit: CSU Offered: F;S;Sum.

Computerized Office Technology 118—Advanced Computer Keyboarding (1.5) (9 week course)
Prerequisite: Computerized Office Technology 116.
Skill development on the microcomputer. Emphasis on the development of production competency using both typewritten and handwritten copy. Document processing will include multipage letters with special letter parts, multipage memos with headings, specialized reports, tables with calculations, and sorting. Enhancement of proofreading skills and language art skills will be included. May be taken for grades or on a credit-no credit basis only. Two hours lecture, three hours non-laboratory. Transfer Credit: CSU Offered: F;S;Sum.

Computerized Office Technology 150—Office Skills (3)
Prerequisite: Computerized Office Technology 113.
Personal qualities and office skills required of the office assistant working in a high tech, multicultural labor force. Office applications generated with Microsoft Word enhance skills such as verbal and written communication, software applications, reprints, telephone and mail procedures, records management, time and stress management, office ethics, and career planning. May be taken for grades or on a credit-no credit basis only. Three hours. Transfer Credit: CSU Offered: F.

Computerized Office Technology 218AB—Intermediate Word Processing 1.5 (9 week course)
Prerequisite: Basic knowledge of WordPerfect and ability to type.
This course enhances the basic skills of word processing and covers advanced text enhancements, advanced print features, window and switch features, basic merge documents, creating, editing and deleting simple macros, decimal tabs, the math feature, and creating columns. May be taken for grades or on a credit-no credit basis. Two hours lecture, two hours non-laboratory. Transfer Credit: CSU Offered: F;S;Sum.

CONSTRUCTION TECHNOLOGY

Construction Technology 110AD—Wood Technology 1 (4)
A survey of basic woodworking as it relates to current practices, materials, procedures, machines and tools. Emphasis is placed on safety, hand tool use, machine woodworking and maintenance for the development of personal knowledge and skills in crafts for home improvement. Three hours lecture, three hours non-laboratory. Transfer Credit: CSU Offered: F;S;Sum.

Construction Technology 114AD—Cabinet Making (4)
A study of cabinet making with emphasis on dwelling cabinet construction including hanging cabinets, base cabinets, pull-down bookcases, custom cabinets, plastic laminates, door construction. Three hours lecture, three hours non-laboratory. Transfer Credit: CSU Offered: F;S.

Construction Technology 116AD—Furniture Making and Manufacturing (4)
The basic rules of furniture design and production are taught in this course with emphasis on wood selection, hand tool use, and a review of woodworking machinery. Advanced students will design and build more complex furniture pieces using more advanced techniques. Three hours lecture, three hours non-laboratory. Transfer Credit: CSU Offered: F;S;Sum.

Construction Technology 152—Residential Energy Standards (1) (6 week course)
Residential Title 24 building energy efficiency standards. Compliance methods using hands-on approach with computer software (Comply 24 and Micropas). May be taken for grades or on a credit-no credit basis. Three hours. Transfer Credit: CSU Offered: as needed.

Construction Technology 165—Construction Safety/CAL OSHA (3)
State and federal regulations related to general construction safety. Three hours. Transfer Credit: CSU Offered: F. S.

Construction Technology 170—Introduction to Construction (3)
Fundamentals of the construction industry; terminology and procedures; an overview of trades, skills and processes. May be taken for grades or on a credit-no credit basis. Three hours. Transfer Credit: CSU Offered: F.

Construction Technology 180—Building Construction (5)
Technical and practical experience to completely frame a house. Estimating of materials. Underpinning, wall layout, floor and wall construction and the application of various roofing materials are also covered. Three hours lecture, six hours laboratory. Transfer Credit: CSU Offered: F.

Construction Technology 185—Building Construction (5)
The study of roof design and cutting. Use of the framing square in roof layout. Pre-fabrication techniques in housing with field research assignments. Frame estimating for the building trades and the application of various roofing materials are also covered. Three hours lecture, six hours laboratory. Transfer Credit: CSU Offered: S.

Construction Technology 190—Blueprint Reading and Drafting (4)
The purpose and uses of blueprints, how to take measurements from blueprints, become familiar with symbols on the blueprints and understand the basic principles in planning a house. Some facility in drafting and diagramming or depicting ideas is a necessary means of communicating ideas and making simple revisions between those in the construction field. Four hours. Transfer Credit: CSU Offered: F.

Construction Technology 195—Building Code and Law (2)
A complete analysis of the Uniform Building Code, FHA Code and city and county related building codes. Special ordinances and land usage are also covered. Two hours. Transfer Credit: CSU Offered: F.
Construction Technology 210—Concrete Construction (5)

Construction Technology 220—Construction Estimating (3)
Construction estimating including bid preparation, material quantity take-off and analysis, labor and material pricing and quantities summation, subcontractor bids, bid correlation, bidding practices and final bid form compilation and submit- tal. Three hours. Transfer Credit: CSU Offered: F.S.

Construction Technology 225—Land and Building Development (3)
A general survey of land development principles and procedures used prior to the actual construction of structures. Site analysis and planning, regulatory controls, obtaining entitlements, grading, road and street designs, utility systems, principles of real property, and project financing will be covered. Same as Architectural Technology 225. Students completing Construction Technology 225 may not receive credit for Architectural Technology 225. Three hours. Transfer Credit: CSU Offered: F.

Construction Technology 230—Construction Inspection (3)
Inspection procedures and techniques of testing. A study of the various building code requirements in Uniform Building Code, Federal Housing Administration, and Title 21 of the California State Code. Plans, specifications, earthwork, grading foundations, concrete and framing are covered. Three hours. Transfer Credit: CSU Offered: F.

Construction Technology 235—Contractor’s Business Practice (3)
Functions and operations of a contractor’s business organization, staffing, management policies, tool and equipment control, starting out, job bids, contracts, purchasing, accounting, planning and scheduling, and unions and labor. Three hours. Transfer Credit: CSU Offered: F.

Construction Technology 240—Residential Finish Carpentry (4)
The study of various aspects of finish carpentry including interior and exterior millwork, cabinetry, doors, sash, trim, hardware, wall coverings and stairs. Finish estimating and cabinet construction are included. Three hours lecture, three hours laboratory. Transfer Credit: CSU Offered: F.S.

Construction Technology 250—Construction Supervision and Project Management (3)
The combination of designing, estimating, contracting, financing and building must be understood and practiced. Leadership in this field means being responsible for many people, their work and their safety. Three hours. Transfer Credit: CSU Offered: S.

Construction Technology 255—Construction Finance (3)
Basic financial concepts of the construction and development industries, assembling construction loan packages, establishing a new business, analyzing the basic principles of financial statements. Three hours. Transfer Credit: CSU Offered: as needed.

Construction Technology 260—Masonry Construction (3)
Covers masonry history, employment, tools, materials, construction and blueprint reading with estimating, construction of walls, paving, veneering, tile, arches, fireplaces and concrete masonry block. Also grouting, ties, reinforcing, ornamental work, glass blocks, slump stone, power saws, lift setting panels and miscellaneous masonry are practiced. Two hours lecture, three hours laboratory. Transfer Credit: CSU Offered: F.

Construction Technology 265—Plumbing 1 (4)
A course designed to provide students with entry-level instruction involving the theory and skills of residential plumbing systems. Knowledge of basic principles, functions and design, as well as the physical ability to install and test the rough-in plumbing in a single family dwelling. Three hours lecture, three hours non-lecture. Transfer Credit: CSU Offered: F.

Construction Technology 266—Plumbing 2 (4)
Prerequisites: Construction Technology 265.
A course designed to provide students with entry-level instruction involving the theory and skills of residential plumbing systems. Knowledge of the basic principles, functions and design as well as the physical ability to: 1) install the finish plumbing, 2) repair and service plumbing systems, 3) install solar, spa/pool, sprinkler systems in a single family dwelling. Three hours lecture, three hours non-lecture. Transfer Credit: CSU Offered: S.

Construction Technology 270AD—Contractor’s License Law (1.5) (9 week course)
Preparation for the California State Contractor Examination in any classification. Includes state license law, civil code, civil procedure, labor law, contract law, and asbestos regulations. Three hours. Transfer Credit: CSU Offered: F.S.

Construction Technology 275—Residential Electrical Wiring (5)
Wiring for interior electrical systems including layout and construction methods, code requirements, both sizing and installation standards, emphasis on material conservative practices, and compliance with the National Electrical Code. Three hours lecture, six hours laboratory. Transfer Credit: CSU Offered: F.S.

Construction Technology 280—Introduction to Computers in Construction (1) (9 week course)
Prerequisite: Students of construction technology, contractors, subcontractors, estimators, supervisors, managers and others involved in the construction industry. Some basic math skills required.
An introductory course in the use of the personal computer for construction related activities including estimating, accounting, job scheduling and job cost control. May be taken for grades or on a credit-no credit basis. One hour lecture, three hours non-lecture. Transfer Credit: CSU

Construction Technology 285—Residential Light Steel Frame Construction (5)
A comprehensive hands-on course that covers the fundamentals of utilizing light frame steel for residential framing in place of wood. Raised floor construction, wall framing and trussed roof fabrication and installation including applicable building codes, blueprint reading, estimating, and inspections are covered. Three hours lecture, six hours non-lecture. Transfer Credit: CSU Offered: F.
Construction Technology 290—Construction Contracts and Specifications (3)
Prerequisite: Management level in construction.
A study of construction contracts and their administration, elements of contract law, contract documents, AIA general and supplementary conditions, competitive bidding, bonding and insurance, unions and wage rates, specifications. May be taken for grades or on a credit-no credit basis. Three hours.
Transfer Credit: CSU Offered: as needed.

Counseling 100—Introduction to College (1) (9 week course)
This course is recommended for all new students pursuing a college degree or certificate and is an extension of the assessment and orientation process. This course is designed to orient students to the college environment and educational opportunities. Included are an introduction to college services, study skills, time management, college facilities, academic policies, and an exploration of the various segments of higher education in California. Students will develop an academic plan to achieve their tentative educational goals.
Transfer Credit: CSU Offered: F;S;Sum;Inter.

Counseling 110—Applied Stress Management (2)
Designed primarily for students uncertain about educational or vocational areas. Also included will be academic and career planning, group counseling and topics relating to the concerns of adults in a changing world. Interest and personality assessments will be available. May be taken for grades or on a credit-no credit basis. Four hours.
Transfer Credit: CSU Offered: F;S.

Counseling 120—Career Planning (2) (9-18 week course)
Designed primarily for students pursuing a college degree or certificate and is an extension of the assessment and orientation process. Designed to orient students to the college environment and educational opportunities, the course includes an introduction to college services, study skills, time management, college facilities, academic policies, and an exploration of the various segments of higher education in California. Additional topics include substance abuse, nutrition, performance, and athletic eligibility. May be taken for grades or on a credit-no credit basis. Two or four hours.
Transfer Credit: CSU Offered: F;S;Sum.

Counseling 120C—Career Planning (2) (9-18 week course)
Designed primarily for students pursuing a college degree or certificate and is an extension of the assessment and orientation process. Designed to orient students to the college environment and educational opportunities, the course includes an introduction to college services, study skills, time management, college facilities, academic policies, and an exploration of the various segments of higher education in California. Additional topics include substance abuse, nutrition, performance, and athletic eligibility. May be taken for grades or on a credit-no credit basis. Two or four hours.
Transfer Credit: CSU Offered: F;S;Sum.

Counseling 123—How to Get a Job (1.5) (9 week course)
Recommended preparation: Counseling 120.
An examination of the job search process with an emphasis on practical application. Topics to be covered include the field survey, resume and cover letter preparation, interviewing and follow-up procedures. Offered on a credit-no credit basis only.
Transfer Credit: CSU Offered: as needed.

Counseling 130AC—Peer Helping (3.5)
Prerequisite: Psychology 125.
Development of effective peer helping skills through supervised volunteer service on campus. Topics to include listening, helpful and referral strategies, factors affecting student success, self-care for helpers and supervision of campus service work.
Transfer Credit: CSU Offered: F;S.

Counseling 135—Principles of Effective Parenting (3)
This course will be available. May be taken for grades or on a credit-no credit basis. Three hours.
Transfer Credit: CSU Offered: F;S.

Counseling 199AD—Topics in Counseling (5-5) (1-18 week course)
Presentation and discussion of personal and interpersonal development issues. May include motivation, values clarification, career development, self-esteem and others. Units will vary depending on topic and number of meetings scheduled.
Transfer Credit: CSU Offered: F;S.

Culinary Arts 100—Introduction to the Hospitality Industry (3)
Overview of the hospitality industry, its history and interpersonal relationships of hotel, restaurant, travel and leisure industries. Economic and social influences of leisure. Emphasis on attitude required of a person seeking a position in the industry. Same as Food Service Management 100 and Hotel 100. Students completing Culinary Arts 100 may not receive credit for Food Service Management 100 or Hotel 100. Three hours.
Transfer Credit: CSU Offered: F;S.

Culinary Arts 120—Culinary Principles 1 (3)
Prerequisite: Food Service Management 160, or concurrent enrollment.
Fundamentals of food preparation and cookery, emphasizing high standards of production. Preparation and handling of vegetables, soups, stocks and sauces. Class requires purchase of a set of knives. Student will be required to follow Food Service and Hotel Management departments dress standards. TB clearance required. One and one-half hours lecture, four and one-half hours non-lecture.
Transfer Credit: CSU Offered: F;S.
Culinary Arts 122—Culinary Principles 2 (3)
Prerequisite: Food Service Management 160, or concurrent enrollment.
Fundamentals of food preparation and cookery emphasizing high standards of production. Preparation and handling of entrees, meat, poultry, meat cutting, broiling, sautéing, frying. Class requires purchase of a set of knives. Student will be required to follow Food Service and Hotel Management departments dress standards. TB clearance required. One and one-half hours lecture; four and one-half hours non-lecture. Transfer Credit: CSU Offered: F-S.

Culinary Arts 124—Principles of Baking 1 (2)
Prerequisite: Food Service Management 160, or concurrent enrollment.
Study the fundamentals of baking including ingredient composition and function, preparation and evaluation of pie doughs, biscuits, quick breads, muffins, cookies, shortened cakes, creme anglaise, custards, blanc mange, yeast doughs, roll-in yeast doughs, specialty breads and recipe conversion. Student will be required to follow Food Service and Hotel Management departments dress standards. TB clearance required. One hour lecture, four hours laboratory. Transfer Credit: CSU Offered: F-S.

Culinary Arts 126—Principles of Baking 2 (2)
Prerequisite: Food Service Management 160 and Culinary Arts 124.
An advanced course in culinary arts. Areas include puff pastry, foam cakes, classical European tortes, pastry fillings, meringues, cake decorating, chocolate handling, frostings and icings, tarts, pate a choux. Students will be required to follow Food Service and Hotel Management departments dress standards. TB clearance required. One hour lecture, four hours laboratory. Transfer Credit: CSU Offered: S.

Culinary Arts 149—Pantry (2)
Prerequisite: Food Service Management 160, or concurrent enrollment.
Methods of pantry or breakfast preparation including proper use of knife, proper vegetable and fruit cuts, vegetable and fruit identification and breakfast cookery. Students will also learn to use standardized recipes and practice quantity food preparation. Student will be required to follow Food Service and Hotel Management departments dress standards. TB clearance required. One hour lecture, three hours non-lecture. Transfer Credit: CSU Offered: F-S.

Culinary Arts 199AD—Current Issues in Culinary Arts (3) (1-9 week course)
This course deals with current issues in the field of culinary arts and food service management. Rotation through a variety of topics such as sanitation, safety, nutrition, management. May be taken for grades or on a credit-no credit basis. One to nine hours. Transfer Credit: CSU Offered: as needed.

Culinary Arts 200—Garde Manger (2)
Prerequisite: Food Service Management 160, or concurrent enrollment, and Culinary Arts 149, or enrollment as indentured apprentice.
This course emphasizes basic garde manger principles, the duties of the department and its relationship to other kitchen operations. Specific emphasis is placed on specialty work which includes garnishes, ice carving, buffet decorations, tallow, chaud-froid, aspic, and other decorative work. Class requires purchase of a set of knives. Student will be required to follow Food Service and Hotel Management departments dress standards. TB clearance required. One hour lecture, three hours laboratory. Transfer Credit: CSU Offered: F.

Culinary Arts 255—Advanced Garde Manger (2)
Prerequisite: Culinary Arts 200.
An advanced course for culinary arts and apprenticeship students. Course covers special cold buffet preparation such as pates, terrines, galantines, mousses, also advanced work in tallow and ice carving. Class requires purchase of a set of knives. Student will be required to follow Food Service and Hotel Management departments dress standards. TB clearance required. One hour lecture, three hours non-lecture. Transfer Credit: CSU Offered: S.

Culinary Arts 265—Ala Minute Continental Cooking (2)
Prerequisite: Culinary Arts 120 and Food Service Management 160.
Preparation of international foods a la minute. Student will be required to follow Food Service and Hotel Management departments dress standards. TB clearance required. One hour lecture, four hours non-lecture. Transfer Credit: CSU Offered: S.

DANCE

Dance 100—Introduction to Careers in Dance (1)
(2-9 week course)
This course is designed to help students considering a career in dance identify the broad scope of dance-related career options, (professional dancer/choreographer, dance therapist, and arts administrator among others), the education and training needed to pursue these careers, availability of jobs, and salaries. Guest appearances by professionals in these careers. May be taken for grades or on a credit-no credit basis. Two-nine hours. Transfer Credit: CSU Offered: F-S,Sum,Inte,Inter=Intersession

Dance 101AD—Modern Dance (5-2) (9-18 week course)
This course is designed to offer instruction, movement vocabulary and technical skills necessary to prepare the body as an instrument of expression in the dance style known as ‘modern dance.’ This dance style began in the United States in the early 1930’s as a ‘modern expression’ of American themes, personal and artistic ideas. The style has continued to evolve to include dance themes expressive of contemporary times. This course offers instruction at the beginning, intermediate, advanced and advanced levels. May be taken for grades on a credit-no credit basis, 25-1.0 hour lecture, 75-3.0 hours activity. Transfer Credit: CSU; UC Offered: F-S,Sum.

Dance 102AB—Freestyle Dance (2)
Recommended preparation: Intermediate level modern dance technique. This recommended preparation will be validated in class during the first week of the course. Designed to teach intermediate and advanced level dancers the dance movement and techniques based on the principles of Humphrey-Weidman and other pioneers of American modern dance. The course will explore the principles of ‘fall and recovery,’ symmetry/asymmetry, stage space, and ensemble work. May be taken for grades or on a credit-no credit basis. One hour lecture, three hours activity. Transfer Credit: CSU; UC Offered: F-S,Sum.

Dance 106AB—Strength and Stretch (.5-2) (9-18 week course)
A course emphasizing strength and flexibility exercises and their application to dance technique, but also applicable to any sport. Exercises will be selected to target major muscle groups in the body which need both strength and flexibility for their maximum efficiency and range of motion. The course will address both the adaptation of exercises to the individual for maximum benefit and application to movement patterns. May be taken for grades or on a credit-no credit basis, 25-1.0 hour lecture, 75-3.0 hours activity. Transfer Credit: CSU; UC credit limitation Offered: F-S,Sum.

Dance 107AD—Conditioning for Dance (5-2) (9-18 week course)
A program combining skills from dance and exercise for body conditioning and strength. Non-dancers and dancers will improve alignment, endurance, movement memory, balance and coordination for greater technical ability in other dance studies. May be taken for grades on a credit-no credit basis, 25-1.0 hour lecture, 75-3.0 hours non-lecture. Transfer Credit: CSU; UC credit limitation Offered: F-S,Sum.

Dance 108AD—Alignment and Correctives (.5-2) (9-18 week course)
A course in alignment and corrective work based on exercises and concepts developed by Joseph H. Pilates. The course will include ‘mat work,’ apparatus work, and will emphasize exercises for improved body alignment, strength, flexibility, control, coordination and breathing. It will also aid in dance injury rehabilitation. The course includes beginning, intermediate/advanced, and advanced levels of instruction. May be taken for grades or on a credit-no credit basis, 25-1.0 hour lecture, 75-3.0 hours activity. Transfer Credit: CSU; UC credit limitation Offered: F-S,Sum.
Dance 110AD—Ballet (.5-2) (9-18 week course)

Course designed to introduce and develop movement principles and skills necessary for the study of classical ballet. The course will include ballet terminology, use of ‘turns out’, positions of feet and legs, alignment of spine and placement of weight at the barre, in center floor and traveling patterns. This course offers instruction at the beginning, beginning/intermediate, intermediate and advanced levels. May be taken for grades or on a credit/no-credit basis. .25-1.0 hour lecture, .75-3.0 hours activity. Transfer Credit: CSU; UC Offered: F;S;Sum.

Dance 113AC—Pointe Work (.5-2) (9-18 week course)

Recommended preparation: a minimum of intermediate level ballet technique.

A course teaching the technique and movement skills needed to perform classical ballet technique on ‘pointe,’ pointe shoe fitting process, preparation and care of pointe shoes, care of feet, and related injuries. Instruction at the high beginning, intermediate, and intermediate/advanced levels. May be taken for grades or on a credit-no credit basis. .25-1.0 hour lecture, .75-3.0 hours activity. Transfer Credit: CSU; UC Offered: F;S;Sum.

Dance 114AB—Ballet Floor Barre and Correctives (.5-2) (9-18 week course)

This course will improve technique and increase understanding of safe, efficient muscle use for ballet or other dance forms. With an emphasis on correct body alignment, breath, and efficient use of muscles, as well as corrective exercises for muscular reeducation, the student will perform a series of exercises “par terre” (on the floor) that simulate the standing ballet barre. May be taken for grades or on a credit-no credit basis. .25-1.0 hour lecture, .75-3.0 hours non-lecture. Transfer Credit: CSU; UC Offered: F;S;Sum.

Dance 115AC—Yoga for Dancers (.5-1) (9-18 week course)

Using traditional yoga postures and breathing techniques, this course is designed for the needs of the training dancer. Yoga postures to increase strength and flexibility, as well as restorative postures will be taught in order to bring about improvement in the execution of dance movements. May be taken for grades or on a credit-no credit basis. .25-.5 hour lecture, .75-.5 hours non-lecture. Transfer Credit: CSU; UC Offered: F;S;Sum.

Dance 116AD—Latin Dance Styles (.5-2) (9-18 week course)

This course is designed to teach Latin dance styles, including the following dances: cha-cha, merengue, tango, and salsa. Styling, rhythm, and partnering will be taught, as well as the cultural and historical background on the evolution of these dance forms. This course offers instruction at the beginning, intermediate, intermediate/advanced, and high intermediate levels. May be taken for grades or on a credit-no credit basis. .25-1.0 hour lecture, .75-3.0 hours non-lecture. Transfer Credit: CSU; UC Offered: F;S;Sum;Inter.

Dance 117AD—American Social Dance Styles (.5-2) (9-18 week course)

This course is designed to teach American social dance styles, including the following dances: foxtrot, waltz, swing, and Lindy hop. Styling, rhythm, and partnering will be taught, as well as the cultural and historical background on the evolution of these dance forms. This course offers instruction at the beginning and intermediate levels. May be taken for grades or on a credit-no credit basis. .25-1.0 hour lecture, .75-3.0 hours non-lecture. Transfer Credit: CSU; UC Offered: F;S;Sum;Inter.

Dance 118AB—Dance Workout for the Maturing Body (.5-2) (9-18 week course)

Using a basic dance workout combined with dance conditioning exercises, this course will consider the fitness and wellness needs in the maturing body. Coordination, efficient posture, anase in body alignment, range of motion, strengthening of muscles, breathing, and improvement in functional movement will be addressed. May be taken for grades or on a credit-no credit basis. .25-1.0 hour lecture, .75-3.0 hours non-lecture. Transfer Credit: CSU; UC Offered: F;S;Sum.

Dance 120AD—Jazz Dance (.5-2) (9-18 week course)

Designed to introduce and develop movement principles and skills necessary to prepare the body as a instrument of expression in the jazz dance style with both historical and current dance trends. This course offers instruction at the beginning, intermediate, intermediate/advanced and advanced levels. May be taken for grades or on a credit-no credit basis. .25-1.0 hour lecture, .75-3.0 hours activity. Transfer Credit: CSU; UC Offered: F;S;Sum.

Dance 121AD—Commercial Dance Workshop (.5-2) (3-18 week course)

Recommended preparation: A minimum of intermediate level jazz technique skills.

A course designed to emphasize movement for commercial dance work used in movies, concert dance, television and industrial shows, and offers current trends in popular dance and jazz styling. Designed Course is designed for the intermediate/advanced level dancer and those attending commercial auditions on a regular basis. May be taken for grades or on a credit-no-credit basis. .25-1.0 hour lecture, .75-3.0 hours non-lecture. Transfer Credit: CSU Offered: F;S;Sum.

Dance 124AD—Dance for Musical Theatre Workshop (.5-2) (9-18 week course)

Designed to teach dance forms used in musical theatre, including the basic dance vocabulary of ‘period’ dances of the 20’s, 30’s, etc., dance styles of such choreographers as Bob Fosse, dance/trama styles of DeMille and Robbins, and current musical choreography. Student will be taught original ‘Broadway style’ choreography. Through the use of dance videos and learning dance sequences, the student will gain experience in the particular musical theatre dance style required. Student will work as part of a dance chorus and learn basic audition skills. May be taken for grades or on a credit-no credit basis. .25-1.0 hour lecture, .75-3.0 hours activity. Transfer Credit: CSU; UC Offered: F;S.

Dance 125AD—Tap (.5-2) (9-18 week course)

A course designed to teach tap dance technique based on the style known as rhythm tap emphasizing fundamental skills and rhythms, time steps, flash footwork, short combinations, styling. This course offers instruction at the beginning, intermediate, intermediate/advanced and advanced levels. May be taken for grades or on a credit-no credit basis. .25-1.0 hour lecture, .75-3.0 hours activity. Transfer Credit: CSU; UC Offered: F;S;Sum.

Dance 130AD—Mid-Eastern Dance (.5-2) (9-18 week course)

A technique course emphasizing the social and stage dances from the region designated as the Near and Middle East. The course incorporates choreography, improvisation, movement vocabulary and styling, and finger cymbal playing. Instruction at the beginning, intermediate, intermediate/advanced and advanced levels. May be taken for grades or on a credit-no credit basis. .25-1.0 hour lecture, .75-3.0 hours activity. Transfer Credit: CSU; UC Offered: F;S;Sum.

Dance 133AB—Introduction to World Dance (.5-2) (9-18 week course)

This is an introductory level course designed to survey dances of selected world dance cultures. Through movement experiences and lecture/discussion, students will gain the movement technique and understanding necessary to perform dances from the West (United States), Africa, Asia, and other areas of the world. May be taken for grades or on a credit-no credit basis. .25-1.0 hour lecture, .75-3.0 hours activity. Transfer Credit: CSU; UC Offered: F;S;Sum.

Dance 139AD—Flamenco Dance (.5-2) (9-18 week course)

Dance activities designed to introduce the students to flamenco. Lectures and discussions on background information pertinent to this dance form will be included. Of interest to dancers and non-dancers. May be taken for grades or on a credit-no credit basis. .25-1.0 hour lecture, .75-3.0 hours activity. Transfer Credit: CSU; UC Offered: F;S;Sum.

Dance 136AD—Spanish Classical Dance (.5-2) (9-18 week course)

The course is designed to offer instruction in Spanish classical dance focusing on the ‘school dances,’ dances of Northern and Central Spain, as well as neo-classical forms. The course offers instruction at the beginning, intermediate, intermediate/advanced and advanced levels. May be taken for grades or on a credit-no credit basis. .25-1.0 hour lecture, .75-3.0 hours activity. Transfer Credit: CSU; UC Offered: F;S.
Dance 137AD—Classical Dance of India (5-2) (9-18 week course)
A beginning level technique course designed to introduce students to the footwork, facial expression, gestures and styling of Indian classical dance with emphasis on the Bharathanatyam style. The mythology, history and theoretical background of dances of India and their development over 3,000 years will be covered. Of interest to dancers and choreographers, as well as non-dancers. May be taken for credit or on a credit/no credit basis. .75-.9 hour lecture, 1.5-3.0 hours non-lecture. Transfer Credit: CSU; UC Offered: F;S.

Dance 138AD—Dances of Africa (5-2) (9-18 week course)
A movement course in focusing on the learning of traditional and contemporary dances of various African cultures, especially those of Nigeria and Ghana. Students will learn the fundamental elements of dances including polyrhythms, call and response (drummer/dancer), integration of movement to live drumming, as well as information about the integral link between dance and the social/religious aspects of African cultures. May be taken for credit or on a credit/no credit basis. .5-.1 hour lecture, 1-.5-.3 hours non-lecture. Transfer Credit: CSU; UC Offered: F;S.

Dance 140AB—American Vernacular Dance (5-2) (9-18 week course)
Prerequisite: Successful audition. A course designed for intermediate or advanced dancers to study the American vernacular ‘swing-rhythm’ dance styles and key people (including King Rastus Brown, Bill Robinson, John W. Bubbles) responsible for these styles which are considered indigenous to the United States. Each semester will focus on two or more of these key figures and their contribution to American vernacular dance. Later contributors, such as Fred Astaire, Gene Kelly, Coles and Atkins and Gregory Hines, will also be included. May be taken for credit or on a credit/no credit basis. .25-.5 hour lecture, .75-1.5 hours non-lecture. Transfer Credit: CSU; UC Offered: F;S.

Dance 150AD—Improvisation Workshop (1)
Directed explorations of dance movements including use of space, dynamics and rhythms expressed through individual movement vocabulary. Designed for all levels. May be taken for credit or on a credit/no credit basis. One-half hour lecture, one and one-half hours activity. Transfer Credit: CSU; UC Offered: S.

Dance 160—Introduction to Choreography (3)
Basic skills with practical experience in the creating and crafting of dance problems and compositions. Two hours lecture, two hours non-lecture. Transfer Credit: CSU; UC Offered: F.

Dance 162AB—Advanced Dance Composition (3)
Prerequisite: Dance 160; elements of dance composition. An intermediate/advanced level course emphasizing more advanced skills and methods of choreographing dances. May be taken for credit or on a credit/no credit basis. Two hours lecture, two hours activity. Transfer Credit: CSU; UC Offered: S.

Dance 167—Music for Dancers (2)
Assists the dancer-choreographer (non-musician) in building a knowledge of the fundamentals of music through the limited study of theory, terminology and notation. The course is designed to present the development of music and dance in historical perspective, to develop through listening an awareness of the musical literature available, to train dancer and musician to work together through development of a common vocabulary and a working knowledge of each other's craft. May be taken for credit or on a credit/no credit basis. Two hours. Transfer Credit: CSU; UC Offered: F;S, Sum; Inter Session.

Information in italics designates the semester(s) in which the course is offered. The Division Office reserves the right to make changes as budget or other constraints warrant. F=Fall, S=Spring, Sum=Summer, Inter=Inter Session.

Dance 170A—Current Dance Topics (5-3) (1-3 week course)
Movement and lecture/discussion of topics and issues of current interest in dance. Units vary according to the topic selected, semester offered and number of meetings scheduled. Designed for intermediate/advanced level dance students. May be repeated with different topics. May be taken for credit or on a credit/no credit basis. 1-.5-.8 hours lecture, 2-.5-1.2 hours non-lecture. Transfer Credit: CSU; UC credit limitation offered: F,S, Sum.

Dance 200—Appreciation of Dance (3)
Designed for students to view dance of all styles from a global perspective. Emphasis is on the basic components (space, energy, musical accompaniment, movement vocabulary, style) characteristic of classical ballet, contemporary, world dance, and entertainment dance forms. The student will attend a minimum of two live dance performances. Expense for tickets is the student’s responsibility. This course may also be offered online. May be taken for credit or on a credit/no credit basis. Three hours. Transfer Credit: CSU; UC Offered: F;S, Sum.

Dance 201AD—Rehearsal and Performance (1)
Prerequisite: Eligibility based on successful audition. Auditions held throughout the semester prior to this class. Structured rehearsal time (26-40 hours) culminating in performance. Offered on a credit/no credit basis only. Three hours lecture, nine hours activity. Transfer Credit: CSU; UC Offered: S.

Dance 203AD—Performing Dance Ensemble (3)
Prerequisite: Eligibility based on successful audition. Corequisite: Dance 101AD or 110AD or 120AD or 125AD. Recommended preparation: intermediate dance skills in jazz or ballet or modern or tap or other dance forms and previous performing experience. Performing Dance Ensemble provides an opportunity for intermediate and advanced level dancers to improve their performing skills in structured rehearsal time, culminating in performances in high schools and the community. This course will be scheduled fall and spring semesters with the majority of performances occurring in the spring semester. May be taken for credit or on a credit-no credit basis. One and one-half hours lecture, four and one-half hours non-lecture. Transfer Credit: CSU; UC Offered: F;S.

Dance 205—Dance as a Profession Seminar (2)
(6-16 week course)
For students planning a career in dance, including dance-related career options, auditions, resumes, photos, video presentations, contracts, choreography and performance fees, resources, and other aspects of professional dance. Guest lecturers and field trips will be included. May be taken for credit or on a credit-no credit basis. Two hours. Transfer Credit: CSU Offered: F,S, Sum; Inter.

Dance 206—Introduction to Dance Technology (2)
Designed for dancers to gain basic skills in computer technology applied specifically to the field of dance education, choreography, and research. Web design, CD-ROM, motion capture, software programs, and graphic presentations related to dance will be included. The student will create a personal dance web page. May be taken for credit or on a credit-no credit basis. One hour lecture, three hours non-lecture. Transfer Credit: CSU Offered: F,S, Sum; Inter.
DANCE 211AD—Repetoire (1-4)
Corequisite: Dance 101AD or 110AD or 120AD or 125AD or 130AD or 135AD or 137AD.
Recommended preparation: Intermediate dance skills in modern or ballet or jazz or tap or Mid-Eastern or Flamenco or classical dance of India.
Designed to introduce students to rehearsal and performance skills and responsibilities. An opportunity for a dancer to learn and perform the choreography of another student, teacher, or guest artist. May be taken for grades or on a credit-no credit basis. One-half to two hours lecture, one and one-half to six hours activity. Transfer Credit: CSU; UC Offered: F-S-Sum.

DENTAL ASSISTING

Dental Assisting 100—Dental Anatomy (2)
Anatomical structures of the head and neck. Emphasis on toothgrowth, development, and their surrounding structures. Morphology of permanent and primary teeth. Identification of types of occlusions and related terminology. Two hours. Transfer Credit: CSU Offered: F.

Dental Assisting 110—Chairside Techniques 1 (3)
Prerequisite: Dental Assisting 120 and 150.
Four-handed dentistry. History of the dental profession. Charting, sterilization procedures, utilization and maintenance of dental operatory equipment. Laboratory experience includes basic application of operative procedures. Two hours lecture, three hours laboratory. Transfer Credit: CSU Offered: F.

Dental Assisting 115—Chairside Techniques 2 (2) (15 week course)
Prerequisite: Dental Assisting 110 and 150.
Corequisite: Dental Assisting 125.
A continuation of chairside techniques. Emphasis on dental specialties and application of coronal polishing. Two hours lecture, three hours laboratory. Transfer Credit: CSU Offered: S.

Dental Assisting 120—Dental Materials (3)
Corequisite: Dental Assisting 110.
A comprehensive study of materials related to restorative procedures. Emphasis on characteristics, composition, and use. Laboratory exercises include manipulation of restorative materials, gypsum products, impression materials, waves, and compounds. Includes taking and pouring of impression and construction of casts. Casting and investing demonstration. Trimming, construction of acrylic trays and temporaries. One and one-half hours lecture, three hours laboratory. Transfer Credit: CSU Offered: F.

Dental Assisting 125—Expanded Functions (2) (15 week course)
Prerequisite: Dental Assisting 110 and 120.
Corequisite: Dental Assisting 115 and 165.
Emphasis on expanded functions for the dental assistant and registered dental assistant. Laboratory practice and evaluation. One and one-half hours lecture, three hours laboratory. Transfer Credit: CSU Offered: S.

Dental Assisting 130—Preventive and Community Dentistry (1) (9 week course)
Corequisite: Dental Assisting 150.
Discussion of current concepts of preventive dentistry. Nutrition, oral hygiene techniques and home care are covered in detail. Psychology of the dental auxiliary, dental team and dental patient are presented. Includes community dental project. Two hours. Transfer Credit: CSU Offered: F.

Dental Assisting 140—Dental Radiography 1 (3)
Corequisite: Dental Assisting 100, 110 and 150.
A study of the principles of x-ray production, physics, biological effects, radiation safety procedures and monitoring. Film identification, processing and mounting procedures and introduction to the bisection technique and practical application are presented. Two hours lecture, three hours laboratory. Transfer Credit: CSU Offered: F.

Dental Assisting 145—Dental Radiography 2 (2) (15 week course)
Prerequisite: Dental Assisting 140 and 163.
Corequisite: Dental Assisting 165.
In-depth study of bisecting and paralleling techniques employed in intraoral radiographs. Analysis and correction of technique and processing errors. Clinical laboratory experience, bisecting and paralleling techniques for various radiographic examinations. Film processing and mounting. One hour lecture, three hours laboratory. Transfer Credit: CSU Offered: S.

Dental Assisting 150—Biomedical Sciences (2)
Corequisite: Dental Assisting 110 and 160.
An introduction to general anatomy and physiology including microbiology, study of pharmacology, oral pathology, and basic fundamentals to prepare the student to recognize and assist in dental emergencies. Two hours. Transfer Credit: CSU Offered: F.

Dental Assisting 160—Clinical Experience 1 (1) (9 week course)
Corequisite: Dental Assisting 120, 130, and 140.
An introduction to clinical dentistry for the beginning dental assisting student. Each student will be assigned to a dental office. Students are required to follow the dress code standards set up by the program and ADA guidelines. Offered on a credit-no credit basis only. Five hours clinical, one hour seminar. Transfer Credit: CSU Offered: F.

Dental Assisting 163—Clinical Experience 2 (1) (2 week course)
Prerequisite: Dental Assisting 160.
The second clinical experience in a dental office for the beginning dental assisting student. Students are required to follow the dress code standards set up by the program and ADA guidelines. Offered on a credit-no credit basis only. Twelve hours lecture. Transfer Credit: CSU Offered: Inter.

Dental Assisting 165—Clinical Experience 3 (2.5) (15 week course)
Prerequisite: Dental Assisting 163.
Corequisite: Dental Assisting 115, 145, and 175.
The third in a series of opportunities for clinical practice of concepts in dental assisting. Each student will be assigned to a dental office for either general dentistry or a specialty practice. Students are required to follow the dress code standards set up by the program and ADA guidelines. Offered on a credit-no credit basis only. One hour lecture, eight hours clinical. Transfer Credit: CSU Offered: S.

Dental Assisting 168—Clinical Experience 4 (1) (2 week course)
Prerequisite: Dental Assisting 165.
Student will be placed in a selected dental office for practical application of dental assisting procedures. Students are required to follow the dress code standards set up by the program and ADA guidelines. Offered on a credit-no credit basis only. Thirty-two hours clinical per week plus one hour seminar (8 hours per day, 5 days per week). Transfer Credit: CSU Offered: S.

Dental Assisting 175—Principles of Business and Practice Management (1.5) (15 week course)
Prerequisite: Dental Assisting 100.
An introduction to dental business office procedures, including dental records and charting, making appointments, banking, tax deductions (salary), communication, malpractice claims, payment plans, and insurance forms. Two hours. Transfer Credit: CSU Offered: S.

DIAGNOSTIC MEDICAL SONOGRAPHY

Diagnostic Medical Sonography 150—Sonographic Physics and Instrumentation (4.5)
Prerequisite: Allied Health 111.
Physics of diagnostic sonography. Instrumentation, equipment design, and application. Four hours lecture, two hours laboratory. Transfer Credit: CSU Offered: F.

Diagnostic Medical Sonography 155—Introduction to Vascular Ultrasound (2.5)
Prerequisite: Diagnostic Medical Sonography 150 or RDMS registered.
Introduction to Doppler (color flow) including a hands-on approach. Overview of normal and pathological data in regards to peripheral vascular, abdominal vasculature, carotid. Two hours lecture, two hours non-lecture. Transfer Credit: CSU Offered: S.
Diagnostic Medical Sonography 160—Pathophysiology 1 (3)  
Prerequisite: Allied Health 120 and Biology 223.  
Covers basic human general pathology and mechanisms of pathophysiology. Three hours. Transfer Credit: CSU  
Offered: S.

Diagnostic Medical Sonography 165—Introduction to Scanning Practice (3)  
Prerequisite: Diagnostic Medical Sonography 150  
Corequisite: Biology 226, Diagnostic Medical Sonography 155 and 160.  
Introduction to sonographic scanning protocol as applied to clinical practice. Course includes environment of department, emphasis on professionalism, student behavior, medico-legal aspects, and humanistic approach to patients. Two hours lecture, three hours laboratory. Transfer Credit: CSU  
Offered: S.

Diagnostic Medical Sonography 166—DMS Clinical Experience 1 (2)  
Prerequisite: Allied Health 115  
Corequisite: Diagnostic Medical Sonography 165.  
Clinical practice. Course includes environment of department, patient flow, darkroom and processing procedures, observation of techniques employed, policies and procedures of clinical cases. Offered on a credit-no credit basis. Eight hours clinical. Transfer Credit: CSU  
Offered: S.

Diagnostic Medical Sonography 167—DMS Clinical Experience 2 (5) (8 week course)  
Prerequisite: Diagnostic Medical Sonography 166.  
Continuation of clinical experience. Exposure to departmental organization, patient flow, darkroom and processing procedures, observation of techniques employed, policies and procedures of clinical cases, beginning hands-on experience, and equipment set-up. Offered summer only. Offered on a credit-no credit basis only. Forty hours clinical. Transfer Credit: CSU  
Offered: Sum.

Diagnostic Medical Sonography 265—Pathophysiology 2 (3)  
Prerequisite: Diagnostic Medical Sonography 160.  
Specific study of pathology and pathophysiological mechanisms related to diagnostic medical sonography. Three hours. Transfer Credit: CSU  
Offered: F.

Diagnostic Medical Sonography 271—DMS Clinical Experience 3 (7)  
Prerequisite: Diagnostic Medical Sonography 167  
Corequisite: Diagnostic Medical Sonography 265, 274 and 275.  
Clinical experience in ultrasound. Equipment handling and patient management. Departmental operation and scope. Offered on a credit-no credit basis only. Thirty-two hours clinical. Transfer Credit: CSU  
Offered: F.

Diagnostic Medical Sonography 274—Sonographic Scanning Techniques 1 (3) (9 week course)  
Prerequisite: Diagnostic Medical Sonography 165.  
Interpretation of normal anatomy, sonographic and gross anatomy, comparing one disease to another and what to identify in the sonographic images. Six hours. Transfer Credit: CSU  
Offered: F.

Diagnostic Medical Sonography 275—Sonographic Scanning Techniques 2 (3) (9 week course)  
Prerequisite: Diagnostic Medical Sonography 274.  
Review of advanced scanning techniques. Interpretation of normal and pathologic anatomy. Six hours. Transfer Credit: CSU  
Offered: F.

Diagnostic Medical Sonography 276—DMS Clinical Experience 4 (2) (4 week course)  
Prerequisite: Diagnostic Medical Sonography 271.  
Intermediate clinical experience. Studies in the abdomen, small parts, and pelvis. Variety of real-time equipment, anatomical pathology recognition. Offered on a credit-no credit basis only. Forty hours clinical. Transfer Credit: CSU  
Offered: Inter.

Diagnostic Medical Sonography 281—DMS Clinical Experience 5 (9)  
Prerequisite: Diagnostic Medical Sonography 276.  
Advanced clinical experience in the ultrasound department practicing in a variety of sonographic studies with emphasis on the abdomen and pelvis. Recognition of pathology and scan interpretation are emphasized. Offered on a credit-no credit basis only. Thirty-six hours clinical, one hour seminar. Transfer Credit: CSU  
Offered: S.

DIEETIC TECHNOLOGY  
(See Nutrition Care and/or Food Service Management)

DIGITAL MEDIA ARTS  
(Formerly Electronic Media)

Digital Media Arts 280AC—2D Animation (4)  
Prerequisite: Digital Media Arts 181.  
Recommended preparation: Art 120.  
An investigation into the theory and practice of computer generated 2D animation. Lectures, demonstrations, and graphic examples introduce students to the technical and creative aspects of 2D animation as seen in communication media. Through classroom assignments students will investigate both commercial and fine art applications. Two hours lecture, six hours non-lecture. Transfer Credit: CSU  
Offered: F.S.

Digital Media Arts 181—Introduction to Computer Graphics (3)  
Designed to introduce the lay person or computer professional to the rapidly expanding field of computer graphics. The subject will be approached from an application perspective. Course will include guest speakers and field trips. May be taken for grades or on a credit-no credit basis. Two hours lecture, three hours laboratory. Transfer Credit: CSU  
Offered: F.S.

Digital Media Arts 190—Illustration and Computer Graphics 1 (4)  
Prerequisite: Digital Media Arts 181.  
Investigation into the use of computer graphics in various disciplines emphasizing illustration and the principles of color and design. Students will complete a portfolio of computer generated graphic designs and illustrations. Two hours lecture, six hours laboratory. Transfer Credit: CSU  
Offered: S.

Digital Media Arts 191AB—Illustration and Computer Graphics 2 (4)  
Prerequisite: Digital Media Arts 190.  
Further investigation into the use of illustration and computer graphics as studied in Digital Media Arts 190. Existing software will be used to generate a more specialized portfolio of computer art. Lectures and demonstrations familiarize students with advanced techniques in computer graphics with an emphasis on output. Two hours lecture, six hours laboratory. Transfer Credit: CSU  
Offered: as needed.

Digital Media Arts 193—Photography and Computer Graphics 1 (4)  
Prerequisite: Photography 120 and Digital Media Arts 181.  
This course integrates photography, art, design, and computer graphics processes and images. Lectures and demonstrations familiarize students with advanced techniques in digital photography with an emphasis on output is the basis for this course. Both fine art and commercial applications are covered. Two hours lecture, six hours non-lecture. Transfer Credit: CSU  
Offered: F.S.

Digital Media Arts 194AC—Photography and Computer Graphics 2 (4)  
Prerequisite: Digital Media Arts 193 or Photography 125.  
Lectures and demonstrations to familiarize students with advanced techniques in digital photography with an emphasis on output is the basis for this course. Both fine art and commercial applications are covered. Two hours lecture, six hours non-lecture. Transfer Credit: CSU  
Offered: F.S.

Digital Media Arts 200AB—Interactive Multimedia (4)  
Prerequisite: Digital Media Arts 181.  
Explore the merger of traditional media, such as video, photography, books and audio by use of interactive multimedia on desktop computers. An interactive authoring language will be used to access all the media capabilities of the computer. The course is designed for students coming from different backgrounds, such as photography or computer graphics. Instruction is offered at the beginning and intermediate levels. Two hours lecture, six hours non-lecture. Transfer Credit: CSU  
Offered: F.S.

Digital Media Arts 201AD—Interactive Master Class (4)  
Prerequisite: Digital Media Arts 200AB.  
The use of the authoring tools necessary to achieve artistic mastery of interactive media will emphasize advanced techniques in interface design, authoring, scripting, programming, and communicating on the Internet. Students will create their own large interactive multimedia program. Transfer Credit: CSU  
Offered: as needed.
Digital Media Arts 262AC—Image Processing for Digital Video (4)
Prerequisite: Digital Media Arts 181 and Film/Video 110.
Students learn the art of combining computer generated imagery with digital video to create fine art and commercial videos as seen on television and in music videos. Students will create their own videos on the computer using transitions, filters, alpha channels and keying effects, and digital animation. Two hours lecture, six hours non-lecture. Transfer Credit: CSU Offered: F-S.

Digital Media Arts 263AC—Digital Video Compositing (4)
Prerequisite: Digital Media Arts 193 or 262AC.
This ability to layer photography, video, text and graphics, and audio in complex ways gives the digital video artist complete control over the media. Masking with Bezier curves, keying, layering, transparency, and 3D controls allow compositions to be carefully controlled in a time based media. Two hours lecture, six hours laboratory. Transfer Credit: CSU Offered: F-S.

Digital Media Arts 281AB—3D Computer Graphics Animation (4)
Prerequisite: Digital Media Arts 280AC.
Investigating the practice of 3D temporal image handling utilizing computer graphics technology. Students will explore artistic applications in various fields. Instruction is offered at beginning and advanced levels. Two hours lecture, six hours laboratory. Transfer Credit: CSU Offered: F-S.

Digital Media Arts 289AB—Portfolio Development (3)
Prerequisite: Digital Media Arts 181.
Recommended preparation: Knowledge of portfolio preparation as taught in Digital Media Arts 190 or 193 or 200AB or 262AC or 280AC.
Designed for intermediate and advanced level students wishing to pursue a career in digital media arts. Topics include image selection, sequencing, presentation, and selling or exhibiting work. May be repeated with different subject matter and presentation styles. Strongly recommended for digital media arts majors. Two hours lecture, four hours non-lecture. Transfer Credit: CSU Offered: as needed.

Digital Media Arts 290AD—Digital Media Arts Lab (1-5)
Prerequisite: Digital Media Arts 181.
Assistance with projects using special software techniques for various digital media arts procedures in an interdisciplinary workshop context. Instruction is offered at beginning, intermediate, intermediate/advanced and advanced levels. Offered on a credit-no credit basis only. Three to six hours non-lecture. Transfer Credit: CSU Offered: F-S.

DIRECTED STUDIES
(See Admission and Academic Information Section)

DRAFTING TECHNOLOGY
Drafting Technology 100—Blueprint Reading (3)
This course, taught in a traditional classroom setting or via the Internet, is a study of blueprints that are used in the manufacturing world. Units of instruction include the alphabet of lines, multiviews, dimensions, sections, auxiliaries, and all facets of the print page. This course may also be offered online. Three hours. Transfer Credit: CSU Offered: F-S.

DISPLAY AND VISUAL PRESENTATION
Display and Visual Presentation 180—Elementary Display and Visual Presentation (3)
An opportunity to learn display design, trade show display, and exhibit design for theme parks, soft and hardline goods and furniture promotion. Three hours lecture, two hours laboratory. Transfer Credit: CSU Offered: F.

Display and Visual Presentation 185—Intermediate Display and Visual Presentation (3)
Prerequisite: Display and Visual Presentation 180.
An opportunity to solve design, display and visual presentation problems presented in the community. Students work with local retail centers. An in-depth learning of design and display materials and construction. An increased understanding of the changing attitudes in visual promotion. Marketing affect on display and visual presentations. Introduction to professional organizations. Three hours lecture, two hours laboratory. Transfer Credit: CSU Offered: F-S.

Display and Visual Presentation 190—Field Experience—Display & Visual Presentation (2)
Prerequisite: Display and Visual Presentation 185.
A directed opportunity for students to experience on-the-job opportunities in display departments. Students will gain experience in performing select store functions found in the display and/or exhibit areas. A minimum of five hours on the job plus one hour weekly class. One hour lecture, five hours non-lecture. Transfer Credit: CSU Offered: as needed.

Drafting Technology 105—Elementary Drafting Pencil Graphics (1.5)
Emphasis on elementary practices and procedures using paper and pencil medium. Application of drafting instruments to lettering, sketching, geometric construction, orthographic projections, pictorials, including isometric and oblique. Intended as a preparation course for drafting, architectural, and interior design majors who have no previous drawing or graphic skills. May be taken for grades or on a credit-no credit basis. One hour lecture, two hours non-lecture. Transfer Credit: CSU Offered: F.

Drafting Technology 110—Basic Drafting Practices (4)
Prerequisite: Drafting Technology 105AB.
Emphasis on the fundamentals of drafting practices and procedures, the use of CAD (computer aided drafting) and drafting instruments, lettering, geometric construction, orthographic projections, pictorials, including isometric and oblique, sketching, dimensioning practices, sectioning. Acceptable for transfer and various occupational majors. Three hours lecture, three hours laboratory. Transfer Credit: CSU Offered: F-S.

Drafting Technology 115—Engineering Drafting Design 1 (4)
Prerequisite: Drafting Technology 110, or one year of high school drafting.
Use of CAD (computer aided drafting) to complete a thorough review and improvement of drafting practices. Instruction in precision dimensioning and tolerances, weldments, detail and assembly drawings, threads and fasteners, shop processes, machine drawing, sheet metal drawings, and auxiliary drawings. Required for electro/mechanical drafting certificate and mechanical design/drafting certificate. Three hours lecture, three hours laboratory. Transfer Credit: CSU Offered: F-S.

Drafting Technology 120—Engineering Drafting Design 2 (4)
Prerequisite: Drafting Technology 115.
Continuing the engineering design concepts. Included will be specialty design areas used throughout industry: tool design, stress analysis, cam and linkage design, kinematicics of motion, modern inking techniques, metrics, etc. For drafting majors only. Engineering majors should take Drafting Technology 115. Three hours lecture, three hours laboratory. Transfer Credit: CSU Offered: S.

Drafting Technology 140—Electro/Mechanical Drafting 1 (4)
Prerequisite: Drafting Technology 110.
Prepares various drafting types used in industry such as sketching, basic mechanical drawings, block diagrams, logic diagrams, wiring and cable diagrams, cable assemblies, electronic symbols and schematics, electronic packaging, introduction to PWB documentation and design. Required for electro/mechanical drafting certificate. Three hours lecture, three hours laboratory. Transfer Credit: CSU Offered: as needed.
Drafting Technology 150AB—Basic Computer Aided Design/Drafting (4)
A beginning computer aided drafting class for architectural, electronic, and mechanical drafters. Students will use an IBM compatible computer with AutoCAD software to develop two-dimensional ‘computer drawn’ drawings. This course may also be offered online. Online students will be required to have their own copy or access to AutoCAD software. Three hours lecture, four hours laboratory. Transfer Credit: CSU; UC Offered: F-S.

Drafting Technology 156—Advanced Computer Aided Design/Drafting—Electro/Mechanical (4)
Prerequisite: Drafting Technology 150AB
Recommended preparation: Drafting Technology 140.
This is a second semester course which presents an intensive study utilizing a Computer Aided Drafting (CAD) system to obtain graphic solutions, design refinements, modifications and and delineations of mechanical drawings. The course emphasizes high technology skills which are necessary to function as an entry level CAD operator in the field of electronics. Students use IBM computers with AutoCAD software. Three hours lecture, four hours non-lecture. Transfer Credit: CSU Offered: F-S.

Drafting Technology 157—Advanced Computer Aided Design/Drafting—Mechanical (4)
Prerequisite: Drafting Technology 150AB
Recommended preparation: Drafting Technology 120 or concurrent enrollment.
This is a second semester course which presents an intensive study utilizing a Computer Aided Drafting (CAD) system to obtain graphic solutions, design refinements, modifications and delineations of working technical mechanical drawings. The course emphasizes basic high technology skills which are necessary to function as an entry level CAD operator in the field of mechanical design drafting. Students use IBM Computers with AutoCAD software. Three hours lecture, four hours non-lecture. Transfer Credit: CSU Offered: F-S.

Drafting Technology 158—Advanced Computer Aided Design/Drafting—Architectural (4)
Prerequisite: Drafting Technology 150AB
Recommended preparation: Architectural Technology 180 and 185.
This is a second semester course which presents an intensive study utilizing a Computer Aided Drafting (CAD) system to obtain graphic solutions, design refinements, modifications and delineations of architectural drawings. The course emphasizes basic high technology skills which are necessary to function as an entry level CAD operator in the field of architecture. Students use IBM computers with AutoCAD software. Three hours lecture, four hours non-lecture. Transfer Credit: CSU Offered: F-S.

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Drafting Technology 159—Advanced CADD-Introduction to 3D (3)
Prerequisite: Drafting Technology 150AB
Recommended preparation: Drafting Technology 156 or 157 or 158 or concurrent enrollment.
A basic 3-dimensional computer aided design/drafting course for architectural, mechanical, or electro-mechanical drafters. Students will use Windows based personal computers and AutoCAD software to develop a series of 3-dimensional drawings. Two hours lecture, four hours non-lecture. Transfer Credit: CSU Offered: F-S.

Drafting Technology 160—Dimensioning (4)
Prerequisite: Drafting Technology 110
Covers basic and precision dimensioning practices, geometric dimensioning and tolerancing according to ASME Y14.5M 1994. A requirement for the drafting technology certificate programs. Three hours lecture, three hours non-lecture. Transfer Credit: CSU Offered: F.

Drafting Technology 170—Solid Modeling for Advanced Mechanical Design (3)
Recommended preparation: Drafting Technology 115, 120, 159, Machine Technology 195, and Computer Information Systems 107, or related experience.
An advanced solid modeling design course for mechanical drafters, designers, and engineers. Students will use IBM compatible computers to develop solid models, assemblies, and drawings, and to solve mechanical design problems. Two hours lecture, two hours non-lecture. Transfer Credit: CSU Offered: as needed.

EARLY CHILDHOOD

Early Childhood 100AD—Parent/Infant Workshop (1)
This course is designed for expectant parents or parents of babies not yet walking. Effective ways of encouraging all levels of infant development. Class members will have opportunities to interact with infants in a supervised setting. Offered on a credit-no credit basis only. One hour lecture, one hour workshop activity. Transfer Credit: CSU Offered: as needed.

Early Childhood 101AD—Parent/Toddler Workshop (1)
Laboratory workshop designed for parents and their toddlers. Effective ways of encouraging all levels of development will be presented. Parents will have opportunities to interact with their children in a supervised setting. Offered on a credit-no credit basis only. One hour lecture, one and one-half hour workshop activity. Transfer Credit: CSU Offered: F-S.

Early Childhood 102AD—Parent/Child Preschool Workshop (2)
Workshop designed for parents and their children between the ages of 27 and 60 months. Through active participation with their children in a preschool setting, parents will learn ways of stimulating their child’s development, alternative methods of child management, and different styles of adult/child communication patterns. Offered on a credit-no credit basis only. One hour lecture, two hours workshop activity. Transfer Credit: CSU Offered: F-S.

Early Childhood 105—Introduction to Early Childhood Education (3)
This course is designed to introduce students to the field of early childhood education for children birth through age 12. Included are objectives, philosophies, and history of these programs, as well as career opportunities. Field trips will be taken to see the various programs discussed. Three hours. Transfer Credit: CSU Offered: F.

Early Childhood 126—Cross-Cultural Perspectives on Child Development (3)
Prerequisite: Human Development 180.
An overview of the different microcultures to which students belong and the importance of understanding their own culture. Microcultures discussed are class, ethnicity and race, gender, exceptionality, and age. Emphasis will be placed on the social and cultural conditions that influence education. Three hours. Transfer Credit: CSU Offered: F-S.

Early Childhood 130—Language Arts in the Preschool (2)
Prerequisite: Human Development 180, or concurrent enrollment.
Exploration of language development in preschool children and activities that stimulate its growth including book selection, story telling, finger plays and poetry, flannel books, puppetry, dramatic play, language centers and language games. Two hours lecture, one hour laboratory. Transfer Credit: CSU Offered: F-S.

Early Childhood 131—Creativity for Children (3)
Prerequisite: Human Development 180.
Methods for fostering creativity in children and teachers. Emphasis will be on cultivating music and art expression through application of developmental theory. TB clearance required. Two hours lecture, one hour laboratory, two hours arranged. Transfer Credit: CSU Offered: F-S.

Early Childhood 132—Science in the Preschool (3)
Prerequisite: Human Development 180.
Physical and natural science activities that encourage children’s thinking and problem solving skills. Emphasis on the development of programs and materials that allow for exploration and/or experimentation. The course also covers the development of physical and psycho-mathematical knowledge. A portion of the course will cover food and nutrition. Three hours. Transfer Credit: CSU Offered: F-S.
Early Childhood 155—Early Childhood Development Through Play (3)
Prerequisite: Human Development 180.
Use of play in the classroom to support the developing child. Emphasis on the value of play as a tool for learning in the cognitive, psycho-social, and physical domains. Includes role of the teacher, role of the environment, and characteristics of developmentally appropriate programs. Three hours. Transfer Credit: CSU Offered: F;S.

Early Childhood 156—Early Childhood Laboratory (2)
Prerequisite: Early Childhood 155.
Beginning practical experiences that focus on establishing relationships with children and developing guidance, observation, play entry, and collaboration techniques in facilitating learning. TB clearance required. One hour lecture, three and one-half hours laboratory. Transfer Credit: CSU Offered: F;S.

Early Childhood 157—Guidance for Young Children (3)
Prerequisite: Early Childhood 155.
Course covers theories of behavior, guidance techniques, and parent communication. Emphasis on understanding of children's behavior and encouraging positive self-esteem while helping the child work toward self-control. Three hours. Transfer Credit: CSU Offered: F;S;Sum.

Early Childhood 165—Observing and Recording Child Behavior (2) (12 week course)
Prerequisite: Human Development 180.
A variety of observation tools, individual anecdotal and running records, time and event samplings, checklists, rating scales and case studies are discussed and practiced. TB clearance required. Three hours lecture, one and one-half hours laboratory. Transfer Credit: CSU Offered: F;S.

Early Childhood 174—Building Partnerships with Families (3)
Designed to build more effective partnerships with families by understanding personal attitudes and beliefs about families, the dynamics of culture, and the effects of stress on families. The student will develop productive communication skills to plan and conduct parent conferences, discuss special concerns about children, and work with families of children with special needs. Three hours. Transfer Credit: CSU Offered: F.

Early Childhood 198A—Current Issues in Early Childhood (5-2) (1-9 week course)
Current issues in the field of early childhood education, rotating through a variety of topics, such as working with parents, public policy, and curriculum updates. May be taken for grades or on a credit-no credit basis. Four to nine hours. Transfer Credit: CSU Offered: as needed.

Early Childhood 200—Preschool Programs—The Curriculum (3)
Prerequisite: Early Childhood 155.
Curriculum planning for preschool programs based on the individual developmental needs of the child. Emphasis on the importance of observations, schedule, routines, and parent communication. Introduction to the philosophy and history of early childhood education. Three hours. Transfer Credit: CSU Offered: F;S.

Early Childhood 201—Early Childhood Field Experience (3)
Prerequisite: Early Childhood 200, or concurrent enrollment, and Early Childhood 156.
Practical experiences in preschool programs that focus on the individualized curriculum that addresses all areas of development, routines, and the role of the teacher. Course also covers observation and evaluation of children in play situations, the development of indoor and outdoor environments, positive guidance techniques, and staff relationships. TB clearance required. Two hours lecture, seven hours field experience. Transfer Credit: CSU Offered: F;S;Sum.

Early Childhood 211—CDA Portfolio for Classroom Teachers (3)
Prerequisite: At least 600 hours of experience with 3 to 5 year old children within the past 5 years as a primary caregiver of at least 8 children. Preparation of portfolio to demonstrate competency in meeting the specific needs of children in an early childhood classroom as required for the Child Development Associate credential. Approved for Head Start program. Three hours. Transfer Credit: CSU Offered: as needed.

Early Childhood 218—Infant/Toddler Curriculum (2) (12 week course)
Prerequisite: Early Childhood 220.
Planning indoor and outdoor infant/toddler curriculum based on children's interest. Focus on documentation, evaluation, communication of curriculum goals, and children's progress with emphasis on making adaptations for the child with special needs. Three hours. Transfer Credit: CSU Offered: F;Sum.

Early Childhood 220—Infant/Toddler Programs (3)
Prerequisite: Human Development 184.
Various kinds of programs for infants and toddlers, including philosophies and program emphasis, appropriate routine learning experiences, environments, and provisions for health and safety of the infants and toddlers. Focus on the role of the teacher in facilitating the child's growth through play. Three hours. Transfer Credit: CSU Offered: S.

Early Childhood 221—Infant/Toddler Field Experience (3)
Prerequisite: Human Development 184 and Early Childhood 218 or concurrent enrollment. Participation in day care and half-day programs for infants and toddlers. TB clearance required. Two hours lecture, seven hours field experience. Transfer Credit: CSU Offered: F;S.

Early Childhood 229—School-Age Creative Activities (3)
Prerequisite: Human Development 182.
School-age movement, recreation, and creative activities suitable for after school child care. The course also includes planning and implementing an appropriate program. Two hours lecture, one hour non-lecture, two hours arranged. Transfer Credit: CSU Offered: S.

Early Childhood 230—Early Primary Curriculum: Materials and Methods (3)
Prerequisite: Human Development 182.
developmental characteristics of the child age 5-8 years. Course covers cognitive learning theory, developmentally appropriate curriculum practices, role of the teacher, staff relationships, and parent communication. Three hours. Transfer Credit: CSU Offered: F;S.

Early Childhood 231—School-Age Field Experience (3)
Prerequisite: Early Childhood 229.
Assigned participation in routines and activities in after-school child care programs. TB clearance required. Two hours lecture, six hours non-lecture. Transfer Credit: CSU Offered: F;S.

Early Childhood 232—Primary Aide Field Experience (3)
Prerequisite: Early Childhood 230 or concurrent enrollment.
The student will participate in routines and activities in an early primary school classroom. TB clearance required. Two hours lecture, six hours non-lecture. Transfer Credit: CSU Offered: F;S.

Early Childhood 240—Inclusion of Children with Disabilities (3)
Prerequisite: Human Development 210.
This course will explore the inclusion of children with special needs in early childhood settings. Topics will include foundations of inclusive practices, assessing disability services, collaborating with specialists, and specific strategies for the classroom. Three hours. Transfer Credit: CSU Offered: F.

Early Childhood 241—Field Experience with Children with Special Needs (3)
Prerequisite: Early Childhood 240.
Participation with children with special needs in local schools and agencies. The student will develop specific techniques used by parents, staff, and care providers, and will work with an early intervention specialist to follow children's service plans in a natural environment. TB clearance required. Two hours lecture, six hours field experience. Transfer Credit: CSU Offered: F.

Early Childhood 261—Learning Title 22 (.5) (1-9 week course)
Point by point discussion of California Code of Regulations, Title 22, Division 12, Chapters 1 and 2 regulations for child care program. Offered on a credit-no credit basis only. One to nine hours. Transfer Credit: CSU Offered: F.
Early Childhood 262—Disaster Preparedness for Child Care (.5) (1-9 week course)
A study of considerations of natural or man-made disasters to assist child care providers in the development of a comprehensive plan to ensure an effective response to emergency situations. Offered on a credit-no credit basis only. One to nine hours. Transfer Credit: CSU Offered: S.

Early Childhood 263—Child Abuse I.D. and Referral (.5) (1-9 week course)
Ways to identify children who are abused and programs to assist both the child and the offender. Discussion of state mandated reporting system and procedures in recordkeeping for the teacher and director in a child care program. Offered on a credit-no credit basis only. One to nine hours. Transfer Credit: CSU Offered: F.

Early Childhood 275—Early Childhood Administration—Program (3)
Prerequisite: Early Childhood 265.
Supervision and administration of an early childhood program with emphasis on theories, principles, concepts of program and curriculum development, legal, financial, and administrative policies, and program evaluation. Three hours. Transfer Credit: CSU Offered: F.

Early Childhood 276—Early Childhood Management (3)
Prerequisite: Early Childhood 275.
Supervision and administration of an early childhood program with emphasis on leadership, personnel management, communication, problem solving, working with parents, financial, and ethical issues. Three hours. Transfer Credit: CSU Offered: F.

Early Childhood 277—Adult Supervision in Early Childhood Programs (2) (12 week course)
Prerequisite: Early Childhood 200.
Methods and principles of supervising adults in early childhood programs. Emphasis on the role of experienced teachers who function as mentors while simultaneously addressing the needs of children, parents, and staff. Three hours. Transfer Credit: CSU Offered: as needed.

ECOLOGY
(See Biology)
A lecture course which includes the physical and biological components of the environment, their interrelationships, and the human population influence on these components. Physical, biological and political means of reversing environmental deterioration will be considered, as well as conservation and management of natural resources. The course is suitable as a general education elective for the non-science major and also for students in environmental science or other natural sciences. Three hours. Transfer Credit: CSU; UC Offered: F.

ECONOMICS
Economics 100—Economics: General Concepts (3)
Provides the student with a general understanding of the concepts, principles, and methods of microeconomics and macroeconomics at the introductory level. This course may also be offered online. May be taken for grades or on a credit-no credit basis. Three hours. Transfer Credit: CSU; UC credit limitation Offered: as needed.

Economics 110—Consumer Economics (3)
An applied approach to the problems and possibilities confronting the consumer in today's economy. Emphasis is placed on the development of skills in personal financial planning: decision making, use of credit and principles of saving and investment. Special attention is given to the problems in housing, transportation, health services, and insurance. Issues of personal taxation, government regulation, and environmental protection are considered in relation to consumer interest. May be taken for grades or on a credit-no credit basis. Three hours. Transfer Credit: CSU Offered: F.

Economics 180—Macroeconomics (3) (CAN ECON 2)
An introduction to the principles and problems of macroeconomics. Covers economic concepts and principles as applied to markets, national income, unemployment, inflation, economic growth, fiscal and monetary policy, banking, the Federal Reserve System, and international economics. This course may also be offered online. Three hours. Transfer Credit: CSU; UC Offered: F;S;Sum.

Economics 185—Microeconomics (3) (CAN ECON 4)
An introduction to the principles and problems of microeconomics. Covers economic concepts and principles as applied to markets, analysis of costs, consumer behavior, determining consumer optimum conditions, behavior of producers, determining the producers optimal in the goods and services market and in the factors markets, the structure of markets and how they influence and limit competition, labor, capital, information and entrepreneurship, public goods, and international economics. This course may also be offered online. Three hours. Transfer Credit: CSU; UC Offered: F;S;Sum.

EDUCATION
(See also Psychology 125, Communications N151AD and N153AD)

Education 102—Teaching in Diverse Contemporary Classrooms (1)
Introduction to teaching and learning skills for potential teachers. This course will address the qualities of an effective teacher, components and purposes of an effective professional portfolio, and critical issues in diverse contemporary classrooms. May be taken for grades or on a credit-no credit basis. One hour lecture, ten hours arranged fieldwork. Transfer Credit: CSU Offered: F.

Education 200—The Teaching Profession (3)
Examination of opportunities, requirements, responsibilities, and rewards in teaching. Skills needed and problems encountered in the classroom will be covered. May be taken for grades or on a credit-no credit basis. Two hours lecture, forty hours arranged fieldwork. Transfer Credit: CSU Offered: F.

ELECTRONIC MEDIA
(See Digital Media Arts)
ELECTRONICS TECHNOLOGY
Electronics Technology 047—Electronic Problem Solving (3)
Topics from basic algebra and trigonometry will be applied toward the solution of both DC and AC passive circuitry problems. Three hours. Offered: F.

Electronics Technology 135—Basic Digital Technology (3)
Binary numbers, boolean algebra, logic circuits, De Morgan's Theorems, binary addition, flip-flops, and registers. Two and one-half hours lecture, one and one-half hours laboratory. Transfer Credit: CSU Offered: F.
Electronics Technology 140—Technical Electronics (3)
An introduction to electronics using simple mathematics. Students learn schematic symbols and their use in wiring diagrams. Emphasis is on the operation of basic electronic circuits and various components. Students investigate circuitry by performing basic test procedures. Two hours lecture-demonstration, two hours laboratory. Transfer Credit: CSU Offered: F-S.

Electronics Technology 146—Introduction to Basic Computer Installation (3)
Introductory overview of personal computer installation, peripheral interfacing and software installation. Troubleshooting techniques leading to the identification and solution of simple hardware and software problems. Replacement of peripheral devices. This course is targeted for the person with little or no computer experience. Two hours lecture, two hours non-lecture. Transfer Credit: CSU Offered: F-S.

Electronics Technology 150—Introductory Electronics, D.C. (3)
Prerequisite: Electronics Technology 047, or concurrent enrollment.
Principles of DC circuitry. Analysis of circuits covers simple DC circuits with Ohm's Law, series, parallel DC circuits. Lab work covers operation of electronic voltmeters and power supplies. Students with credit for Electronics Technology 180 may not receive credit for Electronics Technology 150. Two and one-half hours lecture, two hours laboratory. Transfer Credit: CSU Offered: F-S.

Electronics Technology 153AB—Programmable Logic Controller (1.5) (9 week course)
Recommended preparation: Electronics Technology 150.
Introduction to ladder logic programming applied to PLC's. Coursework covers writing programs, installation, and wiring of PLC modules and racks to external sensors and loads. Initialization, setup, program loading, system monitoring, and debugging are covered. Laboratory covers PC to PLC interface, program run, monitoring, and use of DMM in system troubleshooting. Two hour lecture, one and one-half hours laboratory. Transfer Credit: CSU Offered: F-S.

Electronics Technology 155—Introductory Electronics, A.C. (3)
Prerequisite: Electronics Technology 047, or concurrent enrollment.
Principles of AC circuitry. Analysis of circuits covers simple AC circuits with Ohm's Law, series, parallel AC circuits. Lab work covers operation of electronic voltmeters, oscilloscopes, power supplies, and signal generators for circuit measurements. Students with credit for Electronics Technology 150 may not receive credit for Electronics Technology 155. Two and one-half hours lecture, two hours laboratory. Transfer Credit: CSU Offered: F-S.

Electronics Technology 155—Introductory Electronics (6)
Prerequisite: Electronics Technology 047, or concurrent enrollment.
Principles of DC and AC circuitry. Analysis of circuits covers simple DC circuits with Ohm's Law, series, parallel DC circuits, AC circuits with reactance and impedance, series and parallel resonance, and transient circuits with time constant concepts. The lab work covers operation of electronic voltmeters, oscilloscopes, power supplies, and signal generators for circuit measurements. This course combines the content of Electronics Technology 150 and 155. Five hours lecture, four hours laboratory. Transfer Credit: CSU Offered: F-S.

Electronics Technology 156—Analog Semiconductors Circuits (4)
Prerequisite: Electronics Technology 155 or 180.
Fundamentals and applications of semiconductor devices in basic electronic circuits including power supplies, voltage amplifiers and power amplifiers. Devices include diodes, bipolar transistors and field-effect transistors. Labs involve breadboarding circuits, using electronic instrumentation to observe proper operation and troubleshooting. Three hours lecture, three hours laboratory. Transfer Credit: CSU Offered: F-S.

Electronics Technology 157—Digital Circuits (4)
Prerequisite: Electronics Technology 155 or 180.
The study of digital, pulse waveforms, RC networks, switching diodes and transistors, regulators, operational amplifiers, signal conditioners and pulse generating circuits. Three hours lecture, three hours laboratory. Transfer Credit: CSU Offered: F-S.

Electronics Technology 160—Analog Construction Techniques (3)
Recommended preparation: Electronics Technology 155 or 180, or concurrent enrollment.
Skill development in the areas of safety, recognition, and reading of various schematic, wiring and servicing diagrams, component familiarization and testing, use of hand tools as they apply to soldering, desoldering, wiring, and electronic assembly, use of equipment to test and troubleshoot electronic circuitry. Students are provided the opportunity to incorporate all these skills in the building of a final project which involves printed circuit board assembly, testing, troubleshooting, and packaging. Student must furnish safety glasses. Two hours lecture, four hours laboratory. Transfer Credit: CSU Offered: F-S.

Electronics Technology 170—Digital Construction Techniques (3)
Recommended preparation: Electronics Technology 155 or 180, or concurrent enrollment.
Overview of personal computer microprocessor, motherboard and peripheral interfaces. Troubleshooting techniques leading to the identification and solution of hardware and software problems. Replacement of some components and most peripheral devices. Two hours lecture, two and one-half hours laboratory. Transfer Credit: CSU Offered: S.

Electronics Technology 206—Integrated Circuit Manufacturing (3)
Prerequisite: Electronics Technology 150 and Chemistry 110.
An integrated circuit manufacturing techniques, practices and methods will be presented and the electrical, mechanical, physical and chemical principles involved in the fabrication of integrated circuits will be introduced. The tools and machinery utilized in the production of integrated circuits and their installation will be described. Access to the various knowledge bases required by integrated circuit manufacturers including the Internet will be included. The course will conclude with a field trip to a local manufacturer of integrated circuits. This course may also be offered online. May be taken for grades or on a credit-no credit basis. Three hours lecture. 1.0 or 1.5 hours non-lecture. Transfer Credit: CSU Offered: as needed.

Electronics Technology 215—Communications Systems (3)
Prerequisite: Electronics Technology 160 or Aviation Technology 182.
A study of basic communications systems, including AM, FM, television, radar antennas, and transmission lines. Three hours. Transfer Credit: CSU Offered: S.

Electronics Technology 241—Digital Computers and Microprocessors (4)
Prerequisite: Electronics Technology 135.
Architecture, hardware, and programming of digital computers and microprocessors. Instruction sets, bus control, input/output interface, support chips, memory, microprocessor applications. Four hours. Transfer Credit: CSU Offered: F-S.

Electronics Technology 245—Applied Digital Circuits (4)
Prerequisite: Electronics Technology 241.
An advanced course designed to develop hands-on skills and knowledge of integrated circuits commonly used in digital systems and microcomputers. Emphasis is on the Z80 microprocessor. Three hours lecture, three hours laboratory. Transfer Credit: CSU Offered: F-S.

Electronics Technology 246—Computer Installation and Repair (3)
Prerequisite: Electronics Technology 180 or 155 and 241.
Overview of personal computer microprocessor, motherboard and peripheral interfaces. Troubleshooting techniques leading to the identification and solution of hardware and software problems. Replacement of some components and most peripheral devices. Three hours. Transfer Credit: CSU Offered: F-S.

Electronics Technology 286—Electronic Measurements (3)
Prerequisite: Electronics Technology 135 and 180.
An in-depth investigation of electronic measurements, devices and instruments, controllers, peripherals, and interfaces. Equipment includes DVM's, oscilloscopes, counters, microprocessors, printers, and other readouts. Three hours. Transfer Credit: CSU Offered: F.
Electronics Technology 290—Electronic Trouble-Shooting (3)
Prerequisite: Electronics Technology 135, 170 and 180.
A course focusing on the technician’s approach to circuit fault diagnosis. Applications of various test equipment necessary to troubleshoot to component level will be discussed. Both single and multi-stage devices will be examined in analog and digital systems. Two hours lecture, three hours laboratory. Transfer Credit: CSU Offered: F.S.

EMERGENCY MEDICAL TECHNOLOGY

Emergency Medical Technology 100—Emergency Medical Care (3)
Advanced first aid and cardiopulmonary resuscitation. Upon completion, first aid card from the National Safety Council and a Healthcare Provider CPR card will be issued. Three hours. Transfer Credit: CSU Offered: F.S;Sum.

Emergency Medical Technology 145—Emergency Medical Care for Children (1) (9 week course)
Pediatric CPR and first aid for the licensed child care provider. Completion qualifies the participant for CPR and first aid certification. Meets the California Child Care Standards. Two and one-half hours lecture, one-half hour non-lecture. Transfer Credit: CSU Offered: F.S.

Emergency Medical Technology 150—EMT-1 (5.5)
Prerequisite: Standard first aid and Healthcare Provider CPR or Emergency Medical Technology 100. This prerequisite will be validated in class during the first week of the course.
Corequisite: Emergency Medical Technology 151.
An overview of the EMT-1 role and responsibilities. The evaluation and treatment of medical, traumatic, environmental, obstetrical, pediatric, and psychological emergencies including extrication and transport of the sick or injured patient. Performance of the skills necessary to treat prehospital emergencies. Qualifies the student to sit for the EMT-1 certifying exam. Five hours lecture, one hour laboratory. Transfer Credit: CSU Offered: F.S.

Emergency Medical Technology 151—EMT-1 Clinical Internship (1.5) (6 week course)
Corequisite: Emergency Medical Technology 150.
Application and practice of skills and knowledge gained from EMT 150 in the emergency room of an acute hospital and on a BLS ambulance unit. Offered on a credit/no credit basis only. Three hours clinical. Transfer Credit: CSU Offered: F.S.

ENGINEERING

Engineering 180—Engineering Graphics (3) (CAN ENGR 2)
Prerequisite: Mathematics 170, or concurrent enrollment.
Graphical representation in the analysis and computation of space problems, empirical data, and mathematical relationships. Two hours lecture, four hours laboratory. Transfer Credit: CSU; UC Offered: F.S.

Engineering 270—Computer Programming for Engineering, Mathematics and Sciences (4) (CAN CSCI 20)
Prerequisite: Mathematics 157 or 180 or 182H.
Programming techniques and numerical analysis for digital computers emphasizing applications in science, mathematics, and engineering. Fortran programming with laboratory work on digital computers. Same as Computer Science 270 and Mathematics 270. Students completing Engineering 270 may not receive credit for Computer Science 270 or Mathematics 270. Four hours. Transfer Credit: CSU; UC Offered: S.

Engineering 280—Statics (3) (CAN ENGR 8)
Prerequisite: Physics 185 and Mathematics 185.
Vector mechanics, covering force diagrams, moment of a force, centroids, beams, trusses, friction, hydrostatics, and moments of inertia. Three hours. Transfer Credit: CSU; UC Offered: F.S.

Engineering 285—Engineering Circuits (4)
Prerequisite: Physics 280 and Mathematics 185.
Analysis of electric circuits, including DC circuits, network theorems, energy sources, transient analysis, sinusoidal, analysis, phasers, AC power, complex frequency and frequency response of circuits. Lab will include connection of circuits and observation of circuit behavior using electronic instrumentation. Three hours lecture, three hours laboratory. Transfer Credit: CSU; UC Offered: S.

ENGLISH

Basic Skills
Native fluency in English required.
Not intended for students in English as a Second Language.

English N005AB—Basic Reading Skills (3)
A sequence of reading lessons for students who wish to improve basic reading skills. May be taken for grades or on a credit/no credit basis. Three hours. Not applicable to AA degree. Offered: F.S.

English N050—Introduction to College Reading (3)
Theory and practice of fundamental reading skills, finding main idea, identifying supporting details, drawing inferences, and increasing rate. Special attention will be given to critical reading and to particular problems in content areas. Recommended for all students. May be taken for grades or on a credit/no credit basis. Three hours. Offered: F.S.

English N051—How to Survive in College (2) (9 week course)
Prerequisite: Concurrent enrollment in a lecture course. Applying reading and writing skills to taking lecture notes, studying from texts, performing on essay and objective exams. Effective use of the dictionary and other writing sources, as well as techniques to improve spelling and increase vocabulary. A brief review of basic grammar is included. Instruction and practice in time management, organizational procedures and memory improvement. May be taken for grades or on a credit-no credit basis. Four hours. Not applicable to AA degree. Offered: F.S.

English N055—Writing in College (2) (9 week course)
Applying reading, writing, and computer skills to taking lecture notes, studying from texts, performing on essay and objective exams, and researching. Effective use of both text- and computer-based resources to improve college writing. Instruction and practice in incorporating time management, organization, and memory improvement in college study and writing. Understanding of the dynamics of the college classroom to enhance individual and group learning. May be taken for grades or on a credit-no credit basis. Four hours lecture. Not applicable to AA degree. Offered: F.S;Sum.

English N057—Spelling Techniques (1.5) (9 week course)
Students will receive training in phonics and spelling patterns, prefix-root-suffix combinations, and homonym discrimination. Applying rules and memory strategies to improve spelling will also be covered. May be taken for grades or on a credit-no credit basis. Three hours. Not applicable to AA degree. Offered: F.S;Sum.

English N060—Grammar (1.5) (9 week course)
This course is designed to improve awareness (use/skills in) of grammatical structures and terms, specifically parts of speech, sentence structure, agreement, punctuation, and word choice. Offered on a credit-no credit basis only. Three hours. Not applicable to AA degree. Offered: F.S;Sum.

English N061—Vocabulary Building 1 (1.5) (9 week course)
The history of the English language, including the roots and affixes of English words, contextual clues for vocabulary building and retention. Designed for native speakers of English. May be taken for grades or on a credit-no credit basis. Three hours. Not applicable to AA degree. Offered: F.S;Sum.

Composition and Related Studies

English N090—English Skills (4)
Prerequisite: Appropriate English placement score.
Study skills, reading, vocabulary, grammar, elemental principles of sentence structure, paragraph development, organization of ideas, punctuation and spelling. This course may also be offered online. May be taken for grades or on a credit-no credit basis. Four hours. Not applicable to AA degree. Offered: F.S.
English 099—Fundamentals of Composition (3)
Prerequisite: English N098 with a grade of ‘C’ or better, OR appropriate English placement score.

Instruction in the fundamentals of grammar, sentence structure, pre-compositional techniques, paragraph development, and essay construction. Practice in reading and textual analysis, critical thinking skills and clear writing. Emphasis on writing structurally varied and grammatically correct sentences and clearly organized, appropriately detailed paragraphs leading to and frequent practice in the construction of the expository essay. This course may also be offered online. May be taken for grades or on a credit-no credit basis. Four hours. Offered: F;S;Sum.

English 100—Freshman Composition (3) (CAN ENGL 2)
Prerequisite: English 099 or ESL 199AC with a grade of ‘C’ or better, OR appropriate English placement score.

Expository essay writing, reading, and analysis, and the application of critical thinking skills. Emphasis upon analytical thinking, clear writing and the reasoned support of ideas. Instruction and practice in choosing a thesis, assembling supporting evidence, analyzing textual materials, organizing and synthesizing information, and developing a clear style and appropriate tone. Includes reading and analysis of published essays, practice in research techniques and the production of a research paper. This course may also be offered online. Four hours. Transfer Credit: CSU; UC Offered: F;S;Sum.

English 101—Critical Reasoning, Reading, and Writing Through Literature (3) (CAN ENGL 4)
Prerequisite: English 100.

Course focuses on critical thinking skills, close textual analysis, and composition of the college essay. Students will apply critical thinking skills and research practices in writing analytical and argumentative essays about literature (fiction, poetry, drama). May be taken as a second composition course following English 100. Four hours. Transfer Credit: CSU; UC credit limitation Offered: F;S;Sum.

English 101H—Honors Critical Reasoning, Reading, and Writing Through Literature (3) (CAN ENGL 4)
Prerequisite: English 100.

Course focuses on critical thinking skills, close textual analysis, and composition of the college essay. Students will apply critical thinking skills and research practices in writing analytical and argumentative essays about literature (fiction, poetry, drama). May be taken as the second composition course following English 100. Four hours. Transfer Credit: CSU; UC credit limitation Offered: as needed.

English 102—Critical Reasoning, Reading, and Writing Through Nonfiction (3)
Prerequisite: English 100.

Course focuses on critical thinking skills, close textual analysis, and composition of the college essay. Students will apply critical thinking skills and research practices in writing analytical and argumentative essays about literature (fiction, poetry, drama). May be taken as the second composition course following English 100. Four hours. Transfer Credit: CSU; UC credit limitation Offered: F;S;Sum.

English 102H—Honors Critical Reasoning, Reading, and Writing Through Nonfiction (3)
Prerequisite: English 100.

Course focuses on critical thinking skills, close textual analysis, and composition of the college essay. Students will apply critical thinking skills and research practices in writing analytical and argumentative essays about literature (fiction, poetry, drama). May be taken as the second composition course following English 100. Four hours. Transfer Credit: CSU; UC credit limitation Offered: as needed.

English 103—Technical Report Writing (3)
Recommended preparation: English 100.

Designed to develop skills in the kinds of technical report writing used in industry, emphasizing structure, content, writing, editing, and evaluating. Proposals, progress reports, quality assurance reports, quality control reports, and documented research reports will be covered. Recommended for students in occupational programs and for students exploring technical writing as a career. May be taken for grades or on a credit-no credit basis. Four hours. Transfer Credit: CSU Offered: F;S;Sum.

English 104—College Reading Mastery (3)
A college-level course emphasizing critical reading and learning skills in academic or vocational courses. Course content includes critical thinking skills, vocabulary mastery, textbook reading strategies, and techniques to build reading speed. May be taken for grades or on a credit-no credit basis. Three hours. Transfer Credit: CSU Offered: F;S;Sum.

English 105—Technical Report Writing (3)
Recommended preparation: English 100.

Designed to develop skills in the kinds of technical report writing used in industry, emphasizing structure, content, writing, editing, and evaluating. Proposals, progress reports, quality assurance reports, quality control reports, and documented research reports will be covered. Recommended for students in occupational programs and for students exploring technical writing as a career. May be taken for grades or on a credit-no credit basis. Four hours. Transfer Credit: CSU Offered: F;S;Sum.

English 106—Technical Documentation (3)
Recommended preparation: English N098.

Designed to develop skills in the kinds of technical documentation used in industry. Emphasis on writing procedural and policy documentation, manual design, maps, and graphics that help users make the most of technical devices, policy and procedural documents, and other specific-task documents. May be taken for grades or on a credit-no credit basis. Four hours. Transfer Credit: CSU Offered: as needed.

English 107—Introduction to Library Resources (1)

How to cope with the ever expanding world of information through the use of the library. Designed to develop investigative methods for research useful in any size or type of library. Students may enroll any time during the semester. Offered on a credit-no credit basis only. Two hours. Transfer Credit: CSU; UC Offered: F;S;Sum.

English 108—Technical Writing (3)

Recommended preparation: English 100.

An introduction to the basic principles and practices of technical writing which includes short reports, planning, scheduling, format, graphics and layout. Recommended for introductory students, as well as those majoring in such fields as business, technology, sciences, engineering, human services and political science. Four hours. Transfer Credit: CSU Offered: as needed.

English 117AD—Feature Writing (3)
Prerequisite: Communications 110 and English 100 or concurrent enrollment.

A writing workshop focusing on student writing and marketing in dept non-fiction feature articles. Emphasis will be on guiding students and developing interesting non-fiction stories from the idea stage through publication and finding suitable markets for publication. The course is designed for beginning, intermediate, and advanced writers seeking practice and input in producing lengthy feature articles. Same as Communications 117AD. Students completing English 117AD may not receive credit for Communications 117AD. May be taken for grades or on a credit-no credit basis. Three hours. Transfer Credit: CSU Offered: F;S.

Creative Writing

English 119—Introduction to Creative Writing (3) (CAN ENGL 6)

Designed to familiarize the student with creative writing techniques in fiction, poetry, and scriptwriting through close reading of short stories, poetry, plays, and writing exercises. May be taken for grades or on a credit-no credit basis. Four hours. Transfer Credit: CSU; UC Offered: F;S.

English 121AD—Short Story Workshop (3)
Prerequisite: English 100.

Recommended preparation: English 119.

Emphasizes student production of the short story form and includes readings and lectures on the theory and practice of short story writing. Primarily centers upon discussion and evaluation of student work. Designed for beginning, intermediate or advanced writers desiring practice in the form. May be taken for grades or on a credit-no credit basis. Four hours. Transfer Credit: CSU; UC credit limitation Offered: F;S.
English 122AD—Novel Workshop (3)
Prerequisite: English 100.
Recommended preparation: English 119.
A course focusing on student production in the novel form with emphasis on discussion, criticism, and evaluation of student novel fragments or completed manuscripts. The course is designed for beginning, intermediate, or advanced writers seeking practice and guidance in the novel craft. May be taken for grades or on a credit-no credit basis. Four hours lecture. Transfer Credit: CSU; UC credit limitation Offered: F.S.

English 124AB—Intensive Journal Writing (1.5) (9 week course)
Offered: as needed.
Prerequisite: English 100.
Recommended preparation: English 119.
An introductory course in creative journal writing designed for anyone interested in a unique method of personal exploration. This journal method makes use of writing techniques that create an interplay between past, present, conscious and unconscious experience. The method will aid in clarifying or restructuring the person’s immediate and life goals through writing. Offered on a credit-no credit basis only. Three hours. Transfer Credit: CSU Offered: F.S.

English 126AD—Poetry Workshop (3)
Prerequisite: English 100.
Recommended preparation: English 119.
A course emphasizing student writing in poetic forms. The course, which includes lectures and discussions on the theory and practice of poetry, focuses primarily on the discussion and evaluation of student work. This course is designed for beginning, intermediate and advanced writers seeking practice and guidance in poetry writing. May be taken for grades or on a credit-no credit basis. Three hours. Transfer Credit: CSU; UC credit limitation Offered: as needed.

English 127—Scriptwriting (3)
Prerequisite: English 100.
Recommended preparation: English 119.
This is a writing workshop in which students gain professional insight into scriptwriting techniques for stage, television and feature films. Students learn how to write a beginning and ending, synopsis, treatment, step outline, and a brief scene designated for the stage as well as television or the movies. The class focuses upon the discussion of student works and their evaluation by the instructor. May be taken for grades or on a credit-no credit basis. Three hours. Transfer Credit: CSU; UC credit limitation Offered: as needed.

English 128AC—Advanced Scriptwriting (3)
Prerequisite: English 127.
An advanced writing workshop continuing the skills introduced in English 127. Maybe taken for grades or on a credit-no credit basis. One hour lecture, six hours non-lecture. Transfer Credit: CSU; UC credit limitation Offered: S.

English 131—Writing Reviews and Criticism (3)
Prerequisite: English 100.
Techniques and principles of writing reviews and criticism. Includes the study of the works of noted critics and involvement in attending and reporting on concerts, plays, films, recitals and exhibitions. Students should expect to pay for tickets to at least four events. May be taken for grades or on a credit-no credit basis. Three hours. Transfer Credit: CSU Offered: as needed.

English 140—Introduction to Literature (3)
Recommended preparation: English 100.
Read, analyze, and write on important texts of literature taken from a wide variety of literary genres, forms, themes, periods, and nationalities. Examine the philosophical, cultural, mythic, religious, and/or historical elements related to these texts. Appreciate the literary devices and styles evident in individual works and the commentary made by these works on moral, social, and aesthetic issues. See schedule of classes for special focus. Not open to students who have credit in English 103. May be taken for grades or on a credit-no credit basis. Three hours. Transfer Credit: CSU; UC credit limitation Offered: as needed.

English 141—The Bible as Literature (3)
Recommended preparation: English 100.
Read, analyze, and write about important texts of the Old and New Testament. Examine the philosophical, cultural, mythic, religious, and/or historical elements related to Bible literature. Appreciate the literary devices and styles evident in the books of the Bible and the commentary made by individual works in the Bible on moral, social, and aesthetic issues. Examine the influence of the Bible on the student’s own cultural background. Same as Religious Studies 180. Students completing English 141 may not receive credit for Religious Studies 180. May be taken for grades or on a credit-no credit basis. Three hours. Transfer Credit: CSU; UC Offered: F.S.

English 143—Children’s Literature and Film (3)
Recommended preparation: English 100.
Read, analyze, and write on important texts of children’s literature. Examine the philosophical, cultural, mythic, religious, and/or historical elements related to children’s literature. Appreciate the literary devices and styles evident in individual works and the commentary made by these works on moral, social, and aesthetic issues. Includes discussion of adolescents literature and a survey of art as an integral part of the written story. May be taken for grades or on a credit-no credit basis. Three hours. Transfer Credit: CSU; UC Offered: as needed.

English 147—Introduction to Science Fiction (3)
Prerequisite: English 100.
Read, analyze, and write on important texts of primarily American and British science fiction. Examine the philosophical, cultural, mythic, religious, and/or historical elements related to science fiction. Appreciate the literary devices and styles evident in individual works and the commentary made by these works on moral, social, and aesthetic issues. Includes discussion of the ways writers interested in science and technical achievement link those concerns with other literary and philosophical issues. May be taken for grades or on a credit-no credit basis. Three hours. Transfer Credit: CSU; UC Offered: as needed.

English 148—Film As Literature (3)
Recommended preparation: English 100.
Read, analyze, and write on important foreign and American films. Examine the philosophical, cultural, mythic, religious, and/or historical elements related to film. Appreciate the literary devices and styles evident in individual works and the commentary made by these works on moral, social, and aesthetic issues. Includes discussion of the literary elements of film as opposed to the historical development or production aspects of film. Some discussion of the strengths and weaknesses of adapting novels to films. Typical film makers include Allen, Bergman, Bertolucci, Chabrol, Losey, Lynch, Oshima, Yimou. May be taken for grades or on a credit-no credit basis. Four hours. Transfer Credit: CSU; UC Offered: F.S.

English 149—Introduction to Dramatic Literature (3)
Recommended preparation: English 100.
Read, analyze, and write on important texts of drama from the ancient classical periods through the present. Examine the philosophical, cultural, mythic, religious, and/or historical elements related to these texts. Appreciate the literary devices and styles evident in individual works and the commentary made by these works on moral, social, and aesthetic issues. Typical writers include Sophocles, Aristophanes, Shakespeare, Ibsen, Shaw, Chekhov, Anouilh, Miller, and Tennessee Williams. May be taken for grades or on a credit-no credit basis. Three hours. Transfer Credit: CSU; UC Offered: as needed.

English 150—American Literature Before the 20th Century (3) (CAN ENGL 14)
Recommended preparation: English 100.
Read, analyze, and write on important texts of America from the Colonial period through the periods of early Realism and Naturalism. Examine the philosophical, cultural, mythic, religious, and/or historical elements related to these texts. Appreciate the literary devices and styles evident in individual works and the commentary made by these works on moral, social, and aesthetic issues. Typical writers include indigenous Americans, Apress, Dickinson, Franklin, Poe, Hawthorne, Jacobs, Melville, Thoreau, Twain, Whitman. May be taken for grades or on a credit-no credit basis. Three hours. Transfer Credit: CSU; UC Offered: S.
English 151—American Literature in the 20th Century (3) (CAN ENGL 16)

Recommended preparation: English 100.
Read, analyze, and write on important texts of America from the early part of the 20th century through the present. Examine the philosophical, cultural, mythic, religious, and/or historical elements related to these texts. Appreciate the literary devices and styles evident in individual works and the commentary made by these works on moral, social, and aesthetic issues. Typical writers include Bishop, Ellison, Faulkner, Frost, Gilman, Ginsberg, Hemingway, Hong Kingston, James, Morrison, O’Connor, Stevens, Wharton. May be taken for grades or on a credit-no credit basis. Three hours. Transfer Credit: CSU; UC Offered: F.S.

English 152—American Ethnic Literature (3)

Recommended preparation: English 100.
Read, analyze, and write on important texts by Native, Hispanic, African, and Asian Americans, and other multicultural writers of the United States. Examine the philosophical, cultural, mythic, religious, and/or historical elements related to these texts. Appreciate the literary devices and styles evident in individual works and the commentary made by these works on moral, social, and aesthetic issues. Includes discussion of the ethnic contribution to mainstream American literature, as well as the diversity of the ethnic literary voice. May be taken for grades or on a credit-no credit basis. Three hours. Transfer Credit: CSU; UC Offered: as needed.

English 156—California Literature (3)

Prerequisite: English 100.
Read, analyze, and write on a range of California literature texts including poetry, essay, drama, short story, and novel. Examine the philosophical, cultural, mythic, religious, and/or historical elements related to these texts. Typical writers include Twain, Norris, Steinbeck, Chandler, Tan, Ginsberg, and Kingston. May be taken for grades or on a credit-no credit basis. Three hours. Transfer Credit: CSU; UC Offered: as needed.

English 157—Literature of the American West (3)

Recommended preparation: English 100.
Read, analyze, and write on important texts of the American West. Examine the philosophical, cultural, mythic, religious, and/or historical elements related to these texts. Appreciate the literary devices and styles evident in individual works and the commentary made by these works on moral, social, and aesthetic issues. Typical writers include Abbey, Bierce, Norris, Silko, Steinbeck, Twain. May be taken for grades or on a credit-no credit basis. Three hours. Transfer Credit: CSU; UC Offered: as needed.

English 158—Introduction to Irish Literature (3)

Recommended preparation: English 100.
Read, analyze, and write on important texts of Irish literature from the earliest periods to the present. Examine the philosophical, cultural, mythic, religious, and/or historical elements related to these texts. Appreciate the literary devices and styles evident in individual works and the commentary made by these works on moral, social, and aesthetic issues. Typical writers include anonymous writers of Irish myths, legends, and folklore, early poets, O’Casey, Lady Gregory, Joyce, Shaw, Synge, Wilde, Yeats. May be taken for grades or on a credit-no credit basis. Three hours. Transfer Credit: CSU; UC Offered: as needed.

English 160—World Literature Through Renaissance (3)

Recommended preparation: English 100.
Read, analyze, and write on important texts of the Eastern and Western world from classical periods through the Renaissance. Examine the philosophical, cultural, mythic, religious, and/or historical elements related to these texts. Appreciate the literary devices and styles evident in individual works and the commentary made by these works on moral, social, and aesthetic issues. Typical writers include Euripides, Sophocles, Aeschylus, Biblical writers, Virgil, Ovid, Li Po, Dante, and Rabelais. May be taken for grades or on a credit-no credit basis. Three hours. Transfer Credit: CSU; UC Offered: F.S.

English 161—World Literature Since Renaissance (3)

Recommended preparation: English 100.
Read, analyze, and write on important texts of the world from the Baroque and Neo-classical period to the present. Examine the philosophical, cultural, mythic, religious, and/or historical elements related to these texts. Appreciate the literary devices and styles evident in individual works and the commentary made by these works on moral, social, and aesthetic issues. Typical writers include African American, Asian American, African, and Asian poets and novelists. May be taken for grades or on a credit-no credit basis. Three hours. Transfer Credit: CSU; UC Offered: as needed.

English 165—Introduction to Irish Literature (3)

Recommended preparation: English 100.
Read, analyze, and write on important texts of Irish literature from the earliest periods to the present. Examine the philosophical, cultural, mythic, religious, and/or historical elements related to these texts. Appreciate the literary devices and styles evident in individual works and the commentary made by these works on moral, social, and aesthetic issues. Typical writers include anonymous writers of Irish myths, legends, and folklore, early poets, O’Casey, Lady Gregory, Joyce, Shaw, Synge, Wilde, Yeats. May be taken for grades or on a credit-no credit basis. Three hours. Transfer Credit: CSU; UC Offered: as needed.

English 167—Survey of Contemporary Literature (3)

Recommended preparation: English 100.
Read, analyze, and write on important texts of contemporary literature. Examine the philosophical, cultural, mythic, religious, and/or historical elements related to these texts. Appreciate the literary devices and styles evident in individual works and the commentary made by these works on moral, social, and aesthetic issues. Includes discussion of modern writers, post-modern writers, and upcoming writers important to the twenty-first century. May be taken for grades or on a credit-no credit basis. Three hours. Transfer Credit: CSU; UC Offered: F.S.

English 170—Unique Topics in Literature (3)

Recommended preparation: English 100.
Read, analyze, and write on important texts chosen because of their timeliness and focus on a common theme, form, geographical area, or cultural group. An umbrella course that may focus on literature that ties to other academic disciplines such as science or history. Examine the philosophical, cultural, mythic, religious, and/or historical elements related to these texts. Appreciate the literary devices and styles evident in individual works and the commentary made by these works on moral, social, and aesthetic issues. May be taken for grades or on a credit-no credit basis. Three hours. Transfer Credit: CSU; UC credit limitation Offered: as needed.

English 171—Women Writers (3)

Recommended preparation: English 100.
Read, analyze, and write on important texts written by women from a cross-section of literary periods, nationalities, and cultural heritages. Examine the philosophical, cultural, mythic, religious, and/or historical elements related to these texts. Appreciate the literary devices and styles evident in individual works and the commentary made by these works on moral, social, and aesthetic issues. Typical writers include Austen, Brontes, Cather, Hong Kingston, Morrison, Tan, Wharton. May be taken for grades or on a credit-no credit basis. Three hours. Transfer Credit: CSU; UC Offered: as needed.

English 172—Unique Topics in Literature (3)

Recommended preparation: English 100.
Read, analyze, and write on important texts chosen because of their timeliness and focus on a common theme, form, geographical area, or cultural group. An umbrella course that may focus on literature that ties to other academic disciplines such as science or history. Examine the philosophical, cultural, mythic, religious, and/or historical elements related to these texts. Appreciate the literary devices and styles evident in individual works and the commentary made by these works on moral, social, and aesthetic issues. May be taken for grades or on a credit-no credit basis. Three hours. Transfer Credit: CSU; UC credit limitation Offered: as needed.

English 173—Shakespeare (3)

Prerequisite: English 100.
Read, analyze, and write on a range of Shakespearean texts including histories, comedies, tragedies, and problem plays. Examine the philosophical, cultural, mythic, religious, and/or historical elements related to these texts. Appreciate the literary devices and styles evident in individual works and the commentary made by these works on moral, social, and aesthetic issues. Includes discussion of historical and theatrical backgrounds and the influence of Shakespeare on modern writers. May be taken for grades or on a credit-no credit basis. Three hours. Transfer Credit: CSU; UC Offered: F.S.
English 176—Man, Myth and Magic (3)  
Prerequisite: English 100.  
Read, analyze, and write on both myths and the literature based on mythic traditions. Examine the philosophical, cultural, mythic, religious, and/or historical elements related to these texts. Appreciate the literary devices and styles evident in individual works and the commentary made by these works on moral, social, and aesthetic issues. Includes discussion of classical myths, epics, and folk literature. May be taken for grades or on a credit-no credit basis. Three hours. Transfer Credit: CSU; UC Offered: as needed.

ENGELSH AS A SECOND LANGUAGE

English as a Second Language N011AB—Beginning Listening and Speaking (4)  
Prerequisite: ESL placement test administered through the OCC Assessment Center.  
Listening comprehension, oral communication and pronunciation skills for beginning students who are non-native speakers of English. Practice in spontaneous conversation and small group discussion. May be taken for grades or on a credit-no-credit basis. Four hours. Not applicable to AA degree. Offered: F;S;Sum.

English as a Second Language N015AB—Grammar, Reading and Writing 1 (8)  
Prerequisite: ESL placement test administered through the OCC Assessment Center. Students must demonstrate listening/speaking skills at the ESL 121AB level or higher or concurrently enroll in ESL N011AB.  
Intensive introductory level of integrated grammar and reading of American English for non-native students who are matriculated and pursuing college coursework. Includes work on sentence structure, questions, short answers, pluralization, pronouns, simple and continuous tenses. Also includes decoding of English spelling system, vocabulary development, and comprehension of simple written material. May be taken for grades or on a credit-no credit basis. Eight hours. Not applicable to AA degree. Offered: F;S;Sum.

English as a Second Language N070AB—Intensive Individualized Reading 1 (2)  
This intensive, individualized reading and vocabulary development course is intended for continuing beginning and intermediate students at the ESL N015AB, 125AB, and 135AB levels who need additional reading practice in order to progress to the next level of the ESL sequence. Students will build vocabulary and improve skills in identifying main ideas, recognizing supporting details, and making inferences. Students will also compose main idea statements, summaries, and responses to reading. Not intended for new students. Offered on a credit-no-credit basis only. Two hours. Not applicable to AA degree. Offered: F;S;S;Sum.

English as a Second Language N071AB—Intensive Individualized Reading 2 (2)  
This intensive, individualized reading and vocabulary development course is intended for continuing intermediate and advanced students at the ESL 155AB, 160AB, and 199AC levels who need additional reading practice in order to progress to the next level of the ESL sequence. Students will build vocabulary and improve skills in identifying main ideas, recognizing supporting details, and making inferences. Students will also compose main idea statements, summaries, and responses to reading. Not intended for new students. Offered on a credit-no-credit basis only. Two hours. Not applicable to AA degree. Offered: F;S;S;Sum.

English as a Second Language N090AB—Intensive Grammar 1 (1.5) (9 week course)  
Intensive study of the fundamentals of English grammar: be as a main verb, question formation, pluralization, pronouns, tenses, present modals, gerunds and infinitives, comparative and superlative, adverb and noun clauses, conjunctions, preposition, and article usage. Designed for students in need of extra work in or review of grammar. Does not replace ESL N015AB, 125AB, 135AB, 155AB or 160AB. This course may also be offered online. May be taken for grades or on a credit-no-credit basis. Four hours. Not applicable to AA degree. Offered: F;S;Sum.

English as a Second Language N091AB—Intensive Grammar 2 (1.5) (9 week course)  
Intensive study of intermediate and advanced English grammar: tenses, continuous and past modals, gerunds and infinitives, comparative and superlative, adjective clauses, clause reduction, passives, sentence combination, tense sequences, showing cause and effect, preposition article usage, conjunctions. Designed for students in need of extra work in or review of grammar. Does not replace ESL N015AB, 125AB, 135AB, 155AB or 160AB. This course may also be offered online. May be taken for grades or on a credit-no-credit basis. Four hours. Not applicable to AA degree. Offered: F;S;Sum.

English as a Second Language 121AB—Listening and Speaking Skills 1 (3)  
Prerequisite: Qualifying score on the OCC ESL placement test or completion of ESL N011AB. Also, grammar/reading skills at the ESL 125AB level or higher.  
Listening comprehension, oral communication, and pronunciation skills for low-intermediate students. Specific preparation for comprehending conversations, reports, presentations, and lectures. Introduction to note-taking. Practice in spontaneous conversation and small-group discussion. Work on American sound system in such areas as stress and intonation, reductions, pitch, and rhythm. May be taken for grades or on a credit-no-credit basis. Four hours. Transfer Credit: CSU Offered: F;S;S;Sum.

English as a Second Language 125AB—Grammar, Reading and Writing 2 (6)  
Prerequisite: Qualifying score on the OCC ESL placement test or completion of ESL N015AB. Also, grammar/reading skills at the ESL 121AB level or higher.  
Integrated intensive study of basic grammar and reading for low-intermediate students who are non-native speakers of English. Practice in reading and writing involving sentence structure, tenses, modals, comparative, superlative, and clauses. Work on the sound and spelling system of English, including dictionary skills, literal reading, and vocabulary development. May be taken for grades or on a credit-no-credit basis. Eight hours. Transfer Credit: CSU Offered: F;S;Sum.
English as a Second Language 131AB—Listening and Speaking Skills 2 (3)
Prerequisite: Qualifying score on the OCC ESL placement test or completion of ESL 121AB. Also, grammar/reading skills at the ESL 135AB level or higher. Integrated intensive study of grammar, reading and writing for intermediate students who are non-native speakers of English. Practice of basic grammar and reading skills. Practice in reading and writing involving sentence structure, continuous and past modals, passive, adjective clauses and articles. Writing practice for grammar, mechanics, and fluency. Practice on literal and critical reading, analyzing, making inferences and evaluating. May be taken for grades or on a credit-no credit basis. Nine hours. Transfer Credit: CSU Offered: F,S,Sum.

English as a Second Language 135AB—Grammar, Reading and Writing 3 (7)
Prerequisite: Qualifying score on the OCC ESL placement test or completion of ESL 125AB. Also, listening/speaking skills at the ESL 131AB level or higher. Integrated intensive study of grammar, reading and writing for high-intermediate students who are non-native speakers of English. Practice of basic grammar and reading skills and work on advanced grammatical structures. Introduction to the writing process with emphasis on writing paragraphs in response to reading selections intended for a general audience. Students will write 3,000 teacher-evaluated words. May be taken for grades or on a credit-no credit basis. Eight hours. Transfer Credit: CSU Offered: F,S,Sum.

English as a Second Language 147AB—Nonfiction Analysis and Summary (4)
Prerequisite: Eligibility for ESL 155AB and 131AB. Applies writing skills learned in ESL 135AB to analysis and summary-writing of basic unsimplified informational readings. Also, recommended for students who want to expand their English vocabulary. May be taken for grades or on a credit-no credit basis. Four hours. Transfer Credit: CSU Offered: F,S,Sum.

English as a Second Language 151AB—Listening and Speaking Skills 3 (3)
Prerequisite: Qualifying score on the OCC ESL placement test or completion of ESL 131AB. Also, grammar/reading skills at the ESL 135AB level or higher. Integrated intensive study of grammar, reading and writing for advanced second language students. Practice of effective note-taking and listening for specific information. Interpersonal communication and oral presentation techniques. Pronunciation practice including reductions and grammar, hesitation and individual work. May be taken for grades or on a credit-no credit basis. Four hours. Transfer Credit: CSU Offered: F,S,Sum.

English as a Second Language 215—Communication Skills for International Students (3)
Prerequisite: ESL placement test administered through the OCC Assessment Center, or recommendation of ESL 131AB instructor. Recommended for F1 Visa students. Development of academic and cultural adjustment skills necessary to succeed in college. Listening comprehension, oral communication and pronunciation as applied to person-to-person and group communication for high-intermediate and advanced international students. Emphasis on effective note-taking from lectures designed to enhance cultural adjustment to the U.S. Transfer Credit: CSU Offered: F.

English as a Second Language 155AB—Grammar, Reading and Writing 4 (6)
Prerequisite: Qualifying score on the OCC ESL placement test or completion of ESL 135AB. Also, listening/speaking skills must be at the ESL 151AB level or higher. Integrated intensive study of grammar, reading and writing for high-intermediate students who are non-native speakers of English. Review of basic and intermediate grammar and reading skills and work on advanced grammatical structures. Introduction to the writing process with emphasis on writing paragraphs in response to reading selections intended for a general audience. Students will write 3,000 teacher-evaluated words. May be taken for grades or on a credit-no credit basis. Eight hours. Transfer Credit: CSU Offered: F,S,Sum.

English as a Second Language 160AB—Composition and Reading 1 (3)
Prerequisite: Qualifying score on the OCC ESL placement test or completion of ESL 155AB. Also, listening/speaking skills at the ESL 151AB level or higher. This course integrates college-level reading, writing, and critical thinking skills. Intensive practice in writing original compositions using various methods of development and organization. Students will write 6,000 teacher-evaluated words. Individual attention given to structure and usage problems. May be taken for grades or on a credit-no credit basis. Four hours lecture, two hours non-lecture. Transfer Credit: CSU; UC credit limitation Offered: F,S,Sum.

English as a Second Language 165AB—Advanced Sentence Analysis and Construction (3)
Prerequisite: Eligibility for ESL 160AB and ESL 151AB. Advanced work on complex sentence analysis and construction. Analysis of college-level texts and the relation between grammatical structures and meaning. Application of a wide variety of sentence development strategies. Especially suited for the advanced non-native speaker who already has skill in essay writing and who wants to develop English sentence structure style and accuracy. May be taken for grades or on a credit-no credit basis. Four hours. Transfer Credit: CSU Offered: F,S,Sum.

English as a Second Language 199AC—Composition and Reading 2 (3)
Prerequisite: ESL 151AB. Also, listening/speaking skills at the ESL 151AB level or higher. A continuation of skills covered in ESL 160AB. This course integrates college-level reading, writing and critical thinking skills. Intensive practice in writing original compositions using various methods of development and organization. Students will write 6,000 teacher-evaluated words. Individual attention given to structure and usage problems. May be taken for grades or on a credit-no credit basis. Four hours lecture, two hours non-lecture. Transfer Credit: CSU; UC credit limitation Offered: F,S,Sum.

ETHNIC STUDIES

Ethnic Studies 100—Contemporary Ethnic America (3)
A survey of the history of the many ethnic groups originating in Europe, Asia (including the American Indian), the Americas, the Pacific Islands, Africa, and the Middle East that make up the population of the United States. Same as History 150. Students completing Ethnic Studies 150 may not receive credit for History 150. May be taken for grades or on a credit-no credit basis. Three hours. Transfer Credit: CSU; UC Offered: F,S,Sum.

Ethnic Studies 150—Ethnic Groups in the U.S.: Their Histories (3)
A survey of the history of the many ethnic groups originating in Europe, Asia (including the American Indian), the Americas, the Pacific Islands, Africa, and the Middle East that make up the population of the United States. Same as Sociology 190. Students completing Ethnic Studies 150 may not receive credit for Sociology 190. May be taken for grades or on a credit-no credit basis. Three hours. Transfer Credit: CSU; UC Offered: odd yrs.

FAMILY AND CONSUMER SCIENCES

Family and Consumer Sciences 101—Exploring Community Resources (.5) (8 week course)
A workshop course providing insights into opportunities for personal improvement, family assistance and enrichment and occupational training. Offered on a credit-no credit basis only. Three hours lecture-seminar. Offered as needed.
Family and Consumer Sciences 100—Careers in Family and Consumer Sciences (1) (9 week course)
Career opportunities and requirements in the field of family and consumer sciences are explored. Preparation for certificates in family and consumer sciences related occupations, the A.A. degree and transfer programs will be reviewed. Current and projected trends which relate to new and non-traditional careers in family and consumer sciences are discussed. Dual career preparation for role of homemaker/home manager along with painful employment is evaluated. The decision-making process is applied to career choices. Speakers who are currently employed in fields of interest provide useful information. Two hours. Transfer Credit: CSU Offered: as needed.

Family and Consumer Sciences 101—Family and Consumer Sciences Field Study (1)
Prerequisite: Family and Consumer Sciences 100, or concurrent enrollment.
Individualized interviews and observations of family and consumer sciences professionals are emphasized. Personal goals, interests and abilities are reviewed. Societal trends related to family and consumer sciences careers are explored. Nontraditional careers in family and consumer sciences related fields are investigated. Professional standards are identified. One hour. Transfer Credit: CSU Offered: as needed.

Family and Consumer Sciences 102—Consumer Community Interaction (2)
Involvement in community consumer activities including field experience in various agencies, organizations and the on-campus Consumer Resource Center. One hour lecture, five hours field experience. Transfer Credit: CSU Offered: as needed.

Family and Consumer Sciences 180—Life Management (3)
This course develops skills in using resources for effective functioning now and in the future. Explores theories of management, including systems thinking, time, energy, money, stress, and conflict. Topics include steps in goal setting, problem solving, value clarification, and the effect of cultural forces and future trends on the individual. Three hours. Transfer Credit: CSU Offered: F-S.

Family and Consumer Sciences 199AD—Current Issues in Family and Consumer Sciences (3) (1-9 week course)
The study and review of current issues in the field of family and consumer sciences including a variety of topics related to family life, homes, resource management, personal improvement, hospitality, consumer problems, conservation and family and consumer sciences careers. May be taken for grades or on a credit-no credit basis. One to nine hours lecture. Transfer Credit: CSU Offered: as needed.

FASHION

Fashion N050AD—Sewing Lab (.5-2)
A laboratory-based course to improve clothing construction skills. Students work independently according to a study plan they devise and complete under the supervision of the course instructor. Includes periodic student-teacher conferences, completion of individualized lab assignments, and a final self-assessment report. Enrollment is open all semester. Offered on a credit-no credit basis only. One and one-half to six hours arranged laboratory. Not applicable to AA degree. Offered: F-S;Sum.

Fashion 100—Beginning Clothing Techniques (3)
This course is basic clothing construction using the latest methods. Students will learn fifty basic clothing construction techniques and complete two easy-to-sew projects. Two lecture hours, four hours non-lecture. Transfer Credit: CSU Offered: F-S.

Fashion 101—Intermediate Clothing Techniques (3)
Prerequisite: Fashion 100 or concurrent enrollment.
Intermediate techniques to increase skill level in garment construction. The student will complete a minimum of two projects. Two lecture hours, four hours non-lecture. Transfer Credit: CSU Offered: F-S.

Fashion 102—Industrial Sewing Techniques (2)
Prerequisite: Fashion 100 or concurrent enrollment.
Advanced clothing construction techniques with emphasis on industrial equipment, techniques, use, and care. One hour lecture, two hours laboratory. Transfer Credit: CSU Offered: as needed.

Fashion 105—Sewing Skills Assessment (3)
Prerequisite: Prior clothing construction recommended.
Assessment of sewing skills and performance of specified clothing techniques required for Fashion 100 and 101. Offered on a credit-no credit basis only. One lecture hour, five laboratory hours. Transfer Credit: CSU Offered: F-S.

Fashion 106—Introduction to Fashion Design on the Computer (2) (18 week course)
An introductory course using computer-assisted fashion design software, SnapFashion, on the Macintosh. Proper usage and maintenance of computers, utilization of fashion design software, creation of flat sketches, hang tags and labels, development of textile prints, assembling storyboards, and exploration of Internet resources will be covered. One and one-half lecture hours, one and one-half hours laboratory. Transfer Credit: CSU Offered: as needed.

Fashion 110—Applied Textiles and Design (3)
Selection, use, care, and performance standards for textile products for fashion apparel and interior textiles. Three hours. Transfer Credit: CSU, UC Offered: F-S.

Fashion 115—Careers in Fashion (3)
An overview and introduction to employment opportunities and careers related to fashion design, apparel construction, fashion merchandising, and costume. The course will profile jobs and job qualifications in the fashion industry. Three hours. Transfer Credit: CSU Offered: F-S.

Fashion 118—Trend Forecasting (1.5) (9 week course)
This course studies the techniques and procedures for identifying and forecasting fashion trends and evaluates current trends found in lifestyles, business, ready-to-wear, and home fashion. Students will learn to recognize and analyze predictive lifestyle and business trends that affect retail merchandising and marketing decisions. Three hours. Transfer Credit: CSU Offered: F-S.

Fashion 120—History of Fashion (3)
A chronological study of costume designs from ancient times to the present. Emphasis is placed on the identification of apparel design details, the relation of recurring style trends to contemporary fashions, sociological, economic, and political factors affecting clothing through the centuries. Three hours. Transfer Credit: CSU Offered: F-S.

Fashion 121—Street Style (1.5) (9 week course)
This course explores the significant and dynamic role street style plays in the 20th Century and surveys how youth design and explores the influence of contemporary fashions on society. The street's impact as a fashion force will be traced from its historical inception to how it makes history. Three hours. Transfer Credit: CSU Offered: S.

Fashion 125—Cultural Textiles and Apparel Design (3)
A survey of the role textiles has played in the social, economic, religious, aesthetic, and technological developments of society which affect contemporary fashions and fashion. Three hours. Transfer Credit: CSU Offered: as needed.

Fashion 130AB—Tailoring (2)
Prerequisite: Fashion 100.
The student will construct a lined, tailored jacket using traditional and speed tailoring techniques. Forty-eight basic clothing construction techniques will be featured. May be taken for grades or on a credit-no credit basis. One lecture hour, two hours laboratory. Transfer Credit: CSU Offered: as needed.

Fashion 137—Alterations (2)
Prerequisite: Fashion 100.
Basic analysis and techniques related to fitting and altering ready-to-wear garments and commercial patterns. May be taken for grades or on a credit-no credit basis. One lecture hour, two hours laboratory. Transfer Credit: CSU Offered: as needed.

Fashion 140—Evaluation of Apparel Quality (1.5) (9 week course)
The study and evaluation of garment structure, quality, and care. Three hours. Transfer Credit: CSU Offered: S.

Fashion 150—Flat Pattern Techniques (3)
Interpretation of clothing design through the use of flat pattern techniques. Basic principles involved in designing and manipulating patterns. Creating a basic sloper and muslin garment for the individual. Two lecture hours, three hours laboratory. Transfer Credit: CSU Offered: F.
Fashion 155—Flat Pattern Application (3)
Prerequisite: Fashion 150.
Application and use of flat pattern techniques in creative clothing design and construction. Two hours lecture, three hours laboratory. Transfer Credit: CSU Offered: S.

Fashion 170—Clothing Design and Selection (3)
The psychology of clothing. Study of design, line, and color as they relate to dress and personal appearance. Fashion vocabulary, recognition and description of styles, fashion cycles and trends are emphasized. Three hours. Transfer Credit: CSU Offered: F-S.

Fashion 175—Applied Color and Design Theory (4)
Basic design theory and application. Utilization of tools, materials, and equipment to develop technical skills applicable to interior, architectural, and other related fields of design. Exploration of cultural heritage and psychological implication of design. Three hours lecture, three hours non-lecture. Transfer Credit: CSU Offered: F-S.

Fashion 176—Image Consulting (3)
Recommended preparation:
All courses numbered 100 or higher are transferable to the California State Universities (CSU).

Courses that are transferable to the University of California are designated "UC". Some of these courses have limits on the amount of credit that is granted. See the UC transferable Course List available in the Counseling Center or Transfer Center for these limitations. Course numbers followed by an AB, AC, or AD may be repeated once, twice or three times respectively. Courses that are non-credit or not AA applicable are designated with the letter "N" preceding the course number.

Fashion 225—Fashion Promotions (3)
A survey of what is involved in publicizing a fashion business, product, and person. The course also covers getting public and media attention. Three hours. Transfer Credit: CSU Offered: F-S.

Fashion 233—Couture Techniques (2)
Prerequisite: Fashion 101.
Instruction and practice in techniques used to create couture and custom garments. Techniques of handling special and difficult fabrics, leather and furs. Features fine finishing details. Requires construction of one couture garment. One hour lecture, two hours laboratory. Transfer Credit: CSU Offered: as needed.

Fashion 235—Draping (2)
Prerequisite: Fashion 110 and 150.
The creative design of garments through draping techniques emphasizing fabric manipulation and design creation. May be taken for grades or on a credit-no credit basis. One hour lecture/demonstration, two hours laboratory arranged in open laboratory. Transfer Credit: CSU Offered: as needed.

Fashion 245—Pattern Drafting and Design (1.5) (9 week course)
Recommended preparation: Fashion 150.
An introductory course on the operation of a computer-assisted fashion industry software package Accumark by Gerber Garment Technology. System management, digitizing, plotting, and marker making will be covered. Two hours lecture, one hour non-lecture. Transfer Credit: CSU Offered: F-S.

Fashion 265—Introduction to Digitizing and Marker Making (1) (9 week course)
Recommended preparation: Fashion 150.
An introductory course on the operation of a computer-assisted fashion industry software package. Requires construction of one couture garment. One hour lecture, two hours laboratory. Transfer Credit: CSU Offered: as needed.

Fashion 266AB—Pattern Design System (1) (9 week course)
Recommended preparation: Fashion 265.
An introductory course on the operation of a computer-assisted fashion industry software package. One hour lecture, two hours laboratory. Transfer Credit: CSU Offered: F-S.

FILM/VIDEO

Film/Video 100—History and Appreciation of the Cinema (3)
Review of cinema history with viewing and analysis of landmark films, directors, actors and technical work. Consideration of the film/video as an art form. Suggested for art, drama and film/video majors. Meets humanities requirement for UC transfer. Three hours. Transfer Credit: CSU; UC Offered: F-S.

Film/Video 103—Contemporary Films (1.5-3) (9-18 week course)
View and analyze contemporary films from the point of view of social impact, psychological meaning, and how these films reflect and affect society. May be taken for grades or on a credit-no credit basis. Four hours. Transfer Credit: CSU; UC Offered: F-S.

Film/Video 104AB—The Great Directors of the Cinema (3)
Topics dealing into aspects of film/video history, criticism and aesthetics which can be described as extensions of the film directors' point of view. The specific topics will be described each semester in the class schedule. The course is intended for film/video majors and other students with an interest in film/video. May be taken for grades or on a credit-no credit basis. Three hours. Transfer Credit: CSU; UC Offer Offered: S-Sum.
Film/Video 105—Technology and Culture: Social Significance of Science Fiction Films (1.5-3) (9-18 week course)

An introduction, broad in scope, to the science fiction film as a cultural object. Films will be viewed and analyzed in terms of their social significance and from their sociological, psychological and mythological bases. It will be seen that science fiction films are a unique form of expression of the social and technological concerns of the culture. May be taken for grades or on a credit/no credit basis. Four hours lecture/discussion. Transfer Credit: CSU Offered: as needed.

Film/Video 110—Video Workshop (3)

Introductory course covering basic video production including composition, continuity, lighting, sound recording and editing utilizing the 1/2" video format. Students must supply their own camcorders. One hour lecture, one hour laboratory, two hours arranged. Transfer Credit: CSU; UC credit limitation Offered: F-S.

Film/Video 112—Home Video Marketing and Distribution (3)

Students will learn how to make and distribute a video production. Topics will include development, marketing, packaging, release strategies, financing, publicity and advertising. Three hours. Transfer Credit: CSU Offered: F-S.

Film/Video 150—Introduction to Broadcasting (3)

Introduction to telecommunication. This course covers the theory and development of radio and television broadcasting including their historical, cultural and financial impact on American society. Programming, star value and present/future special television programs for students interested in gaining further experience with TV. May be taken for grades or on a credit/no credit basis. One hour lecture, three hours laboratory. Transfer Credit: CSU Offered: F-S.

Film/Video 250—Television Production 1 (3)

Beginning course in the use and operation of television equipment including camera, studio lighting, sound recording and the use of titles, graphics and special effects. The student will have the opportunity to operate all equipment and assume the various roles of a functioning TV studio crew such as cameraperson, floor manager, writer, producer, director and talent coordinator. Production will include a live talk show, news format, music videos and contemporary commercials. Two hours lecture, three hours laboratory. Transfer Credit: CSU Offered: F-S.

Film/Video 255AC—Television Production 2 (3)

Prerequisite: Film/Video 250. Second semester advanced television production in which students continue to conceive, write, produce and direct music videos, commercials and live talk show formats. There will be an emphasis on each student to oversee total programming utilizing studio equipment, multicamera, chroma key and advanced special effects. Two hours lecture, three hours laboratory. Transfer Credit: CSU Offered: F-S.

Food and Nutrition 100—Careers in Dietetics and Food Science (1) (9 week course)

Career opportunities and requirements in the fields of dietetics and food science are explored. Discussion will include current and projected trends which relate to career opportunities. Course covers scope and responsibilities of professional members in various food-related careers. Same as Nutrition Care 100. Students completing Food and Nutrition 100 may not receive credit for Nutrition Care 100. Two hours lecture, one hour non-lecture. Transfer Credit: CSU Offered: F-S.

Food and Nutrition 120—Meal Management (2)

Principles of meal planning and the scientific and aesthetic principles of food selection and preparation. Includes equipment usage, food preparation methods, and meal planning, the serving of food, as well as effective management of time, energy, and money. One and one-half hours lecture, one and one-half hours non-lecture. Transfer Credit: CSU Offered: S.

Food and Nutrition 125—Vegetarian Cuisine (2)

Vegetarian diets are explored, including information on healthy food choices, nutritional implications, and cooking techniques. Each class includes demonstrations and preparation of a wide variety of vegetarian foods. Vegetarian foods from different cultures are also included. May be taken for grades or on a credit-no credit basis. One hour lecture, three hours non-lecture. Transfer Credit: CSU Offered: F.

Food and Nutrition 136—Nutrition, Fitness and Performance (2)

An applied nutrition course for individuals interested in health, fitness, and athletics. Principles of nutrition are studied and applied to the physically active lifestyle. Designed for the active individual and for the Fitness Specialist certificate. Pre-event food and fluid selection, nutrient requirements during activity, various nutrition supplements, muscle mass and body fat related to physical performance. Same as Physical Education 136 and Health Education 136. Students completing Food and Nutrition 136 may not receive credit for Physical Education 136 or Health Education 136. May be taken for grades or on a credit-no credit basis. Two hours. Transfer Credit: CSU Offered: F-S.

Food and Nutrition 136L—Cooking for Health, Fitness and Performance (1) (9 week course)

Recommended preparation: Food and Nutrition 136 or 140 or 170. Meets a need for those involved in demanding physical activity ranging from personal fitness to competitive sports, by bridging the gap between nutrition theory and food intake. Emphasis is placed on planning well-balanced meals, as well as on foods which are inexpensive to buy, easy to prepare, and a pleasure to eat. Food preparation experiences include time saving recipes for daily meals, in-training and pre-game event meals, and snacks for better health and an active lifestyle. One hour lecture, two hours non-lecture. Transfer Credit: CSU Offered: F-S.
Food and Nutrition 140—Introduction to Nutrition Concepts (2)
Nutrition concepts and their application to daily living: basic nutrition, food product evaluation, menu modification, food and health issues, nutrition controversies, and environmental concerns. Two hours. Transfer Credit: CSU Offered: F-S.

Food and Nutrition 144—Life Cycle Nutrition: Mother and Infant (1) (6 week course)
The importance of good nutrition for health and well-being of mothers and infants is emphasized. Community resources will be explored, including the WIC nutrition program. Three hours. Transfer Credit: CSU Offered: F-S.

Food and Nutrition 145—Life Cycle Nutrition: Children (1) (6 week course)
Nutritional needs of children and appropriate feeding practices. Three hours. Transfer Credit: CSU Offered: F-S.

Food and Nutrition 146—Life Cycle Nutrition: Later Years (1) (6 week course)
Factors affecting the nutritional status of the mature and aging adult will be addressed. Nutritional needs, disease intervention, and tips on handling feeding problems of the frail elderly are included. This course may also be offered online. Three hours. Transfer Credit: CSU Offered: F-S.

Food and Nutrition 147—Nutrition for Growing Children Ages 6-18 (2) (9 week course)
Nutritional needs of children ages 6 through 18. Methods of establishing and maintaining positive eating habits will be emphasized. Two hours lecture, one hour non-lecture. Transfer Credit: CSU Offered: as needed.

Food and Nutrition 170—Nutrition (3) (CAN FCS 2)
Scientific concepts of nutrition relating to the functioning of nutrients in the basic life processes. Emphasis on individual needs, food sources of nutrients, current nutrition issues, and diet analysis. Three hours. Transfer Credit: CSU; UC Offered: F-S.

Food and Nutrition 171—Applied Nutrition (2)
Prerequisite: Food and Nutrition 170 or 140 or 136 or concurrent enrollment. The preparation of foods for maximum nutrient retention. Calories, grams of protein, fat, carbohydrate, and nutrient density will be calculated, and the specific nutrients in foods identified. One hour lecture, two hours laboratory. Transfer Credit: CSU Offered: S.

Food and Nutrition 173—Cooking Lite (2) (15 week course)
Practical information for establishing a lifelong eating plan for maintaining ideal weight and maximum health. Laboratory experience in preparing low fat foods. The emphasis will be on learning to identify the less desirable components of recipes and modifying or substituting them with more healthful, lower fat ingredients. One hour lecture, two hours non-lecture. Transfer Credit: CSU Offered: F.

Food and Nutrition 179AD—Current Issues in Food, Nutrition, and Food Science (5) (1-9 week course)
The study and review of current issues in the field of food, nutrition, food science, and dietetics including a variety of topics, such as general nutrition, food research and technology, and nutrition related to health and disease, wellness, the lifestyle, and fraud. May be taken for grades or on a credit-no credit basis. One to nine hours lecture. Transfer Credit: CSU; UC credit limitation Offered: as needed.

Food and Nutrition 180—Principles of Foods (3) (CAN FCS 8)
Basic knowledge of food science principles and food preparation techniques. Emphasis on ingredient interaction, technique and production standards, food safety, sanitation, nutrient values, and food presentations. Five hours. Transfer Credit: CSU Offered: F.

Food and Nutrition 185—Cultural Foods (2)
Cuisines of the world are compared. America's diverse microcultures are explained through their traditional food ways. Origins of food, customs, psychological acceptance and nutrition information are included. Emphasis is placed on food preparation techniques, utensils, food service, and creation of an authentic atmosphere. Effects of changes on food habits and nutrition of ethnic groups are assessed. May be taken for grades or on a credit-no credit basis. One and one-half hours lecture, one and one-half hours laboratory. Transfer Credit: CSU Offered: F-S.

Food and Nutrition 190—Food Science (4)
The scientific study of basic constituents of foods (carbohydrates, lipids, proteins, and water) and the chemical, microbial, and physical actions and reactions that cause nutritional, sensory, and other changes before, during, and after processing. Includes hands-on experimentation and guest speakers. Three hours lecture, three hours laboratory. Transfer Credit: CSU Offered: S.

Food and Nutrition 195—Food Science (4)
The basic principles of microbiology, sanitation, safety, equipment selection, and facility layout for a food service operation. Includes the environmental control application through the prevention of food-borne illnesses, cleaning materials and procedures, general safety regulations, food processing methods, first aid, and fire prevention. Prepares student for national food handler certification examination. This course may also be offered online. Three hours. Transfer Credit: CSU Offered: F-S,Sum.

Food Service Management 100—Introduction to the Hospitality Industry (3)
Overview of the hospitality industry, its history and interrelationships of hotel, restaurant, travel and leisure industries. Economic and social influences of leisure. Emphasis on attitude required of a person seeking a position in the industry. Same as Hotel 100 and Culinary Arts 100. Students completing Food Service Management 100 may not receive credit for Hotel 100 or Culinary Arts 100. Three hours. Transfer Credit: CSU Offered: F-S.

Food Service Management 115—Child Nutrition Program Management (2)
Role and responsibilities of unit school food service managers, child care administrators, or family day care sponsors in providing meals to children and youth which comply with legislative and budgetary parameters, which meet their nutritional, social, psychological and cultural needs, and the integration of food service programs with classroom nutrition education activities. Also includes safe and sanitary food handling techniques. Two hours. Transfer Credit: CSU Offered: F-S.

Food Service Management 151—Food Production Management (2)
Prerequisite: Culinary Arts 150, or any two of the following: Culinary Arts 120, 122, 124, 149. Techniques and practice in how to manage individuals responsible for producing food. The role of the supervisor in planning, organizing, supervising and controlling food production is discussed. Students will be required to follow Food Service and Hotel Management departments dress standards. TB clearance required. One hour lecture, three hours laboratory. Transfer Credit: CSU Offered: S.

Food Service Management 153—Sanitation and Safety (4)
The basic principles of microbiology, sanitation, safety, equipment selection, and facility layout for a food service operation. Includes the environmental control application through the prevention of food-borne illnesses, cleaning materials and procedures, general safety regulations, food processing methods, first aid, and fire prevention. Prepares student for national food handler certification examination. This course may also be offered online. Three hours. Transfer Credit: CSU Offered: F-S,Sum.

Food Service Management 161—Basic Concepts in Sanitation (5) (4 week course)
A short course in sanitation applied to the flow of food. The course is designed to meet professional organization certification requirements and prepares the student for the national food handler certification examination (ServSafe). This course may also be offered online. Offered on a credit-no credit basis only. Two and one-half hours. Transfer Credit: CSU Offered: F-S,Sum as needed.

Food Service Management 162—Basic Concepts in Safety (1) (6 week course)
Basic safety concepts for food service employees relative to the safe operation of equipment, first aid and accidents and pertinent State safety regulations. Offered on a credit-no credit basis only. Three hours lecture-seminar. Transfer Credit: CSU Offered: F-S,Sum as needed.

Food Service Management 163—Sanitation and Safety for Managers/Supervisors (1) (9 week course)
Prerequisite: Food Service Management 161 and 162, or mastery level achievement on a test of the basic concepts of sanitation and safety. Supervision of the preparation or service of food which is reliably wholesome and which otherwise complies with Federal, State and local laws and regulations. Establish and maintain sanitation and safety standards which comply with both Federal and State regulations. Two hours. Transfer Credit: CSU Offered: as needed.
Food Service Management 190—Dining Room Service (2)

Prerequisite: Food Service Management 160.

Orientation to all functions of restaurant dining room operations including dishwashing, pot and pan washing, floor care, equipment maintenance and line preparation techniques. Emphasis will be placed on learning dining room service techniques of table waiting and accompanying dining room skills. Students will be required to follow Food Service and Hotel Management departments dress standards. TB clearance required. One hour lecture, four hours non-lecture. Transfer Credit: CSU Offered: F.

Food Service Management 210—Dining Room Management (3)

Prerequisite: Food Service Management 190

Management of a restaurant dining room including good housekeeping techniques, fine food and efficient service. Types of dining service include: (French, Russian, American, English) waiters table service, limited service, counter, tray service and catering. Emphasis will be placed on staffing, scheduling, controls and skills required to effectively supervise a dining room operation. Students will be required to follow Food Service and Hotel Management departments dress standards. TB clearance required. Two hours lecture, four hours laboratory. Transfer Credit: CSU Offered: F.

Food Service Management 240—Food Service Math/Accounting (4)

Mathematical and accounting concepts applied to food service problems such as food costing, payroll computing, recipe adjusting, gross profit analysis, guest check mechanics and metric conversions. Mathematical skills will be applied in completing accounting control forms to include cost reports, financial statements, budgets, break-even analysis and general financial decision making problems. Four hours. Transfer Credit: CSU Offered: F.

Food Service Management 250—Menu Planning/ Purchasing (3)

Prerequisite: Food and Nutrition 140 or 170.

The basic principles of menu planning, purchasing, writing specifications for food and supplies and proper receiving/storage techniques. Planning interesting and satisfying meals for restaurants and institutions. Emphasis on type of operation, psychological needs of customers, equipment, skill of personnel, merchandising, menu pricing and operating budget. Three hours. Transfer Credit: CSU Offered: F.

Food Service Management 260—Supervision and Training Techniques (3)

Procedures and problems met by lodging operations in developing responsibility of selection, placement, orientation, training, counseling, evaluation, promotion and/ or transfer of hotel employees. Same as Hotel 260. Students completing Food Service Management 260 may not receive credit for Hotel 260. Three hours. Transfer Credit: CSU Offered: F.

Food Service Management 284—Catering (3)

Prerequisite: Food Service Management 160, 250 or concurrent enrollment.

The theory and practice of managing a catering operation. Students will be required to follow Food Service and Hotel Management departments dress standards. TB clearance required. Three hours lecture, one-half hour laboratory. Transfer Credit: CSU Offered: S.

Food Service Management 285—Restaurant Management (3)

The principles of operating a food service which are common to all types of commercial, industrial and institutional food service. Course covers such areas as beverage control, sales promotion, advertising, personnel, legal aspects, insurance, labor management relations, etc. Experience is given in operating a set of books using the Uniform System of Accounts. Three hours. Transfer Credit: CSU Offered: F.

Food Service Management 286AB—Directed Practice in Food Service Management (2)

Prerequisite: Enrollment in third or fourth semester of food service or culinary arts programs.

A directed opportunity for students in food service or culinary arts to gain on-the-job training in the area in which the student expects to graduate. This directed practice is repeated for each option the student elects in order to earn a certificate of achievement. Students will be required to follow Food Service and Hotel Management departments dress standards. TB clearance required. Ten hours field experience; six hours seminar (per semester). Transfer Credit: CSU Offered: F.

FOREIGN LANGUAGE

Foreign Language 090—Foreign Language Tutoring (1.5)

Prerequisite: Competency equal to at least the 280 level in the tutored foreign language.

Tutoring skill and language practice as applied to tutoring beginning students of the target language. Students will learn the basic principles of language tutoring including communication and study skills techniques for learning the specified foreign language. Students will demonstrate competencies in subject content and tutoring skills by assisting beginning foreign language students in a language laboratory setting. May be taken for grades or on a credit/no credit basis. One hour lecture, two hours non-lecture. Offered: as needed.

Foreign Language N095—Grammar for Foreign Language Students (1.5) (9 week course)

Designed specifically for anyone studying a foreign language. Covers basic concepts and definitions of grammatical terms and their application to English and any foreign language generally. May be taken for grades or on a credit/no credit basis. Three hours. Not applicable to AA degree. Offered: as needed.

French 110—French Conversation 1 (3)

French conversation, pronunciation, oral practice, and vocabulary study. Fundamental grammatical principles as needed for use in conversational situations. Emphasis on speaking and comprehension. Designed for students whose primary goal is to speak French. May be taken concurrently with French 180 by the student who wishes additional practice in speaking French. May be taken for grades or on a credit-no credit basis. Three hours. Transfer Credit: CSU Offered: F.

French 120—French Conversation 2 (3)

Continuation of French 110. May be taken for grades or on a credit-no credit basis. Three hours. Transfer Credit: CSU Offered: as needed.

French 130—French Conversation 3 (3)

Continuation of French Conversation 2. May be taken for grades or on a credit-no credit basis. Three hours. Transfer Credit: CSU Offered: as needed.

French 180—Elementary French (5) (CAN FREN 2)

The focus is on beginning comprehension in listening and speaking, then writing and reading through competency-based instruction and communication and communicative activities. Many aspects of everyday French culture are discussed. This course is designed for students who need to fulfill a foreign language requirement and for those who wish a thorough introduction to the more important aspects of the language and culture. May be taken for grades or on a credit-no credit basis. Five hours. Transfer Credit: CSU; UC Offered: F-Sum.

French 185—Elementary French (5) (CAN FREN 4)

Prerequisite: French 180.

Continuation of French 180. Emphasis on correct use of French through basic conversations describing one’s immediate environment. Comprehension is expanded through discussions on school activities, professions, health matters, travels, family life, social activities, and customs. French literature and culture will also be presented. Comprehension, speaking, reading, and writing are the basics of the course. May be taken for grades or on a credit-no credit basis. Five hours. Transfer Credit: CSU; UC Offered: F.

French 280—Intermediate French (4) (CAN FREN 8)

Prerequisite: French 185.

Continuation of French 185. Further study and review of French grammar and idioms. Reading of contemporary French materials. Written composition of current topics and oral work at an intermediate level. May be taken for grades or on a credit-no credit basis. Four hours. Transfer Credit: CSU; UC Offered: F.

French 285—Intermediate French (4) (CAN FREN 10)

Prerequisite: French 280.

Continuation of French 280 with concentration on oral and written expression based on grammar review and readings on literature and culture. May be taken for grades or on a credit-no credit basis. Four hours. Transfer Credit: CSU; UC Offered: F.
GEOPHYSICS

Geophysical courses are designed to provide a comprehensive understanding of the Earth's physical properties and dynamics. These courses cover topics such as the Earth's interior, its magnetic and gravitational fields, and the processes that shape the planet's surface. They are essential for students interested in geology, seismology, and related fields.

GEODETICS

Geodetic courses focus on the测量 and representation of the Earth's shape, orientation, and gravity field. These courses are particularly relevant for students in the areas of surveying, cartography, and geomatics.

GEOLOGY

Geology courses cover a wide range of topics, from the study of the Earth's history to the exploration of its current processes. They are ideal for students interested in understanding the physical world and its evolution.

GEOGRAPHY

Geography courses explore the spatial distribution of human and natural phenomena. They focus on understanding the interaction between human societies and their environments. These courses are critical for students interested in environmental studies, urban planning, and regional development.

COURSES

All courses numbered 100 or higher are transferable to the California State University (CSU). Courses that are transferable to the University of California are designated “UC.” Some of these courses have limits on the amount of credit that is granted. See the UC transferable Course List available in the Counseling Center or Transfer Center for these limitations.

Course numbers followed by an AB, AC, or AD may be repeated once, twice, or three times respectively. Courses that are non-credit or not AA applicable are designated with the letter “N” preceding the course number.

Geography 100—World Regional Geography (3)
A study of the regions and nations of the world. The major countries including their population, resources, general development, and physical setting will be investigated. Three hours. Transfer Credit: CSU; UC credit limitation Offered: F,S,Sum.

Geography 100H—Honors World Regional Geography (3)
An introduction to the regions and nations of the world. The major countries, including their population, resources, general development, and physical setting will be investigated. Three hours. Transfer Credit: CSU; UC credit limitation Offered: as needed.

Geography 150—California Geography (3)
A study of California's topography, natural resources and economic patterns. Emphasis is on current problems related to geographic factors. Three hours. Transfer Credit: CSU; UC Offered: as needed.

Geography 160—Economic Geography (3)
A systematic investigation into the distribution of the world's resources and their use in an emerging global economy. Includes a study of the environmental impact of industrialization, agriculture, mining, forestry, manufacturing, pollution, depletion of resources, multinational commerce, and their geographical implication. Three hours. Transfer Credit: CSU; UC Offered: F;odd yrs.

Geography 180—Physical Geography (3) (CAN GEOG 2)
A study of the basic physical elements of geography and their integrated patterns of world distribution. Particular emphasis is given to climate, landforms, soils and natural vegetation. Three hours. Transfer Credit: CSU; UC credit limitation Offered: F,S,Sum.

Geography 180H—Honors Physical Geography (3)
A study of the basic physical elements of geography and their integrated patterns of world distribution. Particular emphasis is given to climate, landforms, soils, and natural vegetation. Three hours. Transfer Credit: CSU; UC credit limitation Offered: as needed.

Geography 185—Cultural Elements (3) (CAN GEOG 4)
A study of the basic cultural elements of geography and their correlations with the physical elements. Particular emphasis is given to population distribution, land-use patterns and trade. Three hours. Transfer Credit: CSU; UC Offered: F,S.

Geology 100—General Geology (3)
Composition and structure of the earth and the processes which modify the crust and the surface and their effect on man. Not open to students who are taking or have successfully completed Geology 180. One field trip required. May be taken for grades or on a credit-no credit basis. Three hours. Transfer Credit: CSU; UC Offered as needed.

Geology 100H—Honors General Geology (3)
Composition and structure of the earth and the processes which modify the crust and the surface and their effect on man. Not open to students who are taking or have successfully completed Geology 180. One field trip required. May be taken for grades or on a credit-no credit basis. Three hours. Transfer Credit: CSU; UC Offered as needed.

Geology 100L—General Geology Laboratory (1)
A laboratory study of materials and processes in the earth. Three hours laboratory. Same as Natural Science 100LG. Transfer Credit: CSU; UC credit limitation Offered: F,S,Sum.

Geology 100LH—Honors General Geology Lab (1)
A laboratory study of materials and processes in the earth. Three hours laboratory. Transfer Credit: CSU; UC credit limitation Offered: as needed.

Geology 106—Earth Science for Teachers (4)
A broad-based study of earth science, including geology, oceanography, meteorology, and solar system astronomy. Three hours lecture, three hours laboratory. Transfer Credit: CSU Offered: S.

Geology 130—Rocks and Minerals (2)
A study of the origin and use of the common rocks and minerals. Methods and practice of rock and mineral identification. May be taken for grades or on a credit-no credit basis. One and one-half hours lecture, one and one-half hours laboratory. Transfer Credit: CSU Offered: as needed.

Geology 135—Geology of National Parks and Monuments (3)
Geology of national parks, seashores and monuments and their influence on land forms, climate and human history. 3-4 weeks field trips required during semester. May be taken for grades or on a credit-no credit basis. Three hours. Transfer Credit: CSU Offered: as needed.

Geology 136—Geology of National Parks and Monuments (3)
Geologic evolution of the earth as shown by the changing climates and land forms. A study of geology of the United States and Canada. Three hours lecture, three hours laboratory. Transfer Credit: CSU Offered: as needed.
ORANGE COAST COLLEGE

**Geology 280—Introduction to Mineralogy (4)**

*Recommended preparation:* Chemistry 110 or 130.

A study of the properties, origin, relationships, identification of minerals, simple chemical tests and crystallography of minerals. May be taken for grades or on a credit-no credit basis. Two hours lecture; six hours laboratory. Offered every other year. *Transfer Credit: CSU* Offered: as needed.

**Geology 285—Petrology (4)**

*Prerequisite:* Geology 280.

Origin, occurrence, identification, and classification of rocks and rock-forming minerals. Emphasis is on hand lens/microscopic identification and field occurrences. Two hours lecture, six hours laboratory. *Transfer Credit: CSU; UC* Offered: S.

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**GERMAN**

**German 110—German Conversation 1 (3)**

German conversation, pronunciation, oral practice, vocabulary study. Fundamental grammatical principles as necessary for use in conversational situations. Emphasis on speaking and comprehension of the spoken language. Designed for students whose primary goal is to speak German. May be taken concurrently with German 180 by the student who wishes additional practice in speaking German. May be taken for grades or on a credit-no credit basis. Three hours. *Transfer Credit: CSU* Offered: as needed.

**German 120—German Conversation 2 (3)**

Continuation of German Conversation 1. May be taken for grades or on a credit-no credit basis. Three hours. *Transfer Credit: CSU* Offered: as needed.

**German 130—German Conversation 3 (3)**

Continuation of German Conversation 2. May be taken for grades or on a credit-no credit basis. Three hours. *Transfer Credit: CSU* Offered: as needed.

**German 180—Elementary German (5) (CAN GERM 2)**

Fundamentals of German language and culture with practice in reading, speaking, writing, and comprehension of German at the beginning level. An introduction of selected literary works by leading German authors and an awareness of German culture. Designed for students needing to fulfill foreign language requirements and for those who wish an introduction to the German language and culture. May be taken for grades or on a credit-no credit basis. Five hours. *Transfer Credit: CSU; UC* Offered: F-S.

**German 185—Elementary German (5) (CAN GERM 4)**

*Prerequisite:* German 180.

Emphasis on language competency at a high novice/low intermediate level, reading, and mastery of real life situations including basic conversation and German customs and lifestyles. May be taken for grades or on a credit-no credit basis. Five hours. *Transfer Credit: CSU; UC* Offered: F-S.

**German 280—Intermediate German (4) (CAN GERM 8)**

*Prerequisite:* German 185.

Emphasis on control of basic content areas and language functions, comprehension of main ideas and facts, and development of writing skills. May be taken for grades or on a credit-no credit basis. Four hours. *Transfer Credit: CSU; UC* Offered: F.

**German 285—Intermediate German (4)**

*Prerequisite:* German 280.

Emphasis on the continuing development of conversational skills ranging from every day topics to certain abstract ideas from literary works. Writing and comprehension provide enhanced communication skills. May be taken for grades or on a credit-no credit basis. Four hours. *Transfer Credit: CSU; UC* Offered: S.

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**HEALTH EDUCATION**

**Health Education 100—Health Education (3)**

Provides basic knowledge of healthful living. Emphasis is on positive health behavior and personal responsibility. Content includes personal health (stress, drugs, disease), social health (sexuality, safety), consumer health and environmental health. May be taken for grades or on a credit-no credit basis. Three hours. *Transfer Credit: CSU; UC credit limitation* Offered: F-S.

**Health Education 102—The Healer Within (2)**

Health enhancement and self-healing methods consisting of movement, breath, self-massage, and meditation will be presented with the emphasis on developing a self-care plan for creating optimal health. May be taken for grades or on a credit-no credit basis. One and one-half hours lecture, one hour non-lecture. *Transfer Credit: CSU* Offered: F-S.

**Health Education 111—Cardiopulmonary Resuscitation (5) (3 week course)**

Techniques and theory of cardiopulmonary resuscitation. May be taken for grades or on a credit-no credit basis. Three hours. *Transfer Credit: CSU* Offered: F-S; Sum.

**Health Education 112—First Aid and CPR (2)**

The course stresses injury prevention, early medical care, first aid for common injuries and life saving skills. Successful completion qualifies a student for the First Aid Card and CPR Certification. May be taken for grades or on a credit-no credit basis. Two hours. *Transfer Credit: CSU; UC* Offered: F-S.

**Health Education 120—Women's Health Issues (3)**

Provides knowledge in health problems and considerations unique to women. Topics will include fitness, nutrition, anatomy and physiology, biological and psychological disorders, birth control, abortion, pregnancy and related subjects. May be taken for grades or on a credit-no credit basis. Three hours. *Transfer Credit: CSU; UC credit limitation* Offered: as needed.

**Health Education 122—Drugs, Health and Society (3)**

Examination of trends, philosophical and behavioral practices associated with drug use and dependence. Includes psychosocial, legal, historical and political aspects; treatment rehabilitation and prevention education. Focuses on the impact of psychoactive drugs on the individual and society. May be taken for grades or on a credit-no credit basis. Three hours. *Transfer Credit: CSU* Offered: F-S.

**Health Education 132—Introduction to Wellness (1) (9 week course)**

Identification and analysis of cardiovascular disease risk factors in order to improve cardiovascular health and general well being. Same as P E 132. *Students completing Health Education 132 may not receive credit for P E 132. May be taken for grades or on a credit-no credit basis. Two hours. Transfer Credit: CSU* Offered: F-S.

**Health Education 133—Sport Safety Training (2) (9-18 week course)**

This course prepares participants with the knowledge and skills necessary to help provide a safe environment for athletes. Emphasis is on helping sustain life and minimize the consequences of injury or sudden illness until medical help arrives. Same as Physical Education 133. Students completing Health Education 133 may not receive credit for Physical Education 133. May be taken for grades or on a credit-no credit basis. Two to four hours lecture. *Transfer Credit: CSU* Offered: F-S.

**Health Education 134—Fitness and Health (3)**

Theory and benefits of physical activity to fitness-related health. The study of human adaptation to exercise including such topics as cardiovascular conditioning, neuromuscular training, body composition, nutrition for performance, stretching, sports injuries and aging. Same as P E 134. Students completing Health Education 134 may not receive credit for Physical Education 134. May be taken for grades or on a credit-no credit basis. Three hours. *Transfer Credit: CSU; UC credit limitation* Offered: F-S.

**Health Education 136—Nutrition, Fitness and Performance (2)**

An applied nutrition course for individuals interested in health, fitness, and athletics. Principles of nutrition are studied and applied to the physically active lifestyle. Designed for the active individual and the fitness specialist certificate. Pre-event food and fluid selection, nutrient requirements during activity, various nutrition supplements, muscle mass and body fat related to physical performance. Same as Food and Nutrition 136 and P E 136. Students completing Health Education 136 may not receive credit for Food and Nutrition 136 or P E 136. May be taken for grades or on a credit-no credit basis. Two hours. *Transfer Credit: CSU* Offered: F-S.

**Health Education 138—Drugs and Sports (2) (9 week course)**

An in-depth look at substance abuse among athletes. The focus will be on the athletic environment, drug effects, reasons for drug usage, the impact on the team, and positive alternatives. Same as P E 138. Students completing Health Education 138 may not receive credit for P E 138. May be taken for grades or on a credit-no credit basis. Four hours. *Transfer Credit: CSU* Offered: F-S.
Health Education 199AD—Current Health Issues (.5-3) (1-18 week course)
Study and discussion of topics and issues of current interest in health. Units vary according to topic selected, semester offered and number of meetings scheduled. Of interest to students majoring in health related fields or general. May be repeated with different topics. May be taken for grades or on a credit-no credit basis. Variable hours. Transfer Credit: CSU Offered: as needed.

HEALTH RECORDS

Health Records 190—Beginning Medical Transcribing (3)
Prerequisite: Allied Health 111 and Medical Assisting 175, or concurrent enrollment. Keyboarding speed of 40 wpm and proficiency in word processing. Instruction and experience in beginning medical transcribing procedures. Special emphasis on transcription of medical terminology and techniques of preparing discharge summaries, operative reports, histories and physiologals and consults. Two hours lecture, two hours laboratory. Transfer Credit: CSU Offered: F.

Health Records 195—Advanced Medical Transcribing (2)
Prerequisite: Health Records 190. Instruction and experience in advanced medical transcribing procedures. Special emphasis on transcription of history and physicals, consultations, operative reports, progress notes, discharge summaries and various reports relating to laboratory/special procedures. One hour seminar, three hours laboratory. Transfer Credit: CSU Offered: F-S.

HEATING AND AIR CONDITIONING

Heating and A/C 100—Refrigeration Principles (3)
Basic refrigeration theory for those with no experience in the field. Course covers heat principles, refrigeration cycle, cycle components, refrigerant properties, system operation, troubleshooting and servicing. Three hours. Transfer Credit: CSU Offered: F-S.

Heating and A/C 101—Air Conditioning Principles (3)
Prerequisite: Heating and A/C 100. Study of the properties of air, air movement, air requirements, control, comfort zone, heat loads, psychometric chart and air measuring instruments. Three hours. Transfer Credit: CSU Offered: F.

Heating and A/C 102—Absorption Air Conditioning Systems (3)
Prerequisite: Heating and A/C 101. Theory, operation, maintenance and trouble-shooting of the lithium bromide absorption system. Three hours. Transfer Credit: CSU Offered: as needed.

Heating and A/C 103—Air Conditioning Service (3)
Prerequisite: Heating and A/C 100. Operation, maintenance and repair of refrigeration and air conditioning. Three hours. Transfer Credit: CSU Offered: as needed.

Heating and A/C 104—Air Conditioning—Air Balance (3)
Prerequisite: Heating and A/C 101. Operation and maintenance of air conditioning and heating ducts and their controls. Three hours. Transfer Credit: CSU Offered: F.

Heating and A/C 105—Air Conditioning Controls (3)
Heating, ventilating, refrigeration and air conditioning controls, control systems. Three hours. Transfer Credit: CSU Offered: as needed.

Heating and A/C 106—Centrifugal Refrigeration (3)
Recommended preparation: Heating and A/C 100 or 101. Fundamentals of centrifugal refrigeration, operations, maintenance of equipment and systems and trouble shooting. Three hours. Transfer Credit: CSU Offered: S.

Heating and A/C 107—Steam Plant Operation and Maintenance 1 (3)
Basic steam cycle, boilers and accessories, water and water treatment, turbines, heat balance and performance monitoring, nuclear powered steam plants. May be taken for grades or on a credit-no credit basis. Three hours. Transfer Credit: CSU Offered: as needed.

Heating and A/C 108—Steam Plant Operation and Maintenance 2 (3)
Prerequisite: Heating and A/C 107. Electricity, instrumentation, control systems, water chemistry and water treatment, motors, generators, boiler start-up and shut-down, Stationary Engineering License exam preparation. May be taken for grades or on a credit-no credit basis. Three hours. Transfer Credit: CSU Offered: as needed.

Heating and A/C 109—Building Energy Systems (3)
Prerequisite: Heating and A/C 100. A practical introduction to air conditioning systems and their application in commercial, industrial and residential buildings. The primary emphasis will be on conservation from an engineering viewpoint. May be taken for grades or on a credit-no credit basis. Three hours. Transfer Credit: CSU Offered: as needed.

Heating and A/C 110—Pneumatic Controls (3)
Operation and maintenance of pneumatic controls in building HVAC systems with emphasis on energy conservation practice. May be taken for grades or on a credit-no credit basis. Three hours. Transfer Credit: CSU Offered: S.

Heating and A/C 120—Applied Electricity (3)
Application, use, and trouble-shooting of electricity in institutional or commercial buildings with emphasis on code compliance. May be taken for grades or on a credit-no credit basis. Three hours. Transfer Credit: CSU Offered: S.

Heating and A/C 140—Building Automation/EMS (3)
Fundamental applications and design of building automation systems including, but not limited to, HVAC control, lighting control, fire and security systems. Three hours lecture. Transfer Credit: CSU Offered: F.

HEBREW

Hebrew 180—Elementary Hebrew (5)
An intensive study of the Hebrew language. The course introduces the essentials of grammar and vocabulary necessary for basic oral and written communication in Hebrew. It also provides an insight into Jewish and Israeli culture and civilization. Designed for students seeking to fulfill foreign language requirements and for those who wish an introduction to Hebrew language and culture. May be taken for grades or on a credit-no credit basis. Five hours. Transfer Credit: CSU; UC Offered: F-S.

Hebrew 185—Elementary Hebrew (5)
Prerequisite: Hebrew 180. Continuation of Hebrew 180. Correct use of Hebrew through basic conversation. Comprehension and speaking skills are expanded through discussion of school activities, professions, health matters, travel, family life, social activities, and customs. Reading, writing, grammatical basics, and cultural awareness are emphasized through selected literary works of Jewish authors. May be taken for grades or on a credit-no credit basis. Five hours. Transfer Credit: CSU; UC Offered: F-S.

HISTORY

History 100—Survey of American History (3)
A survey of the national, international, political, economic and social growth of the United States from its discovery to the present utilizing a topical and chronological approach. Designed to meet the state requirements in American History. Not designed for history majors. May be taken for grades or on a credit-no credit basis. Three hours. Transfer Credit: CSU; UC credit limitation Offered: F-S,Sum.

History 101—Afro-American History (3)
Political, legal, economic and social themes of blacks in the United States. Emphasis is given to the Afro-American experience from African origins, through slavery, into the 20th Century. May be taken for grades or on a credit-no credit basis. Three hours. Transfer Credit: CSU; UC Offered: F-S.
History 102—World Civilizations to the 17th Century (3) (CAN HIST 14)

The history of world civilizations from the earliest beginnings to the 17th century, giving a general outline of political, social, economic, and cultural institutions. May be taken for grades or on a credit/no credit basis. Three hours. Transfer Credit: CSU; UC credit limitation Offered: F-S.

History 102H—Honors World Civilizations to the 17th Century (3)

The history of world civilizations from the earliest beginnings to the 17th century, giving a general outline of political, social, economic, and cultural institutions. May be taken for grades or on a credit-no credit basis. Three hours. Transfer Credit: CSU; UC credit limitation Offered: F-S.

History 103—World Civilizations Since the 17th Century (3) (CAN HIST 16)

The history of world civilizations since the 17th century, giving a general outline of political, social, economic, and cultural institutions. May be taken for grades or on a credit-no credit basis. Three hours. Transfer Credit: CSU; UC credit limitation Offered: F-S.

History 103H—Honors World Civilizations Since the 17th Century (3)

The history of world civilizations since the 17th century, giving a general outline of political, social, economic, and cultural history. May be taken for grades or on a credit-no credit basis. Three hours. Transfer Credit: CSU; UC credit limitation Offered: F-S.

History 105—Family History and Genealogy (3)

Principles, procedures, and materials for developing family genealogy and history. Emphasizes practical aspects of historical research. Relates personal family history to general social, economic, and political history. May be taken for grades or on a credit-no credit basis. Three hours. Transfer Credit: CSU Offered: as needed.

History 110—Mexican-American Heritage (3)

A study of the cultural development of the Mexican-American from the Pre-Columbian period to the present. Emphasis will be placed on Mexican-American contributions to the development of the American Southwest. May be taken for grades or on a credit-no credit basis. Three hours. Transfer Credit: CSU; UC Offered: as needed.

History 115—The Other Americas (3)

A survey of Latin American civilizations with emphasis on the economic, social, and political development since independence. May be taken for grades or on a credit-no credit basis. Three hours. Transfer Credit: CSU; UC Offered: as needed.

History 120—East Asia to 1800 (3)

An interdisciplinary survey of major political, social, economic and cultural traditions of East Asia with an emphasis upon India, China, Japan and South-East Asia. May be taken for grades or on a credit-no credit basis. Three hours. Transfer Credit: CSU; UC Offered: as needed.

History 125—East Asia Since 1800 (3)

A continuation of History 120 with an emphasis on problems associated with industrialization, adaptation and cultural change since 1800. May be taken for grades or on a credit-no credit basis. Three hours. Transfer Credit: CSU; UC Offered: as needed.

History 128—History of Modern China (3)

A survey of political, economic, social and cultural developments in Chinese civilization since the 17th century emphasizing problems and personalities associated with modernization and revolution. May be taken for grades or on a credit-no credit basis. Three hours. Transfer Credit: CSU; UC Offered: as needed.

History 130—Survey of African History (3)

A survey of Africa, particularly as it interrelates with Europe, with emphasis on the period from the 18th century to the present. May be taken for grades or on a credit-no credit basis. Three hours. Transfer Credit: CSU; UC Offered: as needed.

History 140—The California Experience (3)

This introductory course surveys the uniqueness of the California experience. It explains the state's history with emphasis on the Indians, Spanish missions, Mexican ranches, Gold Rush, transcontinental railroads, global population, colorful figures, 20th Century contributions to atomic and space developments and multinational corporations. Recommended for elementary education majors. May be taken for grades or on a credit-no credit basis. Three hours. Transfer Credit: CSU; UC Offered: as needed.

History 143—History of Orange County (3)

People of Orange County from discovery to the present. Emphasis on heritage and change, problems and issues of today, trends toward the future. May be taken for grades or on a credit-no credit basis. Three hours. Transfer Credit: CSU; UC Offered: as needed.

History 145—History of Mexico (3)

Mexican history from the Pre-Columbian period to the present. Social, political, economic, and cultural growth of the Mexican nation. Emphasis on Indian, Spanish, and European contributions. May be taken for grades or on a credit-no credit basis. Three hours. Transfer Credit: CSU; UC Offered: as needed.

History 150—Ethnic Groups of the United States: Their Histories (3)

A survey of the history of the many ethnic groups originating in Europe, Asia (including the American Indian), the Americas, the Pacific Islands, Africa, and the Middle East that make up the population of the United States. Same as Ethnic Studies 150. Students completing History 150 may not receive credit for Ethnic Studies 150. May be taken for grades or on a credit-no credit basis. Three hours. Transfer Credit: CSU; UC Offered: F-S.

History 160—The American West (3)

A study of the trans-Mississippi west with emphasis on ethnic groups, westward movement, the mining and cattle frontiers, transportation systems, and federal land policies. May be taken for grades or on a credit-no credit basis. Three hours. Transfer Credit: CSU; UC Offered: F-S.

History 170—History of the United States to 1876 (3) (CAN HIST 8)

A survey of American historical development from the founding of the English colonies to 1876. Emphasis is placed on the evolution of the nation's political and economic institutions, social and intellectual history and foreign policy. Satisfies the state university requirement in American History. May be taken for grades or on a credit-no credit basis. Three hours. Transfer Credit: CSU; UC credit limitation Offered: F-S.Sum.

History 170H—Honors History of the United States to 1876 (3)

A survey of American historical development from the founding of the English colonies to 1876. Emphasis is placed on the evolution of the nation's political and economic institutions, social, and intellectual history, and foreign policy. May be taken for grades or on a credit-no credit basis. Three hours. Transfer Credit: CSU; UC credit limitation Offered: as needed.

History 175—History of the United States Since 1876 (3) (CAN HIST 10)

A continuation of the survey of American history development since 1876. Satisfies the state university requirement in American History. This course may also be offered online. May be taken for grades or on a credit-no credit basis. Three hours. (See also American Studies.) Transfer Credit: CSU; UC credit limitation Offered: F-S.Sum.

History 175H—Honors History of the United States Since 1876 (3)

A continuation of the survey of American history development since 1876. May be taken for grades or on a credit-no credit basis. Three hours. Transfer Credit: CSU; UC credit limitation Offered: as needed.

History 176—Women in United States History (3)

The political, economic, social and cultural history of women within the context of United States history. May be taken for grades or on a credit-no credit basis. Three hours. Transfer Credit: CSU; UC Offered: as needed.

History 177—Economic History of the United States (3)

The economic history of the United States from the colonial period to the present. Emphasis is placed on factors and forces contributing to American economic development and attempted solutions to economic problems. Satisfies the state university requirement in American History. May be taken for grades or on a credit-no credit basis. Three hours. Transfer Credit: CSU; UC Offered: as needed.

History 178—The United States Between World Wars (3)

A survey of American political, diplomatic, economic and social trends during the Nineteen Twenties and Thirties. Emphasis upon changing life styles and emerging political and economic adjustments. May be taken for grades or on a credit-no credit basis. Three hours. UC-Transfer Credit: CSU; UC credit limitation Offered: as needed.
History 179—History of the United States Since 1945 (3)
Political, economic, social, and cultural development of the United States from the end of World War II (1945) to the present with special emphasis on the emergence of general trends and themes which condition and characterize the contemporary American way of life. May be taken for grades or on a credit-no credit basis. Three hours. Transfer Credit: CSU; UC credit limitation Offered: F.S.

History 180—History of Western Civilization (3) (CAN HIST 2)
The development of present day western culture from the earliest beginnings to 1715, giving a general outline of the development of social, economic, political and cultural institutions that have had a major impact on our civilization. May be taken for grades or on a credit-no credit basis. Three hours. Transfer Credit: CSU; UC credit limitation Offered: as needed.

History 180H—Honors History of Western Civilization (3)
The development of present day Western culture from the earliest beginnings to 1715, giving a general outline of the development of social, economic, political, and cultural institutions that have had a major impact on our civilization. May be taken for grades or on a credit-no credit basis. Three hours. Transfer Credit: CSU; UC credit limitation Offered: as needed.

History 185—History of Western Civilization (3) (CAN HIST 2)
A study of western culture from 1715 to the present with particular emphasis on the persons, ideas, movements, and institutions which help to interpret our present day civilization. May be taken for grades or on a credit-no credit basis. Three hours. Transfer Credit: CSU; UC credit limitation Offered: F.S.Sum.

History 185H—Honors History of Western Civilization (3) (CAN HIST 4)
A study of western culture from 1715 to the present with particular emphasis on the persons, ideas, movements, and institutions which help to interpret our present day civilization. May be taken for grades or on a credit-no credit basis. Three hours. Transfer Credit: CSU; UC credit limitation Offered: F.S.Sum.

History 187—Women in History (3)
Political, economic, social, and cultural history of women within the context of western civilization. May be taken for grades or on a credit-no credit basis. Three hours. Transfer Credit: CSU; UC Offered: as needed.

History 188—20th Century World (3)
The political, economic, social, and cultural developments in world history. Topics include World War I and the consequences of Versailles, the Bolshevik Revolution and the rise of Communism, Italian Fascism, German Nazism, Japanese militarism, the diplomacy of World War II, the Cold War, emergent nationalism vs. internationalism, and challenges to the globe. May be taken for grades or on a credit-no credit basis. Three hours. Transfer Credit: CSU; UC Offered: F.S.Sum.

History 189—History of Russia (3)
A survey of the political, economic, social, and cultural history of Russia from the earliest times to the present with an emphasis on Russian institutional development. May be taken for grades or on a credit-no credit basis. Three hours. Transfer Credit: CSU; UC Offered: F.S.

History 190—History of England and Greater Britain (3)
Survey of British history with an emphasis on the development of Anglo-American institutions. May be taken for grades or on a credit-no credit basis. Three hours. Transfer Credit: CSU; UC Offered: F.

History 191—Vietnam War (3)
A survey of the struggle for control of Indochina since 1946 in its military, diplomatic, political, and economic aspects. Emphasis is placed on the role of the United States in the war, as well as the war’s impact on the United States. May be taken for grades or on a credit-no credit basis. Three hours. Transfer Credit: CSU; UC Offered: F.

History 192—The World at War (3)
Political, military, diplomatic, economic, social and cultural developments of World War II. Emphasis on the role of the United States. May be taken for grades or on a credit-no credit basis. Three hours. Transfer Credit: CSU; UC Offered: F.S.

History 193—Fifteen Significant Battles of World Civilization (3)
Fifteen decisive battles that have molded the shape of human destiny in the course of world civilization. May be taken for grades or on a credit-no credit basis. Three hours. Transfer Credit: CSU; UC Offered: as needed.

History 194—Hotel Management (3)
Overview of the hospitality industry. Its history and interrelationships of hotel, restaurant, travel and leisure industries. Economic and social influences of leisure. Emphasis on attitude required of a person seeking a position in the industry. Same as Food Service Management 100 and Culinary Arts 100. Students completing Hotel 100 may not receive credit for Food Service Management 100 or Culinary Arts 100. Three hours. Transfer Credit: CSU Offered: F.S.

History 195—Hotel Management 101—Housekeeping Room Management (1) (6 week course)
This is part of three modules (Hotel Management 101, 102, and 103) that examine the technical functions of and coordination between the housekeeping and maintenance departments in a hotel. The fundamentals of management are emphasized through proper communication skills, appropriate training, detailing work methods, quality assurance, and management techniques. Students wishing to apply this course towards certification and/or an AA degree in hotel management must complete all three modules. One hour. Transfer Credit: CSU Offered: F.S.

History 196—Hotel Management 102—Housekeeping Operations and Maintenance (1) (6 week course)
This is part of three modules (Hotel Management 101, 102, and 103) that examine the technical functions of and coordination between the housekeeping and maintenance departments in a hotel. The fundamentals of management are emphasized through proper communication skills, appropriate training, detailing work methods, quality assurance, and management techniques. Students wishing to apply this course towards certification and/or an AA degree in hotel management must complete all three modules. One hour. Transfer Credit: CSU Offered: F.S.

History 197—Hotel Management 103—Housekeeping Techniques and Strategies (1) (6 week course)
This is part of three modules (Hotel Management 101, 102, and 103) that examine the technical functions of and coordination between the housekeeping and maintenance departments in a hotel. The fundamentals of management are emphasized through proper communication skills, appropriate training, detailing work methods, quality assurance, and management techniques. Students wishing to apply this course towards certification and/or an AA degree in hotel management must complete all three modules. One hour. Transfer Credit: CSU Offered: F.S.

History 198—Food Service Management 100—Introduction to the Hospitality Industry (3)
Overview of the hospitality industry. Its history and interrelationships of hotel, restaurant, travel and leisure industries. Economic and social influences of leisure. Emphasis on attitude required of a person seeking a position in the industry. Same as Food Service Management 100 and Culinary Arts 100. Students completing Hotel 100 may not receive credit for Food Service Management 100 or Culinary Arts 100. Three hours. Transfer Credit: CSU Offered: F.S.
Hotel Management 115—Hotel Accounting and Night Audit (3)
The application of accounting principles and procedures to the hotel industry. Practice is given in bookkeeping methods, the operation of a set of books and accounting records, and the preparation of financial statements. The duties and responsibilities of the night auditor including the auditing of guests’ accounts and preparation of the transcript. Three hours. Transfer Credit: CSU Offered: S.

Hotel Management 116—Internship 1 (2)
Recommended preparation: Hotel Management 100.
A internship opportunity for students completing the core of the Hotel Management program. Students will complete a job shadow/career exploration in four different areas of hotel management. The seminar portion of the course will focus on employability skills required in the hotel industry. One hour lecture, eight hours field experience. Transfer Credit: CSU Offered: as needed.

Hotel Management 180—Quality Assurance and Managing Guest Relations (3)
Recommended preparation: Hotel Management 110 or concurrent enrollment.
This course is designed to convey the importance of guest relation skills in a competitive market. Students will develop the skills expected of each employee, supervisor, and manager based on wants, needs, and expectations of the guest, service, and teamwork. Three hours. Transfer Credit: CSU Offered: F.

Hotel Management 240—Hospitality Sales (1.5) (9 week course)
The organization and function of a sales department with emphasis on planning and analysis of product competition and markets. Sales tools and techniques, advertising, community relations, and the importance of guest contact are covered. Three hours. Transfer Credit: CSU Offered: F.

Hotel Management 260—Supervision and Training (3)
Procedures and problems met by lodging operations in developing responsibility of selection, placement, orientation, training, counseling, evaluation, promotion and/or transfer of hotel employees. Same as Food Service Management 260. Students completing Hotel 260 may not receive credit for Food Service Management 260. Three hours. Transfer Credit: CSU Offered: F.S.

Hotel Management 265—Practices and Principles of Event/Meeting Management (1.5) (9 week course)
This course addresses trends and successful business practices in event and meeting management providing the knowledge and tools necessary to improve effectiveness and profitability as an event or meeting manager. It is strongly recommended that all students enroll in this course first as it provides a thorough foundation for all future coursework. This course may also be offered online. Three hours. Transfer Credit: CSU Offered: Sum.as needed.

Hotel Management 266—Event/Meeting Coordination (1.5) (9 week course)
Recommended preparation: Hotel Management 265 or concurrent enrollment.
A comprehensive, fast-paced, hands-on course in managing a professional event/meeting, including the practical skills and tools needed for successful planning. This course may also be offered online. Three hours lecture. Transfer Credit: CSU Offered: F.

Hotel Management 267—Risk Management: Financial, Legal, and Ethical Safeguards (1.5) (8 week course)
Recommended preparation: Hotel Management 265 and 266 or concurrent enrollment.
This course provides a thorough and systematic approach to risk management that ensures the understanding and use of every possible safeguard to produce safe and successful events/meetings. This course may also be offered online. Three hours. Transfer Credit: CSU Offered: F.

Hotel Management 270—Hospitality Marketing (1.5) (8 week course)
Prerequisite: Hotel Management 265 and/or 266 or concurrent enrollment.
The organization and function of hospitality marketing with emphasis on people, product, packaging, pricing, and promotion. The student will learn how to establish and operate a marketing plan to develop the maximum flow of business and to serve the guest effectively and efficiently for the highest profit possible. Three hours. Transfer Credit: CSU Offered: as needed.

Hotel Management 270AD—Internship 2 (3)
Prerequisite: Hotel Management 116.
Supervised internship in areas of specialization within the hotel industry. Industry related experience will enhance academic learning. Students will be required to follow dress standards set by the facility in which they are working. One hour lecture, eight unpaid non-lecture or one hour lecture, twelve hours paid non-lecture. Transfer Credit: CSU Offered: F.S.

Hotel Management 278—Hospitality Management Skills Builder (3)
Recommended preparation: Hotel Management 285 or concurrent enrollment.
An in-depth study of the skills required to be an effective manager. This course covers the roles, responsibilities, situations, and personal styles of decision-making in the hotel industry, and how to put quality management tools into action to enhance service and boost business. Three hours. Transfer Credit: CSU Offered: F.

Hotel Management 282—Hospitality Supervisory Skills Builder (3)
Recommended preparation: Hotel Management 288 and/or 110 or concurrent enrollment.
Designed to provide supervisory principles and skills to individuals wishing to advance into or hold a supervisory or management position within the hospitality industry. Three hours. Transfer Credit: CSU Offered: S.

Hotel Management 285—Hotel Operation (3)
Management responsibilities in the hospitality industry including the rooms division, food and beverage, recreation, entertainment facilities, franchises, referral and management organizations, market analyses, feasibility studies, ethics, and statistics. Three hours. Transfer Credit: CSU Offered: S.

Hotel Management 286—Hotel/Restaurant Law (3)
Introduction to law applicable to the hospitality industry. Laws dealing with discrimination, liability, torts, and negligence. Interpretation of statutes and regulations, labor laws, laws relating to building, health, and safety, and laws relating to food, liquor and entertainment are covered. Three hours. Transfer Credit: CSU Offered: S.

Hotel Management 288—Human Resource Management (3)
The management of the human resources function in hotels including labor supply, governmental regulations, safety and worker’s compensation, training, unions and labor relations and immigration requirements. The course also covers the administration and management of personnel. Three hours. Transfer Credit: CSU Offered: F.

HUMAN DEVELOPMENT

Human Development 180—Child Development (3)
(CAN FCS 14)
A study of growth and development from conception through adolescence. Emphasis on theories of physical, cognitive and psychosocial development. Observations directed to further insight into change during childhood years. Three hours. Transfer Credit: CSU; UC Offered: F,S,Sum.

Human Development 182—Middle Childhood Development and Guidance (3)
Growth and development of the child from 5-12 years of age including characteristics of physical, cognitive, and psychosocial development, as well as techniques for guidance of the school-age child. Focus is on learning to identify common developmental qualities of children 5-12 years of age and find positive approaches to individual, group, and environmental management. Three hours. Transfer Credit: CSU Offered: F.S.

Human Development 184—Infant Development and Relationships (3)
Growth and development of the child from birth to 2 years: current theories and adult-infant relationships along with practical applications for relating to and caring for infants. Three hours. Transfer Credit: CSU Offered: F.S.
Human Development 190—The Child, Family and Community (3)
The community and the family as it relates to the socialization of the young child. Racial, cultural, social and economical factors, and the developmental tasks throughout the family life cycle, family crisis and community resources are explored. Three hours. **Transfer Credit: CSU; UC Offered: F-S.**

Human Development 210—Introduction to the Exceptional Child (3)
Prerequisite: Human Development 180. Introduction to the exceptional child including the gifted, developmentally delayed, emotionally disturbed, speech and hearing impaired, visually impaired, orthopedically and neurologically impaired. The role of the teacher in supporting these children and their families and vocational opportunities are discussed. Three hours. **Transfer Credit: CSU Offered: S.**

Human Development 280—Language and Literacy Development (3)
Prerequisite: Human Development 180 or 182. Comprehension and production of language. Emphasis on literacy and language development birth through age 8. Course covers theories of language, reading, and writing acquisition, as well as steps involved in the development of programs for infants, toddlers, preschool and early primary age children. Three hours. **Transfer Credit: CSU Offered: F-S.**

**HUMANITIES**

Humanities 100—Introduction to the Humanities (3)
A survey of the European humanities (history, philosophy, literature, and the fine arts) and their contribution to artistic, cultural, and social expression in Western civilization. May be taken for grades or on a credit-no credit basis. Three hours. **Transfer Credit: CSU; UC Offered: F.S.Sum.**

Humanities 101—Themes in Humanities (3)
Great works of art through the ages as they relate to the problems of man and also as they relate to the student. A search for similarities and differences in some of the more important attempts to define the human. An examination of how, at widely separated points in time, artists and writers have viewed significant aspects of humanity and the world. May be taken for grades or on a credit-no credit basis. Three hours. **Transfer Credit: CSU; UC credit limitation Offered: as needed.**

Humanities 101H—Honors Themes in Humanities (3)
An examination of how literature, philosophy, history, and the arts intersect to explore the problems of man; how the humanities have viewed significant aspects of the human and his culture over widely separated points of time. May be taken for grades or on a credit-no credit basis. Three hours. **Transfer Credit: CSU; UC credit limitation Offered: as needed.**

Humanities 110A—Arts and Ideas of the Orient (1.5) (9 week course)
An introduction to the humanities of the Orient, focusing on an historical overview of the region through its visual arts, religion, and literary traditions. May be taken for grades or on a credit-no credit basis. Three hours. **Transfer Credit: CSU; UC credit limitation Offered: as needed.**

Humanities 110B—Arts and Ideas of Latin America (1.5) (9 week course)
An introduction to the humanities of Latin America with emphasis on an historic overview of the region through its religions, visual arts, and literary traditions. May be taken for grades or on a credit-no credit basis. Three hours. **Transfer Credit: CSU; UC credit limitation Offered: as needed.**

**INTERDISCIPLINARY STUDIES**

Interdisciplinary Studies 110—Introduction to Environmental Planning (3)
An introduction and precise survey of environmental planning. Analysis, description, and application of the planning process. Emphasis on group research into regional environmental problems. Three hours. **Transfer Credit: CSU Offered: as needed.**

**INTERIOR DESIGN**

Interior Design 100—Fundamentals of Interior Design (3)
Application of design principles and elements in planning of total interior environments that meet individual, functional, legal, and environmental needs. Selection of all materials and products used in interior environments will be emphasized for the functional aesthetic quality. Three hours. **Transfer Credit: CSU Offered: F-S.**

Interior Design 105—Interior Design Studio 1 (2)
Recommended preparation: Interior Design 100 or concurrent enrollment. This studio course will apply concepts and theories presented in the lecture course, Interior Design 100. Therefore, it is recommended that both courses be taken concurrently. Emphasis is placed on the design process in developing solutions for design projects. One hour lecture, three hours studio. **Transfer Credit: CSU Offered: F-S.**

Interior Design 120—Interior Design Careers (2)
A survey of the interior design profession, industry, related occupations and work sites. The course will emphasize personal, educational, and professional qualifications required for entry into the interior design profession. Two hours. **Transfer Credit: CSU Offered: F-S.**

Interior Design 150—Interior Materials and Products (4)
Analysis, application and evaluation of products and materials used in interior design. Includes interior textiles, furnishings, and finish materials and products. Four hours. **Transfer Credit: CSU Offered: as needed.**

Interior Design 170—Space Planning (3)
Recommended preparation: Interior Design 100 and Architectural Technology 105.
The application of programming, theory, and techniques in residential and commercial space planning. Drafting and presentation techniques are emphasized in the studio. Two hours lecture, three hours non-lecture. **Transfer Credit: CSU Offered: F.**

Interior Design 180—History of Interior Architecture and Furnishings 1 (3)
The historical relationship between the decorative arts, period furniture, and interior architecture is illustrated in this overview of design heritage from Antiquity through the 19th century in France. Emphasis on style development as it relates to social, economic, and political influences. Three hours. **Transfer Credit: CSU Offered: F-S.**

Interior Design 190—History of Interior Architecture and Furnishings 2 (3)
The historical relationship between the decorative arts, period furniture, and interior architecture is illustrated in this overview of design heritage. This course begins with 16th century England and America and analyzes the influences and changes in design to the present. Style development as it relates to social, economic, and political forces is emphasized. Three hours. **Transfer Credit: CSU Offered: S.**

Interior Design 200—Interior Illustration (2)
Recommended preparation: Architectural Technology 105.
Application of the methods, techniques, and tools used for illustrating interior spaces and products. One hour lecture, three hours non-lecture. **Transfer Credit: CSU Offered: as needed.**

Interior Design 210—Fundamentals of Lighting (3)
Recommended preparation: Interior Design 100 and Architectural Technology 105.
The fundamentals of lighting, design, theory, and application including the history and vocabulary of lighting, how light affects color and vision, incandescent and fluorescent lamps, lighting techniques for interior designers, codes, and energy efficient lighting practices. Three hours. **Transfer Credit: CSU Offered: S.**
Interior Design 275—Interior Design Studio 2 (2)
Recommended preparation: Fashion 175 and Interior Design 170.
Develop, analyze, and apply design concepts to interior environments. Universal design, ‘green’ design, space planning, lighting systems, interior components, architectural elements, and specification writing will be integrated into research projects emphasizing a problem solving approach. One hour lecture, three hours studio. Transfer Credit: CSU Offered: S.

Interior Design 230—Business and Professional Practice (3)
Recommended preparation: Interior Design 100 and 120.
The business and professional management of an interior design practice including legal issues, project management, and business practices. Three hours. Transfer Credit: CSU Offered: as needed.

Interior Design 240—Interior Design Internship (3)
Recommended preparation: Architectural Technology 180 and Interior Design 170.
Supervised internship related to classroom-based learning at a work site related to interior design. One hour lecture, eight hours arranged. Transfer Credit: CSU Offered: F,S.

Interior Design 250—Codes and Specifications for Interior Design (2)
This course explores federal regulations, codes and specifications concerning life-safety issues, barrier-free access (ADA and universal design requirements relative to residential and contract design). Special attention is given to performance, health-safety, and universal design when estimating and preparing specifications for interior materials and products. Two hours. Transfer Credit: CSU Offered: as needed.

Interior Design 260—Interior Design Rendering and Rapid Visualization (2)
Application of the methods, techniques, and tools used for illustrating interior spaces and products with an emphasis on rapid production. One hour lecture, three hours non-lecture. Transfer Credit: CSU Offered: as needed.

Interior Design 265—Interior Design Studio 3 (2)
Analysis and application of the design process to the space planning, materials and finish choices, codes application, and selection of specialized equipment unique to planning office spaces. Design solutions for offices will be developed in the studio. One hour lecture, three hours studio. Transfer Credit: CSU Offered: as needed.

Interior Design 275—Interior Design Studio 4 (2)
Analysis and application of the design process to space planning, materials and finish choices, codes application, and selection of specialized equipment unique to planning hospitality spaces. Design solutions for hospitality to be developed in the studio. One hour lecture, three hours studio. Transfer Credit: CSU Offered: as needed.

INTERNATIONAL STUDIES

International Studies 100—Introduction to Global Perspectives (3)
Prerequisite: Eligibility for English 100.
Designed for all majors as an approach to understanding the contemporary world. The course integrates most college disciplines in an international way. Systems, change, developing technologies and methods will be discussed. May be taken for grades or on a credit-no credit basis. Three hours. Transfer Credit: CSU Offered: as needed.

INTERNSHIP ACADEMY

Internship 392AB—Internship Academy-Level 2 (1-4)
Prerequisite: Concurrent enrollment in a course related to the student's identified major.
Supervised internship for the student who has identified a major area of study. Job site experience will train the student in additional job skills that will enhance academic learning. Courses in the career field will be taken concurrently with the student's job site experience. May be either paid or unpaid position. Three and one-half to sixteen and one-half hours. Transfer Credit: CSU Offered: F,S,Sum.

Internship 393AB—Internship Academy-Level 3 (1-4)
Prerequisite: Advanced standing in career program.
Supervised internship related to classroom-based learning at an on-the-job learning site related to student’s career goal. This is an advanced internship course. May be either a paid or unpaid position. Three and one-half to sixteen and one-half hours. Transfer Credit: CSU Offered: F,S,Sum.

ITALIAN

Italian 110—Italian Conversation 1 (3)
Italian conversation, pronunciation, oral practice, and vocabulary study. Fundamental grammatical principles used in conversation. Emphasis on speaking and comprehension of the spoken language. An introduction to Italian culture, history, and geography. May be taken for grades or on a credit-no credit basis. Three hours. Transfer Credit: CSU Offered: F,S.

Italian 120—Italian Conversation 2 (3)
Continuation of Italian Conversation 1. May be taken for grades or on a credit-no credit basis. Three hours. Transfer Credit: CSU Offered: as needed.

Italian 130—Conversational Italian 3 (3)
Continuation of Italian Conversation 2. May be taken for grades or on a credit-no credit basis. Three hours. Transfer Credit: CSU Offered: as needed.

Italian 170—Italian for International Business (3)
A beginning course in Italian specifically designed for international business. The basic structures of Italian and international business vocabulary will be practiced in order to communicate and do business in Italy. Students will also develop a greater understanding of the culture, economy, and social structure of Italy. Transfer Credit: CSU Offered: F,S.

Italian 180A—Beginning Elementary Italian (2.5)
An extended course equivalent to the first half of Italian 180 and intended for students seeking more time to acquire Italian. Taken together, Italian 180A and 180B equal Italian 180. Includes fundamentals of the Italian language and culture with practice in reading, writing, speaking, and comprehension of Italian at the beginning, first semester level. An introduction to selected literary works by leading Italian authors depicting cultural and philosophical points of view. May be taken for grades or on a credit-no credit basis. Three hours. Transfer Credit: CSU; UC credit limitation Offered: as needed.

Italian 180B—Continuing Elementary Italian (2.5)
An extended course continuing Italian 180A and equivalent to the second half of Italian 180 and intended for students seeking more time to acquire Italian. Taken together, Italian 180A and 180B equal Italian 180. Includes fundamentals of the Italian language and culture with practice in reading, writing, speaking, and comprehension of Italian at the beginning, first semester level. An introduction to selected literary works by leading Italian authors depicting cultural and philosophical points of view. May be taken for grades or on a credit-no credit basis. Three hours. Transfer Credit: CSU; UC credit limitation Offered: as needed.

Italian 185—Elementary Italian (5)
Prerequisite: Italian 180.
Continuation of Italian 180. Emphasis on developing effective and correct skills in conversation, reading, writing, and comprehension in the Italian language at a second semester level, and a broader scope to selected literary works and cultural awareness. May be taken for grades or on a credit-no credit basis. Five hours. Transfer Credit: CSU; UC Offered: F,S.

Italian 185A—Beginning Elementary Italian (2.5)
Prerequisite: Italian 180.
An extended course continuing Italian 180A and 180B and intended for students seeking more time to acquire Italian. Equivalent to the first half of Italian 185. Stress on developing effective and correct skills in conversation, reading and writing in the Italian language at a second semester level. Taken together, Italian 185A and 185B equal Italian 185. May be taken for grades or on a credit-no credit basis. Three hours. Transfer Credit: CSU; UC credit limitation Offered: as needed.
COURSES

Italian 185B—Continuing Elementary Italian (2.5)
An extended course continuing Italian 185A and intended for students seeking more time to acquire Italian. Equivalent to the second half of Italian 185. Stress on developing effective and correct skills in conversation, reader and writing in the Italian language at a second semester level. Taken together, Italian 185A and 185B equal Italian 185. May be taken for grades or on a credit/no-credit basis. Three hours. Transfer Credit: CSU; UC credit limitation
Offered: as needed.

Italian 199—Current Topics in Italian (1-5)
Prerequisite: One semester of college-level Italian.
Group participation by level to develop skills in using Italian in oral and written form. Study and discussion of major current social, economical and political issues in Italy and their impact on Italian traditions through a historical perspective. Students will be assigned to groups according to their existing levels of Italian. May be taken for grades or on a credit-no-credit basis. One to five hours. Transfer Credit: CSU; UC credit limitation
Offered: as needed.

Italian 280—Intermediate Italian (4)
Continuation of Italian 185. Includes further study of Italian language, culture and literature with practice in reading, writing, speaking and comprehension of Italian at the third semester level. A broader scope to selected literary work and cultural awareness. May be taken for grades or on a credit-no-credit basis. Four hours. Transfer Credit: CSU; UC
Offered: as needed.

Italian 285—Intermediate Italian (4)
Prerequisite: Italian 280.
Continuation of Italian 280. A review of grammar with concentration on original oral and written expression based on selected readings and lectures on Italian literature and culture. May be taken for grades or on a credit-no-credit basis. Four hours. Transfer Credit: CSU; UC
Offered: as needed.

Italian 285B—Continuing Elementary Italian (2.5)
Prerequisite: Italian 285.
A general consolidation of the four language skills: reading, comprehension, composition and conversation. Practical conversation, composition and reading on everyday topics, cultural material exploring new insights into Italian life, history, institutions, folklore and Italian grammar review. This course is taught in Italian. May be taken for grades or on a credit-no-credit basis. Three hours. Transfer Credit: CSU; UC
Offered: as needed.

Japanese 120—Elementary Conversational
Japanese (3)
Prerequisite: Japanese 110.
Continuing Japanese 110, the students will expand the practical "survival" Japanese with emphasis on additional idiomatic expressions, vocabulary building, correct pronunciation, and basic syntax. Further study of customs, etiquette, and geography. May be taken for grades or on a credit-no-credit basis. Three hours. Transfer Credit: CSU
Offered: F,S,Sum.

Japanese 180—Elementary Japanese (5)
This first course in elementary Japanese emphasizes all four basic language skills in modern Japanese: listening, speaking, reading, and writing. Also, studying the differences and similarities between cultures will help develop an appreciation of cultural diversity. May be taken for grades or on a credit-no-credit basis. Five hours. Transfer Credit: CSU; UC
Offered: F,S,Sum.

Japanese 180A—Beginning Elementary Japanese
(2.5)
An extended course equivalent to the first half of Japanese 180, intended for students seeking more time to acquire Japanese. Taken together, Japanese 180A and Japanese 180B equal Japanese 190. Includes fundamentals of the Japanese language and culture with practice in reading, writing, speaking and comprehension of Japanese at the beginning, first semester level. May be taken for grades or on a credit-no-credit basis. Three hours. Transfer Credit: CSU; UC credit limitation
Offered: as needed.

Japanese 180B—Continuing Elementary Japanese
(2.5)
Prerequisite: Japanese 180A.
An extended course continuing Japanese 180A and equivalent to the second half of Japanese 180, intended for students seeking more time to acquire Japanese. The combinations of Japanese 180A and Japanese 180B equal Japanese 180. May be taken for grades or on a credit-no-credit basis. Three hours. Transfer Credit: CSU; UC credit limitation
Offered: as needed.

Japanese 181—Elementary Japanese (3)
Prerequisite: Japanese 180 or two years of high school Japanese.
Continuation of Japanese 180 for students who wish to take more time and have more aural practice. Emphasis on correct use of Japanese in reading, writing, speaking, and comprehension at the secondary level, and a broader scope to cultural awareness. (Course content of Japanese 181 and 182 together exceeds that of Japanese 185.) May be taken for grades or on a credit-no-credit basis. Three hours. Transfer Credit: CSU; UC credit limitation
Offered: as needed.

Japanese 182—Elementary Japanese (3)
Prerequisite: Japanese 181.
Continuation of Japanese 181 for students who wish to take the second semester level work at a more leisurely pace with more practice of an aural nature. Emphasis on correct use of Japanese in reading, writing, speaking and comprehension at the secondary level with a broader scope to cultural awareness. (Course content of Japanese 181 and 182 together exceeds that of Japanese 185.) May be taken for grades or on a credit-no-credit basis. Three hours. Transfer Credit: CSU; UC credit limitation
Offered: as needed.

Japanese 185—Elementary Japanese (6)
Prerequisite: Japanese 180.
Continuation of Japanese 180. Emphasis on the continued development of elementary proficiency in reading, writing, speaking, and listening. Further study of differences and similarities between cultures. May be taken for grades or on a credit-no-credit basis. Five hours. Transfer Credit: CSU; UC
Offered: F,S,Sum.

Japanese 280—Intermediate Japanese (5)
Prerequisite: Japanese 185.
Continuation of Japanese 185. Includes further study of the Japanese language and cultures with practice in speaking, listening, reading, and writing at the intermediate level. May be taken for grades or on a credit-no-credit basis. Five hours. Transfer Credit: CSU; UC
Offered: F,S,Sum.

Prerequisite: Japanese 280.
Continuation of Japanese 280. Includes further study of the Japanese language and cultures with practice in speaking, listening, reading, and writing at the intermediate level. May be taken for grades or on a credit-no-credit basis. Five hours. Transfer Credit: CSU; UC
Offered: F,S,Sum.

JOURNALISM
(See Communications, English, and Communications 265AB and 266AB)

LEADERSHIP STUDIES
Leadership Studies 140—Introduction to Student Leadership (1)
An introductory course designed for all students interested or presently serving in leadership roles which may include clubs and organizational positions on campus or within the community. Emphasis on general leadership philosophy, governing structure, policies and operations of the Associated Students. Basic parliamentary procedure through development of leadership and organizational skills. May be taken for grades or on a credit-no-credit basis. One hour. Transfer Credit: CSU Offered: F,S.

Leadership Studies 150AD—Student Leadership and Governance (3)
Recommended preparation: Leadership Studies 140 or concurrent enrollment.
An introductory course designed for continued development of advanced leadership skills. Class members will serve as student board of trustees, president, vice president, ASOCC staff members, or in clubs or organizational positions. Emphasis will be on participation in advanced governing operation and policy making. May be taken for grades or on a credit-no-credit basis. One hour lecture, two hours non-lecture, four hours arranged. Transfer Credit: CSU Offered: F,S.
Leadership Studies 180—Personal Leadership (3)
An introduction to the concepts and personal skills related to leadership on campus, in the community, and in business. The course progresses from a study of leadership traits and models to assessment and analysis of personal skills and attitudes and ends with the development of individual student plans for leadership development. Three hours. Transfer Credit: CSU Offered: F-S.

Leadership Studies 200—Leadership in Action (3)
Recommended preparation: Leadership Studies 180. Explore advanced topics in leadership and apply them to personal lives and careers in private or public sector organizations. Topics include the crisis in leadership, change and chaos theory, conflict resolution, power and influence, diversity and leadership, and leading teams. Students develop and implement a plan to apply new skills and knowledge to an organization in which they belong. Three hours. Transfer Credit: CSU Offered: F-S.

LEARNING SKILLS
Learning Skills N001AD—Basic Skills Remediation (1-3)
Prerequisite: Completion of the California Community College Learning Disabilities Assessment. Provides individualized remedial instruction to students with learning disabilities. The program is designed to help a student improve the basic academic skills of reading, spelling and arithmetic. Offered on a credit-no credit basis only. Three-nine hours non-lecture. Not applicable to AA degree. Offered: F-S.

MACHINE TECHNOLOGY
Machine Technology 100—Introductory Machine Shop (3)
This course familiarizes the student with the basics of machine shop safety practices, common non-precision and precision measuring tools, hand tools, simple blueprint reading, simple lathe, mill, and drill press operations. Two hours lecture, three hours laboratory. Transfer Credit: CSU Offered: F-S,Sum.

Machine Technology 105—Lathe (5)
Recommended preparation: Machine Technology 100 and 120 and Technology 040 or related experience.
A basic course in engine lathe operation to include ID and OD threading, knurling, boring, turning, facing, and cutting tapers. This course also includes exposure to the chucking lathe, tracer lathe, and the turret lathe. Safety and measurement are also emphasized. Three hours lecture, five hours laboratory. Transfer Credit: CSU Offered: F-S.

Machine Technology 110—Milling Machine (5)
Recommended preparation: Machine Technology 100 and 120 and Technology 040 or related experience.
A basic course in milling machine operation to include both the vertical and horizontal milling usage, theory and usage of tools and accessories. Safety is also emphasized. Three hours lecture, five hours laboratory. Transfer Credit: CSU Offered: F-S.

Machine Technology 115—Production Machining Techniques (3)
Recommended preparation: Machine Technology 100 and 105 and 110 or related experience.
This course emphasizes production machining. Set up and running of more than one part on the following machines: turret lathe, chucking lathe, tracer lathe, turret drill, ID and OD grinder, vertical mill, and horizontal mill. Two hours lecture, four hours laboratory. Transfer Credit: CSU Offered: F-S.

Machine Technology 120—Measurement and Blueprint Reading (3)
A study of blueprint reading and measuring systems used in manufacturing, including an in-depth study of the basic and advanced measuring tools used by machinists. Common blueprint formats and dimension practices will be explored. Geometric dimensioning and tolerances will be discussed. Three hours. Transfer Credit: CSU Offered: F-S.

Machine Technology 125—Computerized Numerical Control Machine Operation (3)
Recommended preparation: Machine Technology 105 and 110 or related experience.
A basic course in the operation of a computer numerically controlled lathes and mills, including machine functions, tooling setup, reading machine language, part setup, and machine manipulation. Includes production of parts on both lathes and mills. Two hours lecture, three hours laboratory. Transfer Credit: CSU Offered: F-S.

Machine Technology 126—Advanced CNC Machine Operation (2)
Recommended preparation: Machine Technology 125 or related experience.
Designed to fine tune the skills of CNC machine setup. Students will learn advanced features of state-of-the-art CNC lathes and mills, make their own fixtures, write the necessary programs, and produce the parts on CNC machines. One hour lecture, three hours non-lecture. Transfer Credit: CSU Offered: F-S.

Machine Technology 130—Introduction to Computerized Numerical Control and Manual Programming (4)
Recommended preparation: Machine Technology 105 and 110 or related experience.
A basic course in computerized numerical control of machine tools. Types of control systems, capabilities, and the different machine languages are examined. Elementary parts programming in two-axis systems, including all steps necessary to complete a part on both CNC lathes and mills. Four hours. Transfer Credit: CSU Offered: F-S.

Machine Technology 131AB—CNC Programming-Surfcam (3)
Prerequisite: Machine Technology 130.
Recommended preparation: Computer & High Technology 090 or Computer Information Systems 100. Students will receive hands-on training in the use of Surfcam CNC programming software. The basics of two-dimensional part programming, including geometry development, milling, drilling, tapping, pocketing, and more will be explored. Three hours lecture, one hour laboratory. Transfer Credit: CSU Offered: F-S.

Machine Technology 132AB—Advanced CNC Programming-Surfcam (2.5)
Prerequisite: Machine Technology 131AB.
Students will receive training in advanced concepts of computer-assisted parts programming using Surfcam. Students will develop relatively complex part programs to include surfacing and cutter movement. Two hours lecture, two hours laboratory. Transfer Credit: CSU Offered: S.

Machine Technology 133AB—CNC Programming-Mastercam (3)
Prerequisite: Machine Technology 130.
Students will receive hands-on training in the use of Mastercam CNC programming software. The basics of two-dimensional part programming, including geometry development, milling, drilling, tapping, pocketing, and more will be explored. Three hours lecture, one hour laboratory. Transfer Credit: CSU Offered: F-S.

Machine Technology 134AB—Advanced CNC Programming-Mastercam (2.5)
Prerequisite: Machine Technology 133AB.
The course is designed to train students in the advanced concepts of computer-assisted parts programming using Mastercam CNC programming software. Students will develop relatively complex part programs to include surfacing. Two hours lecture, two hours laboratory. Transfer Credit: CSU Offered: S.

Machine Technology 137AB—CNC Programming-Virtual Gibbs (3)
Prerequisite: Machine Technology 130.
Recommended preparation: Computer & High Technology 090 or Computer Information Systems 100. Students will receive hands-on training in the use of Virtual Gibbs CNC programming software. The basics of two- and three-dimensional part programming, including geometry development, milling, drilling, tapping, pocketing, and more will be explored. Three hours lecture, one hour laboratory. Transfer Credit: CSU Offered: F-S.

Machine Technology 138AB—Advanced CNC Programming-Virtual Gibbs (2.5)
Prerequisite: Machine Technology 137AB.
Students will receive training in advanced concepts of computer-assisted parts programming using Virtual Gibbs CNC programming software. Students will develop relatively complex part programs to include surfacing. Two hours lecture, two hours laboratory. Transfer Credit: CSU Offered: F-S.
Machine Technology 100—Tool and Cutter Grinding (3)
Recommended preparation: Machine Technology 100.
A basic course in the sharpening of common cutting tools such as drills, reamers, countersinks, counter bores, and end mills. Emphasis is on the tool and cutter grinder, but several other types of sharpening machines will be included. Two hours lecture, three hours non-lecture. Transfer Credit: CSU Offered: S, even yrs.

Machine Technology 161—Beginning Molding Techniques (3)
Recommended preparation: Machine Technology 100 and 120 or Technology 040 or related experience.
A basic course that develops the necessary skill and knowledge for operating state-of-the-art plastic injection molding machines. The machine, the process, parts, molding cycles, and machine controls will be discussed. Three hours lecture, one hour laboratory. Transfer Credit: CSU Offered: F.

Machine Technology 163—Advanced Molding Techniques (3)
Recommended preparation: Machine Technology 161 or related experience.
This course explores the characteristics of plastic materials that are used in the plastic injection molding industry, including thermoplastics, thermostets, copolymers, blends, and additives. Recycling, economics, and defects will be discussed. Three hours lecture, one hour laboratory. Transfer Credit: CSU Offered: F, S.

Machine Technology 175—Dimensioning and Tolerancing (3)
Recommended preparation: Technology 040 or one year of high school math.
A course in reading and using the latest ANSI standards for geometric dimensioning and tolerancing. Three hours. Transfer Credit: CSU Offered: S.

Management 100—Applied Management for Public and Private Organizations (3)
An introduction to the tools, practices, policies, and concepts of management in modern organizations. Emphasis will be on management, the functions of planning, organizing, leading, and controlling, communication, decision-making, and the manager’s role as a leader in organizational change. This course may also be offered online. Three hours. Transfer Credit: CSU Offered: F, S, Sum.

Management 115—Human Relations and Supervision (3)
A behavioral science approach to human relations in business with special emphasis on developing a student’s leadership qualities, understanding, personal characteristics, and attitudes desirable for advancement to greater responsibilities in business management. Three hours. Transfer Credit: CSU Offered: F, S, Sum.

Management 130—Fundamentals of Personnel Management (3)
Techniques and theories of personnel/human resource management as one of the major management functions. Effective acquisition, utilization and maintenance of human resources in business organizations. May be taken for grades or on a credit-no credit basis. Three hours. Transfer Credit: CSU Offered: F, S, Sum.

Management 210—Applied Communications (3)
Designed for persons wanting communication skills for supervisory and management positions. Study of communication functions, choices, and roles within work settings. Practice in routine information exchange, oral reporting, negotiating conflict, and e-communication. Focuses on both verbal and nonverbal skills necessary to communicate successfully in one-to-one, small- and large-group settings. Additional emphasis will be placed on written communications skills. Three hours. Transfer Credit: CSU Offered: F, S, Sum.

All courses numbered 100 or higher are transferable to the California State University (CSU). Courses that are transferable to the University of California are designated “UC.” Some of these courses have limits on the amount of credit that is granted. See the UC Transferable Course List available in the Counseling Center or Transfer Center for these limitations.

COURSES

MARINE ACTIVITIES

Marine Activities 147AB—Introduction to Sailing (1) (9 week course)
Prerequisite: Ability to swim 50 yards and tread water for five minutes. This prerequisite will be validated in class during the first week of the course.
Introduces the novice to the fundamentals of sailing through dockside lectures and hands-on experience aboard sailboats. Points of sail, basic terminology, tacking, jibing, and safety are emphasized. Same as Physical Education 147AB. Students completing Marine Activities 147AB may not receive credit for Physical Education 147AB. May be taken for grades or on a credit-no credit basis. One hour lecture, three hours non-lecture. Transfer Credit: CSU, UC credit limitation Offered: F, S.

Marine Activities 148AB—Introduction to Keel Boats (1) (9 week course)
Prerequisite: Ability to swim 50 yards and tread water for five minutes. Basic sailing ability. This prerequisite will be validated in class during the first week of the course.
This course introduces the intermediate sailor to the fundamentals of sailing through dockside lectures and hands-on experience aboard large sailing yachts. Points of sail, basic terminology, tacking, jibing, theory, and safety are emphasized. Same as Physical Education 148AB. Students completing Marine Activities 148AB may not receive credit for Physical Education 148AB. May be taken for grades or on a credit-no credit basis. One hour lecture, three hours non-lecture. Transfer Credit: CSU Offered: F, S.

Marine Activities 149AB—Introduction to Ocean Sailing (1) (9 week course)
Prerequisite: Ability to swim 50 yards and tread water for five minutes. Knowledge of basic sailing principles. This prerequisite will be validated in class during the first week of the course.
This course introduces the fundamentals of ocean sailing through dockside lectures and hands-on experience aboard large sailing yachts. Sail handling, winch operation, steering, reefing, and line handling are emphasized. Same as Physical Education 149AB. Students completing Marine Activities 149AB may not receive credit for Physical Education 149AB. May be taken for grades or on a credit-no credit basis. One hour lecture, three hours non-lecture. Transfer Credit: CSU Offered: F, S.

Marine Activities 160AD—Kayaking (.5-1.5) (9-18 week course)
Prerequisite: Students must be able to swim 100 yards and tread water for five minutes. This prerequisite will be validated in class during the first week of the course.
This course is designed to teach fundamental kayaking techniques needed to become a safe and effective kayaker. A fee for use of equipment and use of the off-campus facility will be required. Same as Physical Education 160AD. Students completing Marine Activities 160AD may not receive credit for Physical Education 160AD. May be taken for grades or on a credit-no credit basis. 5-75 hours lecture, 1.5-2.25 hours non-lecture. Transfer Credit: CSU Offered: F, S, Sum.
**MARINE SCIENCE**

Marine Science 100—Oceanography (3)

An orientation to the marine sciences including considerations of physical and chemical properties of the sea, the sea-air interface, the biology of the sea, the geology of the ocean basins, the sea as a physical, chemical, biological and recreational resource, and the obligation of mankind to control further contamination of the environment. Three hours. Transfer Credit: CSU; UC credit limitation Offered: F.S.

Marine Science 100H—Honors Oceanography (3)

An orientation to the marine sciences, including considerations of physical and chemical properties of the sea, the sea-air interface, the biology of the sea, the geology of the ocean basins, the sea as a physical, chemical, biological and recreational resource, and the obligations of mankind to control further contamination of the environment. Three hours. Transfer Credit: CSU; UC credit limitation Offered: as needed.

Marine Science 100L—Oceanography Laboratory (1)

**Prerequisite:** Marine Science 100 with a grade of ‘C’ or better, or concurrent enrollment. (If student drops from Marine Science 100, the student must also drop Marine Science 100L.)

An orientation to marine science research process, techniques, equipment, institutions, and training/education centers. Investigations of physical and chemical properties of the sea, conditions of the air/sea/land interface, review of biological taxonomy and classification, study of longitude, latitude, ocean basin geography and geology. Evaluation of the sea as a physical, chemical, biological and recreational resource. Analysis of human efforts to control pollution, manage fisheries and monitor the ocean world. Three hours laboratory. Transfer Credit: CSU; UC credit limitation Offered: F.S.

Marine Science 100LH—Honors Oceanography Laboratory (1)

**Prerequisite:** Marine Science 100 or 100H, or concurrent enrollment.

An orientation to marine science research process, techniques, equipment, institutions, and training/education centers. Investigations of physical and chemical properties of the sea, conditions of the air/sea/land interface, review of biological taxonomy and classification, study of longitude, latitude, ocean basin geography and geology. Evaluation of the sea as a physical, chemical, biological, and recreational resource. Analysis of human efforts to control pollution, manage fisheries, and monitor the ocean world. Three hours laboratory. Transfer Credit: CSU; UC credit limitation Offered: as needed.

Marine Science 120—Marine Aquarium Science (1)

**Recommended preparation:** Marine Science 100 or concurrent enrollment.

This course introduces students to the science of Aquarimology and provides experience working in a small public aquarium. Students will learn animal husbandry, disease control, aquarium water chemistry, and methods of filtration and cleaning. One hour lecture, two hours non-lecture. Transfer Credit: CSU Offered: F.S;Sum.

Marine Science 141—Mariculture (Sea Farming) (2)

**Prerequisite:** Marine Science 100 or 180 or Biology 100.

A study and analysis of the new marine science of sea farming, mariculture. Survey of animals cultured, techniques used, economics, and national and international efforts. Visits to field sites of mariculture in California. Two hours lecture, two hours laboratory. Transfer Credit: CSU Offered: as needed.

Marine Science 180—Marine Biology (3)

**Prerequisite:** Marine Science 100 or Biology 100.

**Recommended preparation:** Marine Science 185.

The life of the world’s oceans including principles of cell biology as it relates to the marine situation, energy flow through living systems, the evolution of marine life, the taxonomy of marine plants and animals, an overview of marine habitats and their organisms, intertidal zonation, plankton biology, marine mammals, pollution and its relations to marine biology, and discussion of currently applicable topics. May be taken for grades or on a credit-no credit basis. Three hours. Transfer Credit: CSU; UC Offered: F.S.

Marine Science 180L—Marine Biology Lab (1)

**Prerequisite:** Marine Science 180, or concurrent enrollment.

An exploration of the principles of marine biology using, whenever possible, living organisms in natural surroundings. Included will be plankton biology, the taxonomy and habits of common eastern Pacific marine plants and animals, aspects of intertidal zonation, analysis of fouling communities, and field trips to sea to observe marine birds and mammals. May be taken for grades or on a credit-no credit basis. Three hours non-lecture. Transfer Credit: CSU; UC Offered: F.S.

Marine Science 185—Coastal Oceanography (3)

**Prerequisite:** Marine Science 100.

Study of the physical, chemical, geological, and biological oceanography of the coastal ocean of Southern California and northeast Pacific Ocean. May be taken for grades or on a credit-no credit basis. Three hours. Transfer Credit: CSU; UC credit limitation Offered: F.S.

Marine Science 185L—Coastal Oceanography Lab (1)

**Prerequisite:** Marine Science 185, or concurrent enrollment.

Scientific laboratory and field investigations of physical, geological and chemical oceanography related to the Southern California coastal ocean. May be taken for grades or on a credit-no credit basis. Three hours laboratory. Transfer Credit: CSU; UC credit limitation Offered: F.S.

Marine Science 187—Marine Mammals (3)

**Prerequisite:** Marine Science 100.

**Recommended preparation:** Marine Science 180 and 185.

The natural history, ecology population dynamics, communications and intelligence of marine mammals including whales, dolphins, seals and sea lions, sea otters, sea cows and polar bears. May be taken for grades or on a credit-no credit basis. Three hours. Transfer Credit: CSU Offered: as needed.

Marine Science 291ADH—Honors Directed Study in Marine Science (1)

A student may take advanced course work in a field of study, after having completed the introductory courses. In unusual cases, students may enroll in directed studies without completing the pertinent beginning courses. Those students also must have written approval of the instructor, Division Dean, and the Vice President of Instruction. Three hours non-lecture. Transfer Credit: CSU Offered: as needed.

**MARKETING**

Marketing 100—Introduction to Marketing (3)

A survey of the major marketing topics of interest to marketing students and practitioners. Studies include: major institutions involved in the marketing process, major tools used by marketers, and environmental forces affecting the marketing process. Emphasis is placed on effective marketing strategy. Three hours. Transfer Credit: CSU Offered: F.S;Sum.

Marketing 110—Professional Selling (3)

An introductory course in personal selling that covers the basic steps in organizing, developing, and preparing a professional sales presentation. Emphasizes the relational selling process by focusing on sales communication skills that are used to build effective buyer and seller relationships. May be taken for grades or on a credit-no credit basis. Three hours. Transfer Credit: CSU Offered: F.S;Sum.

Marketing 113—Computer Advertising Design and Copywriting (3)

A course covering the fundamentals of advertising copy writ ing, advertising layout and paste-up, with an introduction to and hands-on experience using the Macintosh computer. This course will prepare art and advertising students to think in both the graphic and verbal modalities. Same as Art 113. Students completing Marketing 113 may not receive credit for Art 113. May be taken for grades or on a credit-no credit basis. Three hours lecture, three hours non-lecture. Transfer Credit: CSU Offered: F.S.

Marketing 114—Advertising Copywriting (3)

A survey of advertising copywriting with exercises in techniques by writing copy for advertisements, radio and television commercials, merchandise packaging. Includes studies of advertising layout and design so that the copywriter can creatively prepare an online ad. Discusses the relationships between ad creator and consumer, advertiser and merchant. Same as Communications 114. Students completing Marketing 114 may not receive credit for Communications 114. May be taken for grades or on a credit-no credit basis. Three hours. Transfer Credit: CSU Offered: F.S.
Marketing 115—Sales Management (3)
This course explores the function of sales and the relationship to the overall marketing program. Topics include setting sales objectives, formulation of sales strategy, development of a sales organization, selecting and working with distributors and dealers, control of sales operations, and the functions of management. May be taken for grades or on a credit-no credit basis. Three hours. Transfer Credit: CSU Offered: as needed.

Marketing 130—Principles of Advertising (3)
This course examines the major components of modern advertising and promotion. Key areas explored include the social and economic role of advertising, controls over advertising, planning of the campaign, the role of research, media playing, advertising strategy, and coordination with other elements of marketing. Three hours. Transfer Credit: CSU Offered: F.

Marketing 131AD—Practices in Advertising (3)
An advanced seminar covering selected topics. The course functions as an advertising agency. Clients include small and medium size businesses in the area and ASCC projects. Includes defining the marketing objective, the target market, the advertising objective, as well as copy, layout, production of camera ready art, and production management. Three hours. Transfer Credit: CSU Offered: F.

Marketing 142—Direct Mail and Marketing (1.5) (9 week course)
Selling to consumers by mail, catalogs, telemarketing, consumer publications, broadcast media, and business-to-business direct marketing. Includes planning, segmentation, budgeting, creating the message, and the legal environment. Three hours. Transfer Credit: CSU Offered: F.

Marketing 150—International Marketing (3)
Theoretical and practical concepts of international marketing: marketing surveys, distribution, advertising, and pricing policies are discussed relative to the cultural, political, legal, and economic conditions found overseas. Changing international marketing conditions will be studied in conjunction with the total global business environment. Three hours. Transfer Credit: CSU Offered: F.

Marketing 152—Export-Import Procedures (3)
An overview of documentation practices and procedures used in international trade and an introduction to government laws and regulations affecting the flow of foreign commerce. Changing international market conditions will be studied in conjunction with the total global business environment. Three hours. Transfer Credit: CSU Offered: S.

Marketing 200—Retail Store Management (3)
Studies dealing with the operations of an established retail business. Problems of merchandising include buying, pricing, stock control, credit control, public and personnel relations. Emphasis upon solution of actual retail problems using the case study method. Three hours. Transfer Credit: CSU Offered: F.

Marketing 210—Professional Selling, Advanced (3)
Prerequisite: Marketing 110. Intensive skill building and sales training in the following areas: building, buyer rapport, prospecting, time and territory management, determining buyer’s needs, effective product presentation, managing buying resistance, active listening, recognizing buying signals, closing, taking leave and servicing the account. May be taken for grades or on a credit-no credit basis. Three hours. Transfer Credit: CSU Offered: as needed.

Marketing 220—Retail Buying (3)
A study of the principles and techniques of buying for retail organizations, including merchandise selection, planning, control, and use and interpretation of merchandise management reports. Three hours. Transfer Credit: CSU Offered: F.

Marketing 221AB—Retail Business Training (2-3)
Prerequisite: Marketing 110. Practical experience in operating a retail fashion store. Students perform the buying, accounting, advertising, visual display, merchandising, management training, and sales at Windjammer Fashions, an on-campus store. One hour lecture, five to ten hours on the job. Transfer Credit: CSU Offered: F.

Mathematics N005—Practical Math (3)
Prerequisite: Math placement test required. Practical Math involves the fundamental operations of arithmetic (with and without hand calculators) and consumer application. Basic algebra is also introduced with emphasis on solving word problems. A diagnostic test will be taken in class during the first week. May be taken for grades or on a credit-no credit basis. Three hours. Not applicable to AA degree. Offered: F;S;Sum.

Mathematics N008—Pre-Algebra (3)
Prerequisite: Math N005 or qualifying OCC mathematics placement score. See mathematics assessment requirement. Pre-algebra will introduce basic operations of algebra including signed numbers, exponents, first degree equations, special products, applied problems, factoring, rational expressions, radicals, proportions, and the rectangular coordinate system. These topics will utilize the student’s working knowledge of decimals, fractions, and percents. May be taken for grades or on a credit-no credit basis. Three hours. Not applicable to AA degree. Offered: F;S;Sum.

Mathematics N010—Elementary Algebra (4)
Prerequisite: Math N008 or qualifying OCC mathematics placement score. See mathematics assessment requirement. Operations of algebra including first degree equations and inequalities, exponents, special products and factoring, rational expressions, graphing, radicals, and quadratic equations will be presented. May be taken for grades or on a credit-no credit basis. Four hours. Offered: F;S;Sum.

Mathematics N021—Topics in Geometry (Self-paced only) (1)
Prerequisite: Math N010 or qualifying OCC mathematics placement score. See mathematics assessment requirement. Basic terminology and facts of geometry including angles, triangles, polygons, congruence, similarity, area, circles, and constructions presented informally. Offered on a credit-no credit basis only. (Credit at 75 percent mastery.) One hour non-lecture. Not applicable to AA degree. Offered: F;S;Sum.

Mathematics N030—Intermediate Algebra (4)
Prerequisite: Math N010 or qualifying OCC mathematics placement score. See mathematics assessment requirement. Topics covered will be functions, linear and quadratic equations, curve sketching, exponents, rational expressions, radical expressions, logarithms, variations, systems of equations, determinants, Cramer’s Rule, and conic sections. May be taken for grades or on a credit-no credit basis. Four hours. Offered: F;S;Sum.
Mathematics 070—Intermediate Algebra and Trigonometry (5)

Prerequisite: Math 010 or qualifying OCC mathematics placement score. See mathematics assessment requirement.

Recommended preparation: Math 020.

Topics covered will be functions, linear and quadratic equations, curve sketching, exponents, rational expressions, rational exponents, logarithms, variation, systems of equations, determinants, Cramer's Rule, conic sections, trigonometric (circular) and inverse trigonometric functions, graphs of trigonometric functions, identities and conditional equations, solutions of triangles, vectors, complex numbers and applications. May be taken for grades or on a credit-no credit basis. Five hours. Offered: F,S,Sum.

Mathematics 100—Liberal Arts Mathematics (3) (CAN MATH 2)

Prerequisite: Math 030 or qualifying OCC mathematics placement score. See mathematics assessment requirement.

Designed for students whose majors do not require calculus, this applications-oriented course emphasizes management science optimization techniques, introductory descriptive and inferential statistics, weighted voting systems analysis, game theory principles, decision making strategies, growth trends, and pattern analysis. May be taken for grades or on a credit-no credit basis. Three hours. Transfer Credit: CSU; UC Offered: F,S,Sum.

Mathematics 103—Activity-Based Statistics for Teachers (3)

Prerequisite: Math 030 or qualifying OCC mathematics placement score. See mathematics assessment requirement.

Designed for prospective teachers, this course is an activity-based exploration of statistics aligned with the California State Mathematics Standards for K-12. Topics include data representation and analysis, randomization and sampling, measures of central tendency and variability, hypothesis testing and statistical inference. May be taken for grades or on a credit-no credit basis. Three hours lecture, one hour laboratory. Transfer Credit: CSU Offered: F.

Mathematics 104—Mathematics for Elementary Teachers 1 (3)

Prerequisite: Math 020 and 030 or qualifying OCC mathematics placement score. See mathematics assessment requirement.

Designed for prospective elementary school teachers, the course emphasizes mathematical structure and problem solving techniques associated with the real number system, elementary number theory, ratio and proportion, set theory, elementary logic, and percent. Instructional delivery design techniques and technological applications will be explored. May be taken for grades or on a credit-no credit basis. Three hours. Transfer Credit: CSU; UC Offered: F.

Mathematics 106—Mathematics for Elementary Teachers 2 (3)

Prerequisite: Math 104 or qualifying OCC mathematics placement score. See mathematics assessment requirement.

Designed for prospective teachers, the course emphasizes elementary school applications of probability, statistics, geometric shapes and tessellations, measurement, congruence and similarity, and coordinate and transformational geometry. Instructional delivery design techniques and technological applications will be explored. May be taken for grades or on a credit-no credit basis. Three hours. Transfer Credit: CSU; UC Offered: F.

Mathematics 120—Trigonometry (3) (CAN MATH 8)

Prerequisite: Math 030 or qualifying OCC mathematics placement score. See mathematics assessment requirement.

Recommended preparation: Mathematics 020.

Topics covered will be trigonometric (circular) and inverse trigonometric functions, graphs of trigonometric functions, identities and conditional equations, solutions for triangles, vectors, complex numbers and applications. May be taken for grades or on a credit-no credit basis. Three hours. Transfer Credit: CSU; UC Offered: F.

Mathematics 130—College Algebra (4) (CAN MATH 10)

Prerequisite: Math 030 or qualifying OCC mathematics placement score. See mathematics assessment requirement.

Topics include linear, quadratic, rational, logarithmic, and exponential functions and their graphs, systems of equations, matrices, sequences, series, and basic combinations. This course prepares students to enter Math 157 but does not provide sufficient preparation to enter Math 180. May be taken for grades or on a credit-no credit basis. Four hours. Transfer Credit: CSU; UC credit limitation Offered: F.

Mathematics 154—Finite Mathematics with Applications (4) (CAN MATH 12)

Prerequisite: Math 030 or qualifying OCC mathematics placement score. See mathematics assessment requirement.

Mathematical models, properties of sets, functions, elementary curve fitting, linear programming, matrix operations, linear programming by the graphic and simplex methods, Markov matrices, elementary probability, and game theory. May be taken for grades or on a credit-no credit basis. Four hours. Transfer Credit: CSU; UC Offered: F,S,Sum.

Mathematics 157—Calculus for Biological, Management and Social Sciences (5) (CAN MATH 34)

Prerequisite: Math 130 or 154 or 170 or qualifying OCC mathematics placement score. See mathematics assessment requirement.

Analytic geometry and limits; introduction to differential and integral calculus with applications to include polynomial, rational, exponential and logarithmic functions and their graphs. Multivariate calculus to include partial differentiation and multiple integration. Introduction to the calculus of probability with applications. May be taken for grades or on a credit-no credit basis. Five hours. Transfer Credit: CSU; UC credit limitation Offered: F,S,Sum.

Mathematics 160—Introduction to Statistics (3) (CAN STAT 2)

Prerequisite: Math 030 or qualifying OCC mathematics placement score. See mathematics assessment requirement.

A general education course covering descriptive statistics, probability, binomial and normal distributions, variation, linear regression, correlation, and hypothesis testing. Applications taken from natural sciences, social sciences, business, and everyday life. Students completing Mathematics 160 may petition for credit for Psychology 160. May be taken for grades or on a credit-no credit basis. Three hours. Transfer Credit: CSU; UC credit limitation Offered: F,S,Sum.

Mathematics 160H—Honors Introduction to Statistics (3)

Prerequisite: Math 030 or qualifying OCC mathematics placement score. See mathematics assessment requirement.

A general education course. Topics include descriptive statistics, probability, binomial and normal distributions, variation, linear regression, correlation, and hypothesis testing. Applications taken from natural sciences, social sciences, business, and everyday life. May be taken for grades or on a credit-no credit basis. Three hours. Transfer Credit: CSU; UC credit limitation Offered: F,S,Sum.

Mathematics 170—PreCalculus Mathematics (5) (CAN MATH 16)

Prerequisite: Math 070 or 120 or qualifying OCC mathematics placement score. See mathematics assessment requirement.

The course includes structure and properties of numbers systems; applications, solution and graphs of polynomials, rational, exponential, logarithmic and trigonometric functions; matrices, sequences and series; analytic geometry. Prepares students for Mathematics 180. May be taken for grades or on a credit-no credit basis. Five hours. Transfer Credit: CSU; UC credit limitation Offered: F.

Mathematics 180—Calculus 1 (5) (CAN MATH 18)

Prerequisite: Math 170 or qualifying OCC mathematics placement score. See mathematics assessment requirement.

Elements of analytic geometry and introduction to differential and integral calculus with applications. May be taken for grades or on a credit-no credit basis. Five hours. Transfer Credit: CSU; UC credit limitation Offered: F,S,Sum.
Mathematics 220—Honors Calculus 1 (5)
Prerequisite: Mathematics 170 or qualifying OCC mathematics placement score. See mathematics assessment requirement.
Elements of analytic geometry and introduction to differential and integral calculus, including logarithmic, exponential, and trigonometric functions and some applications. May be taken for grades or on a credit-no-credit basis. Five hours. Transfer Credit: CSU; UC credit limitation Offered: F;S;Sum.

Mathematics 181—Problem Solving in Calculus Using Technology (2)
Prerequisite: Mathematics 180.
Solving calculus problems using graphing calculators and computer algebraic systems: limits, derivatives, integrals, iterative functions, infinite series, 2-D and 3-D graphing. May be taken for grades or on a credit-no-credit basis. Two hours. Transfer Credit: CSU; UC Offered: as needed.

Mathematics 182H—Honors Calculus 1 and 2 (5)
Prerequisite: Math 170 and either advanced placement calculus in high school or Mathematics 157 or 180.
An in-depth honors level study of elementary differential and integral calculus which includes exponential, logarithmic and trigonometric functions, techniques of integrations, sequences and series, and applications. Combines contents of Math 180 and 185 with emphasis on theory and challenging problems in a fast-paced course for well-prepared students with previous calculus experience. May be taken for grades or on a credit-no-credit basis. Five hours. Transfer Credit: CSU; UC credit limitation Offered: F.

Mathematics 185—Calculus 2 (5) (CAN MATH 20)
Prerequisite: Mathematics 180 or 180H.
Techniques and some applications of integral and differential calculus, transcendental functions, analytic geometry, sequences, series, and an introduction to differential equations. May be taken for grades or on a credit-no-credit basis. Five hours. Transfer Credit: CSU; UC credit limitation Offered: F;S;Sum.

Mathematics 185H—Honors Calculus 2 (5)
Prerequisite: Mathematics 180 or 180H.
Techniques and some applications of integral and differential calculus, transcendental functions, analytic geometry, sequences, series, and an introduction to differential equations. May be taken for grades or on a credit-no-credit basis. Five hours. Transfer Credit: CSU; UC credit limitation Offered: F;S;Sum.

Mathematics 220—Introduction to Symbolic Logic (3) (CAN PHIL 6)
Translate simple, quantified, and multiple quantified English sentences to symbolic form. Determine the validity of arguments containing simple sentences and sentences involving single quantification. Prove arguments composed of simple sentences, sentences involving single and multiple quantification. Same as Philosophy 220. Students completing Philosophy 220 may not receive credit for Mathematics 220. May be taken for grades or on a credit-no-credit basis. Three hours. Transfer Credit: CSU; UC Offered: F;S.

Mathematics 230—Discrete Math (5) (CAN CSCI 26)
Prerequisite: Mathematics 185 or 182H.
Introduction to sets, algorithms, proofs, counting methods, recursion, graphs, trees, algebraic structures, homomorphisms, Boolean algebra, automata and formal languages. May be taken for grades or on a credit-no-credit basis. Five hours. Transfer Credit: CSU; UC Offered: F.

Mathematics 235—Applied Linear Algebra (3) (CAN MATH 26)
Prerequisite: Mathematics 185 or 182H.
Introduction to linear algebra, classical linear algebra problems, and applications to computer science and related technologies including matrices, determinants, linear spaces, linear transformations, and eigenvalues. May be taken for grades or on a credit-no-credit basis. Three hours. Transfer Credit: CSU; UC Offered: S.

Mathematics 260—Probability (3)
Prerequisite: Mathematics 182H or 185 or 280 or 280H.
Calculus based probability with practical applications. For science majors and students expecting to do advanced work in biological, management, or social sciences. May be taken for grades or on a credit-no-credit basis. Three hours. Transfer Credit: CSU; UC Offered: S.

Mathematics 270—Computer Programming for Engineering, Mathematics and Science (4) (CAN CSCI 20)
Prerequisite: Mathematics 157 or 180 or 182H.
Programming techniques and numerical analysis for digital computers emphasizing applications in science, mathematics, and engineering. Fortran programming with laboratory work on digital computers. Same as Computer Science 270 and Engineering 270. Students completing Mathematics 270 may not receive credit for Computer Science 270 or Engineering 270. Four hours lecture-laboratory. Transfer Credit: CSU; UC Offered: S.

Mathematics 280—Calculus 3 (5) (CAN MATH 22)
Prerequisite: Mathematics 182H or 185.
Vectors, calculus of functions of several variables: partial derivatives, multiple integrals, and calculus of vector fields. Matrices, linear functions, and Jacobian matrices. May be taken for grades or on a credit-no-credit basis. Five hours. Transfer Credit: CSU; UC credit limitation Offered: F;S;Sum.

Mathematics 280H—Honors Calculus 3 (6)
Prerequisite: Mathematics 182H or 185.
Vectors, calculus of functions of several variables: partial derivatives, multiple integrals, and calculus of vector fields. Matrices, linear functions, and Jacobian matrices. May be taken for grades or on a credit-no-credit basis. Six hours. Transfer Credit: CSU; UC credit limitation Offered: S.

Mathematics 285—Introduction to Linear Algebra and Differential Equations (5) (CAN MATH 24)
Prerequisite: Mathematics 182H or 185 or 280 or 280H.
Introduction to linear algebra and differential equations. Matrices, Jacobian matrices, inverse and implicit function theorems, determinants, vector spaces, linear systems of algebraic equations, linear product spaces, systems of differential equations, Laplace transforms, numerical methods, Fourier series, and introduction to partial differential equations. May be taken for grades or on a credit-no-credit basis. Five hours. Transfer Credit: CSU; UC credit limitation Offered: F;S;Sum.

Mathematics 285H—Honors Introduction to Linear Algebra and Differential Equations (6)
Prerequisite: Mathematics 182H or 185 or 280 or 280H.
Introduction to linear algebra and differential equations. Matrices, Jacobian matrices, inverse and implicit function theorems, determinants, vector spaces, linear systems of algebraic equations, linear product spaces, systems of differential equations, Laplace transforms, numerical methods, Fourier series, and introduction to partial differential equations, dual spaces, and the topology of real numbers are covered. May be taken for grades or on a credit-no-credit basis. Six hours. Transfer Credit: CSU; UC credit limitation Offered: F.

Mathematics 290H—Honors Introduction to Tensors and Calculus on Manifolds (5)
Prerequisite: Mathematics 280 or 280H AND 285 or 285H.
Introductory study of elementary tensor algebra and calculus, differential and integral calculus in higher dimensions, differential forms, and calculus on manifolds. May be taken for grades or on a credit-no-credit basis. Five hours. Transfer Credit: CSU; UC Offered: S.

MEDICAL ASSISTING

Medical Assisting 115—Medical Bookkeeping (4)
Terminology, techniques, application, hands-on training of accounts receivable and accounts payable systems, and payroll as it pertains to the medical office. Course includes computerized procedures. Same as Accounting 115. Students completing Medical Assisting 115 may not receive credit for Accounting 115. Four hours. Transfer Credit: CSU Offered: F;S.

Medical Assisting 135—Clinical Lab Procedures (2)
Prerequisite: Allied Health 115.
Basic microbiology and methods of collecting and conducting routine tests on blood and urine as performed in a medical office. The use and care of clinical laboratory equipment. Other laboratory tests will be discussed. Two hours lecture, one hour non-lecture. Transfer Credit: CSU Offered: F.
Medical Assisting 175—Introduction to Medical Assisting and Transcription (3)
Prerequisite: Allied Health 111 or concurrent enrollment. The role of medical assisting and transcription in health care delivery, medical ethics/law, communication, records management and the study of structures and functions of the body. Three hours. Transfer Credit: CSU Offered: F-S.

Medical Assisting 180—Administrative Assisting Medical Procedures (2)
Prerequisite: Medical Assisting 175 and keyboarding skill of 40 wpm. Prepares student to function as an administrative medical assistant to the physician in an office group practice, medical clinic, hospital or allied health facility. Two hours. Transfer Credit: CSU Offered: F-S.

Medical Assisting 185—Medical Insurance Billing (3)
Prerequisite: Allied Health 111 or concurrent enrollment. Manual and computer assisted medical insurance claims processing including utilization of ICD and CPT codes. Special emphasis on out-patient claims. Three hours. Transfer Credit: CSU Offered: F-S.

Medical Assisting 186—Administrative Experience (2) (9 week course)
Prerequisite: Medical Assisting 115, 180 and 185. Administrative medical assisting experience in a medical office, clinic, hospital or allied health facility. Discussion of experiences and problems encountered. One hour lecture, sixteen hours non-lecture. Transfer Credit: CSU Offered: F-S.

Medical Assisting 281—Clinical Experience (2) (9 week course)
Prerequisite: Allied Health 115 and Medical Assisting 175. Sterilization techniques and methods of assisting a physician with common medical office minor surgery. Two hours lecture, two hours non-lecture. Transfer Credit: CSU Offered: F-S.

Medical Assisting 289—Clinical Experience (2) (9 week course)
Prerequisite: Allied Health 111 and 115 or concurrent enrollment in both. Basic concepts of preparing patients for special diagnostic tests and techniques in the medical office including pulmonary function, electrocardiography and physical therapy. Two hours lecture, two hours non-lecture. Transfer Credit: CSU Offered: F-S.

Medical Assisting 285—Sterile Techniques and Minor Surgery (1) (9 week course)
Prerequisite: Allied Health 115 and Medical Assisting 175. Sterilization techniques and methods of assisting a physician with common medical office minor surgery. Two hours lecture, two hours non-lecture. Transfer Credit: CSU Offered: F-S.

Medical Assisting 289—Medical Assisting Specialty Procedures (1) (9 week course)
Prerequisite: Allied Health 111 and 115 or concurrent enrollment in both. Basic concepts of preparing patients for special diagnostic tests and techniques in the medical office including pulmonary function, electrocardiography and physical therapy. Two hours lecture, two hours non-lecture. Transfer Credit: CSU Offered: F-S.

MEDICAL TRANSCRIPTION
(See Health Records 190 and 195)

METEOROLOGY
(See Aviation and Space 133)

MUSIC

Music 100—History and Appreciation of Music (3)
A survey of music, the universal language and social cohesion in Western Civilization. Antiquity through the Contemporary periods with emphasis on the paradigm shift in music as it reflects the cultural reaction to the human condition. This course may also be offered online. May be taken for grades or on a credit-no credit basis. Three hours. Transfer Credit: CSU; UC Offered: F-S.

Music 101AB—Rhythm Study 1 (2)
Prerequisite: Minimal musical experience. Reading rhythm. Open to all levels of instrumental and vocal performers. Instruments will be used in learning a wide variety of patterns including jazz and rock. Various note values and their subdivisions will be used. Two hours. Transfer Credit: CSU; UC Offered: F-S.

Music 102AD—Computer in Music (3)
Designed to introduce the layman or computer professional to the rapidly evolving use of computers and related digital technology in music. Emphasis will be given to professional music software, dedicated music systems, MIDI (Musical Instrument Digital Interface), and digital audio. May be taken for grades or on a credit-no credit basis. Two hours lecture, three hours non-lecture. Transfer Credit: CSU Offered: F-S; Sum.

Music 104AB—Ear Training (3)
A study of scales and musical interval recognition. Students will learn to identify, sing and notate musical intervals including access to computer assisted learning. Basic piano skills or concurrent enrollment in Music 141 recommended. May be taken for grades or on a credit-no credit basis. Four hours lecture, one hour non-lecture. Transfer Credit: CSU; UC Offered: F-S.

Music 105—Music from Bach to Rock (3)
History and appreciation of Western music from the birth of opera to modern times. Listen to and discuss the development of classical masterworks including Handel’s Messiah, Beethoven’s symphonies, the operas of Mozart, Verdi, and Wagner, and Tchaikovsky’s Nutcracker. Overview of modern music from Stravinsky and Schoenberg to the diverse multicultural origins of jazz and rock. Distinguish between various musical styles and develop aural skills that enhance personal listening enjoyment. This course may also be offered online. May be taken for grades or on a credit-no credit basis. Three hours. Transfer Credit: CSU; UC Offered: F-S; Sum.

Music 109—History of Rock Music (3)
The study of social and musical influences on rock music and the influence of rock music on society and the music industry. 1950s through modern rock. CD’s, videos, DVDs, computer-generated multimedia presentations, and live performances. May be taken for grades or on a credit-no credit basis. Three hours. Transfer Credit: CSU; UC Offered: F-S; Sum.

Music 115—Fundamentals of Music (3)
For those with no previous musical theory background. Fundamentals of music and harmonization of simple melodies. Use of accompaniment instruments and melody instruments for the development of musicianship. Three hours. Transfer Credit: CSU; UC credit limitation offered. F-S; Sum.

Music 116—Basic Guitar (2)
Fundamentals of guitar, music, and musicianship using classical, folk, and popular guitar literature at the beginning level. Emphasis on music notation, terminology, scales, key signatures, time signatures, basic guitar chords, rhythms, and fingerpicking techniques. Students provide their own acoustic nylon or steel-string guitar. May be taken for grades or on a credit-no credit basis. One and one-half hours lecture, one an one-half hours studio. Transfer Credit: CSU; UC offered. F-S; Sum.

Music 120AD—College Choir (1)
Open to all students interested in singing in a college choir. In addition to public performances of standard choral literature, this course includes basic vocal techniques, basic music theory, improvement of sight reading, musicianship skills, music fundamentals, and music history and appreciation as it relates to choral literature. Prerequisite training is not necessary. Three hours. Transfer Credit: CSU; UC Offered: F-S.

Music 127AD—Swing Band (1)
Prerequisite: Eligibility based on successful audition. Study and performance of swing era music. Special emphasis on swing music for dancing and concerts. Performances are scheduled in local hotel ballrooms and lounges. Three hours non-lecture, one hour arranged. Transfer Credit: CSU; UC Offered: F-S; Sum.
## COURSES

**Music 129AD—Guitar Ensemble (.5-1) (9-18 week course)**
**Prerequisite:** Eligibility based on successful audition.

Designed for performers who read musical notation on guitar. Rehearsal and performance of guitar ensemble literature from Renaissance to present. Styles include Renaissance, Baroque, Classical, Romantic, and modern music. New transcriptions, arrangements, compositions, and concertos for guitar ensemble will be encouraged. Public performance on a concert program with guest artists. May be taken for grades or on a credit-no credit basis. Two hours. **Transfer Credit:** CSU; UC Offered: F-S.

**Music 132AD—Wind Ensemble (1)**
**Prerequisite:** Eligibility based on successful audition.

Open to advanced performers on brass, woodwind and percussion instruments. Rehearsal and performance of music from standard symphonic and wind ensemble literature. Regularly scheduled public concerts. May be taken for grades or on a credit-no credit basis. Three hours non-lecture, one hour arranged. **Transfer Credit:** CSU; UC Offered: F-S.

**Music 140AB—Beginning Instruments (2)**

Elementary instruction on a selected band or orchestra instrument. Three hours lecture/studio. **Transfer Credit:** CSU; UC Offered: F-S; Sum.

**Music 141—Piano 1 (2)**

Group instruction for the beginner that develops musicianship and basic piano technique. Recommended for elementary teachers, required of music majors in many transfer schools. One-half to one hour minimum daily practice. Practice pianos available on campus. Two hours lecture/studio. **Transfer Credit:** CSU; UC Offered: F-S; Sum.

**Music 142—Piano 2 (2)**

**Prerequisite:** Music 141.

Continuation of Piano 1 toward improvement of playing skills. Major scales for both hands, rhythms through sixteenth notes, harmonizing of folk tunes and pieces by contemporary masters will be studied. One-half to one hour daily practice. Practice pianos available on campus. Two hours lecture/studio. **Transfer Credit:** CSU; UC Offered: F-S.

**Music 144AB—Popular Vocal Techniques (2)**

Popular solo and group singing styles and interpretation. May be taken for grades or on a credit-no credit basis. One hour lecture, two hours studio. **Transfer Credit:** CSU Offered: F-S; Sum.

**Music 145—Voice 1 (1)**

Beginning voice production for singers and speakers toward developing a free, equal, flexible vocal scale, and bel canto (beautiful singing) and performance skills. Class and individual singing opportunities. Two hours lecture/studio. **Transfer Credit:** CSU; UC Offered: F-S.

**Music 146—Voice 2 (1)**

**Prerequisite:** Music 145 or audition.

A continuation of Voice 1. Two hours lecture/studio. **Transfer Credit:** CSU; UC Offered: F-S.

**Music 148—Classical Guitar 2 (2)**

**Prerequisite:** Music 148 or audition.

Note: Students must provide their own classical guitar and music stand.

Continuation of Classical Guitar 1 with emphasis on advanced classical guitar performance techniques and literature. Two hours lecture/studio. **Transfer Credit:** CSU; UC Offered: F-S.

**Music 149—Classical Guitar 2 (2)**

**Prerequisite:** Music 149 or audition.

Continuation of fundamentals relating to the classical guitar, music notation, note and rest values, key and time signatures, dynamics, chromatic scales, music which is applicable to the classical guitar, and basic instruction on correct posture for the left and right hand. Student must furnish own soft string classical guitar and foot stool. Student will receive instruction on classical guitar performance. Two hours lecture/studio. **Transfer Credit:** CSU; UC Offered: F-S.

**Music 150AB—Intermediate Band/Orchestra (2)**

**Prerequisite:** Music 140AB or audition.

Intermediate instruction on a selected band or orchestra instrument. Three hours lecture/studio. **Transfer Credit:** CSU; UC Offered: F-S; Sum.

**Music 151—Studio Guitar 1 (1.5)**

**Prerequisite:** Music 116 or audition.

Studio guitar techniques for playing guitar in styles such as jazz, rock and other popular styles. Students must provide their own guitar. May be taken for grades or on a credit-no credit basis. Three hours lecture/studio. **Transfer Credit:** CSU; UC Offered: F-S.

**Music 152—Studio Guitar 2 (1.5)**

**Prerequisite:** Music 151.

Continuation of Studio Guitar 1. Emphasis on picking techniques, note reading in positions, scales, chords, music theory, sight reading, solo and ensemble performance. May be taken for grades or on a credit-no credit basis. Three hours lecture/studio. **Transfer Credit:** CSU; UC Offered: F-S.

**Music 155—Music Industry Studies (3)**

A survey of musical careers and related professions. Emphasis on creative, business and performance aspects. Includes recording, songwriting, management, copyright and other aspects of the music industry. Guest industry lecturers and field trips. May be taken for grades or on a credit-no credit basis. Three hours. **Transfer Credit:** CSU Offered: F-S.

**Music 170—Music in America (3)**

A survey of American music and musicians from early colonial days to current times. A historical overview with an emphasis upon contributions to the world of music considered to be uniquely American. Includes study of America’s growing period, religious music, folk songs, rationalistic elements and composers, jazz, musical theatre and contemporary developments. May be taken for grades or on a credit-no credit basis. Three hours. **Transfer Credit:** CSU; UC Offered: F-S.

**Music 173—History of Jazz (3)**

The roots of jazz in African and western music. Development of jazz in the United States including evolving styles and important musicians. Influence of pre-1900 popular music: ragtime, blues and Dixieland. Recognition of playing styles. Merging of other musical forms with the jazz idiom. Jazz as an art form. The composer/improvisor in jazz today. Taped and live performances including student participation. May be taken for grades or on a credit-no credit basis. Three hours lecture, utilizing audio/visual media. **Transfer Credit:** CSU; UC Offered: F-S.

**Music 180—Harmony and Sightsinging 1 (5)**

**Recommended preparation:** Ability to locate treble and bass clef pitches on a keyboard and name the notes.

Includes the study of notation, terminology, scales, key signatures, intervals, triads, rhythms and form. Correlation of music theory with aural, keyboard, history/literature and performance applications. For transferring music major. Five hours. **Transfer Credit:** CSU; UC Offered: F-S.

**Music 185—Harmony and Sightsinging 2 (5)**

**Prerequisite:** Completion of Music 180. Concurrent enrollment in a selected music performing group (choose from Music 120AD, 129AD, 133AD). Evidence by student of development of a music performing medium.

Continuation of Harmony and Solfège 1. Includes the study of inversions of triads and sevenths, non-harmonic tones, chord connections to secondary chords and use of dominant ninths. A development of performing skills in aural dictation, sight singing, keyboard and rhythm performance. Correlation of harmony and solfège with history/literature, performance and listening applications for the transferring music major and minor. Five hours. **Transfer Credit:** CSU; UC Offered: F-S.

**Music 200—Opera History (2)**

An introduction to the musical theatre through history, literature, criticism and performance attendance. Includes field trips to local operatic productions. Students may be required to pay for transportation and admission costs. Three hours. **Transfer Credit:** CSU; UC Offered: as needed.

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Course numbers followed by an AB, AC, or AD may be repeated once, twice or three times respectively.

Courses that are non-credit or not AA applicable are designated with the letter “N” preceding the course number.
Music 230AD—Jazz Improvisation (1)
Prerequisite: Eligibility based on successful audition.
Development of the individual musician's technical tools and performing skills in jazz music improvisation. Includes usage of appropriate idiomatic forms, harmonies, scales, stylistic articulations. May be taken for grades or on a credit/no credit basis. One hour lecture, two hours studio. Transfer Credit: CSU; UC Offered: F;S;Sum.

Music 231AD—Studio Big Band (1)
Prerequisite: Eligibility based on successful audition.
Student and professional musicians in a recording studio environment. Students will select repertoire to be recorded in a professional studio for distribution on compact disc. Student projects will include marketing, publicity and promotion. Three hours non-lecture, one hour arranged. Transfer Credit: CSU Offered: F;S.

Music 233AD—Symphonic Chamber Orchestra (1)
Prerequisite: Eligibility based on successful audition.
Open to advanced performers of string, brass, woodwind and percussion instruments. Rehearsal and performance of music from the standard symphonic and chamber orchestra literature. Regularly scheduled public concerts during the school year. May be taken for grades or on a credit/no credit basis. Three hours non-lecture, one hour arranged. Transfer Credit: CSU; UC Offered: F;S.

Music 234AD—Jazz Workshop (1)
Prerequisite: Music 236AB.
A continuation of Music 236AB. Advanced concepts and style for the professional performer. Students will engage in a professional environment that will stress articulation, phrasing, improvisation and style for the professional performer. Students will have the opportunity to work with the group periodically. Public performances will be scheduled during the semester. May be taken for grades or on a credit-no credit basis. Three hours studio. Transfer Credit: CSU; UC Offered: F;S.

Music 236AB—Introduction to Sound Reinforcement (3)
Prerequisite: Music 236A.
Designed to introduce the student to business and skills of concert sound reinforcement. State-of-the-art electronic equipment is used with hands-on experience for the student. There will be an opportunity for the student to engineer rehearsals and a concert performance. May be taken for grades or on a credit/no credit basis. Two and one-half hours lecture, four hours non-lecture. Transfer Credit: CSU Offered: F;S.

Music 237AB—Concert Sound Engineering (3)
Prerequisite: Music 236A.
A continuation of Music 236A. Advanced concepts and usage of state-of-the-art electronic sound equipment. Hands-on experience with concert sound equipment and real-life concert situations. Mandatory off-campus concerts where students must set up, mix, and tear down. May be taken for grades or on a credit-no credit basis. Two and one-half hours lecture, four hours non-lecture. Transfer Credit: CSU Offered: F;S.

Music 240—Sophomore Recital (.5)
Prerequisite: Three semesters of Music 290A
Assists the sophomore music student to organize, arrange and schedule recital performance to meet department and associate in arts degree requirements. Includes the selection of literature, programming, memorization and scheduling of performance. One hour studio. Transfer Credit: CSU Offered: F;S.

Music 241—Piano 3 (2)
Prerequisite: Music 142.
Early intermediate classical piano literature. Emphasis on development of technical proficiency and stylistically appropriate interpretation. One and one-half hours lecture, one and one-half hours laboratory. Transfer Credit: CSU; UC Offered: F;S.

Music 242—Piano 4 (2)
Prerequisite: Music 241.
Intermediate/advanced classical piano literature in master class performance. Emphasis on artistic development of student performers. One and one-half hours lecture, one and one-half hours laboratory. Transfer Credit: CSU; UC Offered: F;S.

Music 244AB—Voice 3-4 (1)
Prerequisite: Music 146.
Emphasizes the continual development of individual vocal skills. Frequent class performance opportunities. Two hours lecture/studio. Transfer Credit: CSU; UC Offered: F;S.

Music 247AB—Advanced Pop Vocal Techniques
Prerequisite: Music 144AB.
A class for the serious student/performer of popular vocal music. Stylistic development, showmanship, stage presence and image. Solo and background studio techniques in student projects. Guest artists/lecturers. Requires outside preparation. May be taken for grades or on a credit-no credit basis. One hour lecture, two hours non-lecture. Transfer Credit: CSU Offered: F;S.

Music 248—Classical Guitar 3 (2)
Prerequisite: Music 149 or audition.
Designed for the serious music student who seeks more extensive awareness in technical facility, musical literature, musicianship and self discipline. Two hours lecture/studio. Transfer Credit: CSU; UC Offered: F;S.

Music 249—Classical Guitar 4 (2)
Prerequisite: Music 248 or audition.
Designed for the serious music student who seeks more extensive awareness in technical facility, musical literature, musicianship and self discipline. Two hours lecture/studio. Transfer Credit: CSU; UC Offered: F;S.

Music 250AD—Instrument Repair (2)
Prerequisite: Music 142.
General instruction of theory and procedures used in the repair of string, brass, woodwind and percussion instruments. Includes the proper use of tools and equipment. Students will successfully perform major repairs to representative instruments from each family of instruments in a four semester sequence. First semester is of special interest to music teachers and retail music employees. Students may work on their own instruments. Certificate of completion awarded for successful completion of the four semester sequence. Two hours lecture, one hour non-lecture. Transfer Credit: CSU Offered: F;S;Sum.

Music 261AB—Recording Techniques Workshop (2)
Prerequisite: Music 261AB.
An introductory workshop for musicians and sound engineers who will devise and develop recorded performances in a studio environment. Emphasis on analyzing studio acoustics, vocal and instrumental recording techniques, mixing board characteristics, and the total recording studio process. Participation on studio techniques and demeanor, and creating a finished and marketable product. May be taken for grades or on a credit-no credit basis. Two hours lecture, three hours studio. Transfer Credit: CSU Offered: F;S;Sum.

Music 262—Music as a Business (2)
Prerequisite: Music 261AB.
For students planning a career in the music industry including contract negotiations, taxes, agents, producers, club owners, contractors and managers. Guest lecturers from the industry. May be taken for grades or on a credit-no credit basis. Two hours. Transfer Credit: CSU Offered: F;S.

Music 265AD—Advanced Recording Techniques (2)
Prerequisite: Music 261AB.
An advanced workshop for students and performers. Pre- and post-production planning to create a marketable product. Requires basic knowledge of studio acoustics, vocal and instrumental mic techniques, control board and off-board effects units and general studio activity. Students will develop their own recorded material including support musicians and production staff. May be taken for grades or on a credit-no credit basis. One hour lecture, five hours studio. Transfer Credit: CSU Offered: F;S.

Music 271—Studio Guitar 3 (1.5)
Prerequisite: Music 152.
Continuation of Studio Guitar 1 and 2. Emphasis on linear note reading across the guitar fretboard, chord substitutions, altered chords, chordal progressions, turnarounds, music theory, chordal analysis, sight reading, ensemble and solo performance, arranging for solo guitar. May be taken for grades or on a credit-no credit basis. Three hours lecture/studio. Transfer Credit: CSU; UC Offered: F;S.

Music 272—Studio Guitar 4 (1.5)
Prerequisite: Music 271.
Corequisite: Music 129AD.
Continuation of Studio Guitar 1, 2 and 3. Emphasis on intermediate and advanced picking techniques, analysis of styles, history and appreciation, improvisation, arranging and performance of chordal solos for the guitar. May be taken for grades or on a credit-no credit basis. Three hours lecture/studio. Transfer Credit: CSU; UC Offered: F;S.
Music 273AD—Guitar Making (2)
Students will design, obtain materials, and fabricate their own instrument. Construction theory, wood selection, bracing patterns, tools, construction of forms, preparation of wood segments, assembly, regulation and finishing. May be taken for grades or on a credit-no credit basis. One hour lecture, two hours studio. Transfer Credit: CSU Offered: F,S.

Music 280—Harmony and Sight Singing 3 (5)
Prerequisite: Completion of Music 185. Concurrent enrollment in a selected music performing group (choose from Music 120AD, 129AD, 132AD, 133AD, 233AD). Evidence by student of development of a music performing medium.

Study of advanced harmonic, rhythmic and melodic materials. This includes church modes, ninth-eleventh-thirteenth chords, neapolitan sixths, augmented sixths, modulation to remote keys. Correlation of theory with creative, keyboard, history, literature and performing applications. For the transferring music major. Five hours. Transfer Credit: CSU; UC Offered: as needed.

Music 282—Counterpoint (3)
Prerequisite: Music 180.
The study and composition of polyphonic music with emphasis on 16th century and species counterpoint. This course will also include analysis of contrapuntal forms from the 16th century through 1750. Three hours. Transfer Credit: CSU; UC Offered: as needed.

Music 285—Harmony and Sight Singing 4 (5)
Prerequisite: Completion of Music 280. Concurrent enrollment in a selected music performance group (choose from Music 120AD, 129AD, 233AD). Evidence by student of development of a music performing medium.

Continuation of Harmony and Sight Singing 3. Includes the study of augmented sixth chords, diminished seventh chords, modulation of remote keys, embellishment chords. A development of performing skills in aural dictation, sight singing, keyboard and rhythm performance. Correlation of harmony and solfeggio with history/literature, performance and listening applications for the transferring music major and music minor. Five hours. Transfer Credit: CSU; UC Offered: S.

Music 287AB—Jazz/Rock Theory (3)
Prerequisite: Music 185.
For students with a goal of writing or playing as studio musicians. Includes the practical use of traditional theory and the harmonic, melodic, and rhythmic devices used by performing groups in today's market. Strong emphasis on ear training and acquiring advanced songwriting skills. Four hours. Transfer Credit: CSU; UC Offered: S.

Music 290AD—Applied Music (2 or 4)
Prerequisite: Demonstrated ability in the area of study; concurrent enrollment in a music performing group.

Students will arrange for and take private lessons in applied music, composition, theory, orchestration, arranging or computer music. Student performances. One hour lecture, five or ten hours non-lecture. Transfer Credit: CSU; UC Offered: F,S.

Music 297—Music 287AB, 282, 285, 290AD
Students will arrange for and take private lessons in applied music, composition, theory, orchestration, arranging or computer music. Student performances. One hour lecture, two hours studio. Transfer Credit: CSU; UC Offered: F,S.

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NATURAL SCIENCE

Natural Science 100—Evolution of the Cosmos (6)
An overview of the full breadth of natural history encompassing the origin and evolution of the universe, the solar system, the earth with its atmosphere, oceans and geologic features, and earth life from primordial through prehistoric to contemporary, including humans. The philosophy and development of science and technology will also be discussed along with their impact on society and our future options regarding energy, the preservation of the environment and space exploration. May be taken for grades or on a credit-no credit basis. Six hours. Transfer Credit: CSU; UC credit limitation Offered: as needed.

Natural Science 100A—Natural Science Laboratory—Astronomy (1)
Prerequisite: Natural Science 100 or 110 or concurrent enrollment.
Recommended preparation: Math 010.
A beginning laboratory experience for natural science students with emphasis on outdoor astronomical observations and indoor analysis of experimental astronomical data. May be taken for grades or on a credit-no credit basis. Three hours laboratory. Same as Astronomy 100L. Transfer Credit: CSU; UC Offered: F,S.

Natural Science 100L—Natural Science Laboratory—Geology (1)
Prerequisite: Natural Science 100 or concurrent enrollment.
Beginning laboratory experience for natural science students with emphasis on geology. May be taken for grades or on a credit-no credit basis. Three hours laboratory. Same as Geology 100L. Transfer Credit: CSU; UC Offered: F,S,Sum.

Natural Science 105—The Physical Universe (3)
(9 week course)
An overview of the physical aspects of natural history encompassing the origin and evolution of the universe, the solar system, and the earth with its atmosphere, oceans and geologic features. The philosophy and development of science and technology and their impact on society, our future options regarding energy, the preservation of the environment and space exploration will be discussed. May be taken for grades or on a credit-no credit basis. Six hours. Transfer Credit: CSU; UC credit limitation Offered: as needed.

Natural Science 106—The Biological Universe (3)
(9 week course)
Prerequisite: Natural Science 105.
An overview of the biological aspects of natural history encompassing the origin and evolution of life from primordial through prehistoric to contemporary, including humans. The functions of the living cell are emphasized with brief discussions of overpopulation, ecology, medicine, and the possibility of extraterrestrial life. May be taken for grades or on a credit-no credit basis. Six hours. Transfer Credit: CSU; UC credit limitation Offered: as needed.

Natural Science 110—Cosmos—A Personal Voyage (3)
The goal is to achieve a ‘cosmic perspective’ . . . an understanding of the kinship between the human race and the universe. Important discoveries by the earth, life and space sciences will be highlighted along with examples of the history and philosophy behind science and its love-hate relationship with society. The main viewpoint will be that of Carl Sagan, whose Cosmos book and television series (viewed during class), will be the core of the course with extensive class discussion of other views. May be taken for grades or on a credit-no credit basis. Three hours. Transfer Credit: CSU Offered: as needed.

Natural Science 120—Natural History and Cultures of the Southwest (3)
An introduction to the natural history of the Southwest including the geology, ecology and cultures of the region. The interrelationships between the human populations and their environments, past and present, is examined. A six-day field trip is required during spring break. Same as Anthropology 120. Students completing Natural Science 120 may not receive credit for Anthropology 120. May be taken for grades or on a credit-no credit basis. Three hours. Transfer Credit: CSU; UC Offered: S;odd yrs..

NEURODIAGNOSTIC TECHNOLOGY

Neurodiagnostic Technology 110—Basic Electroencephalography (4) (16 week course)
Prerequisite: Allied Health 010 and Technology 040.
Fundamentals of EEG, including application of electrodes using the International 10-20 system, basic EEG waveform forms, artifacts, and introduction to the EEG machine. Opportunity is given to perform EEG tests and to observe EEG labs in health care facilities. All enrollments must be accepted into either the Neurodiagnostic or Polysomnography program.
Three hours lecture, six hours laboratory. Transfer Credit: CSU Offered: F.

Neurodiagnostic Technology 115—Advanced Electroencephalography (4)
Prerequisite: Neurodiagnostic Technology 110.
Introduction to the abnormal electroencephalogram, maturational changes, and the basic principles upon which successful electroencephalographic techniques are based. Three hours lecture, three hours laboratory. Transfer Credit: CSU Offered: S;odd yrs..
Neurodiagnostic Technology 116—Clinical Experience 1 (3.5) (16 week course)  
Prerequisite: Neurodiagnostic Technology 110 and Allied Health 115.  
Beginning clinical practice of electroencephalographic testing on patients at various affiliated neurodiagnostic labs. This will include observation, application of electrodes, performance of EEG testing on clinical patients, medical recordkeeping, and clinical history reporting. Students must purchase a uniform for this course. Offered on a credit/no credit basis only. One hour lecture, sixteen hours clinical. Transfer Credit: CSU Offered: S;odd yrs.

Neurodiagnostic Technology 117—Clinical Experience 2 (5) (8 week course)  
Prerequisite: Neurodiagnostic Technology 115 and 116.  
Continued clinical experience in electroencephalography at a selected neurodiagnostic lab in an affiliated health care facility under the direct supervision of a physician and/or EEG technologist. This clinical will build on skills attained in NDT 116 and will include performance of EEG testing on clinical patients, medical recordkeeping, and clinical history taking. Offered on a credit/no credit basis only. Thirty-two hours clinical. Transfer Credit: CSU Offered: S;even yrs.

Neurodiagnostic Technology 190—Introduction to Neuro Anatomy and Physiology (3)  
Prerequisite: Biology 221.  
An introduction to the anatomy of the central and peripheral nervous system and its function with correlation to the related pathologies and symptomatology of these areas as needed by a neurodiagnostic and/or polysomnographic technologist. Provider approved by the California Board of Registered Nursing, Provider #CEP 1265 for 54 hours. This course may also be offered online. Three hours. Transfer Credit: CSU Offered: S.

Neurodiagnostic Technology 191—EEG Record Review—Normal (1) (8 week course)  
Prerequisite: Concurrent enrollment in Neurodiagnostic Technology 115.  
Practice in electroencephalograph (EEG) record review of normal adult and pediatric patients. Interpretation and description of EEG test. Two and a quarter hours. Transfer Credit: CSU Offered: S.

Neurodiagnostic Technology 200AC—Neurodiagnostic Lab Practice (.5) (4 week course)  
Prerequisite: Neurodiagnostic Technology 110.  
Application of basic technical skills to successfully record routine EEG, PSG, and EP procedures according to published ACNS guidelines. Six hours laboratory. Transfer Credit: CSU Offered: Inter.

Neurodiagnostic Technology 280—Neurologic Disorders (3)  
Prerequisite: Neurodiagnostic Technology 115 and 190.  
Clinical and electroencephalographic correlations to various physical conditions and disease state which are commonly dealt with in neurodiagnostic technology. Relationship of technician to various medical specialties: neurology, neurosurgery, pathology, radiology, internal medicine, and psychiatry. Three hours. Transfer Credit: CSU Offered: F;odd yrs.

Information in italics designates the semester(s) in which the course is offered. The Division Office reserves the right to make changes as budget or other constraints warrant. F=Fall, S=Spring, Sum=Summer, Int=Intersemester.

Neurodiagnostic Technology 285—Neurodiagnostic Testing (2)  
Prerequisite: Neurodiagnostic Technology 117.  
An introduction to various non-invasive neurodiagnostic procedures and recording techniques. Includes nerve conduction velocity (NCV), electromyography (ENG), Transcranial Doppler (TCD), and introductory polySomnography (PSG). Two and a quarter hours. Transfer Credit: CSU Offered: F;odd yrs.

Neurodiagnostic Technology 286—Clinical Experience 3 (3.5) (16 week course)  
Prerequisite: Neurodiagnostic Technology 117.  
Continued clinical experience in electroencephalography at a selected neurodiagnostic lab in an affiliated health care facility under the direct supervision of an EEG technologist or physician. This clinical will build on skills attained in NDT 117 and will include performance of EEG testing on clinical patients, medical recordkeeping, and clinical history taking. There will also be opportunities to observe and possibly perform evoked potential studies. Offered on a credit/no credit basis only. Sixteen hours clinical. Transfer Credit: CSU Offered: F;odd yrs.

Neurodiagnostic Technology 287—EEG Record Review—Abnormal (1.5) (12 week course)  
Prerequisite: Neurodiagnostic Technology 117.  
Corequisite: Neurodiagnostic Technology 280.  
Practice in electroencephalograph (EEG) record review of neurological subjects covered in Neurodiagnostic Technology 280. Classification of EEG activities with correlation to clinical disorders. Two hours. Transfer Credit: CSU Offered: F;odd yrs.

Neurodiagnostic Technology 288—Basic Evoked Potentials (3)  
Prerequisite: Neurodiagnostic Technology 110 and 190.  
Concepts, terminology, and techniques of evoked potentials (EP) recording with testing modalities of visual, auditory, and somatosensory systems to be discussed individually. An overview of computers and EP instrumentation will be discussed, as well as the application of EP testing in neonates, the operating room, and the computation and collection of normative data. Two hours lecture, two hours laboratory. Transfer Credit: CSU Offered: F;odd yrs.

Neurodiagnostic Technology 289—Clinical Experience 4 (2) (12 week course)  
Prerequisite: Neurodiagnostic Technology 286 and 288.  
Clinical practice in neurodiagnostic testing with an emphasis to include evoked potential testing in the auditory, visual, and somatosensory modalities. May include observation and performance of other more specialized neurodiagnostic testing such as a surgical monitoring, quantitative analysis of EEG and evoked potentials, transcranial doppler, ambulatory or telemetry monitoring, and others. This clinical also further develops advanced skills in electroencephalographic recording and analysis. Offered on a credit/no credit basis only. Sixteen hours clinical. Transfer Credit: CSU Offered: S;even yrs.

Neurodiagnostic Technology 296—Advanced Evoked Potentials (1.5) (14 week course)  
Prerequisite: Neurodiagnostic Technology 288.  
This course will analyze the clinical correlations of evoked potential testing. Modalities of auditory, visual and somatosensory testing will be analyzed separately. The course will focus on waveform analysis correlating to common neurological diseases. Additional analysis of evoked potentials in intraoperative monitoring, neonatal recordings, and advanced applications will be discussed. Two hours. Transfer Credit: CSU Offered: S;even yrs.

Neurodiagnostic Technology 297—Microcomputer Applications in Neurodiagnostics (2) (14 week course)  
Prerequisite: Computer Information Systems 100 and Neurodiagnostic Technology 115.  
Current application of microcomputers in neurodiagnostic technology. Testing modalities of electroencephalography, evoked potentials, epilepsy monitoring, and automated diagnostic techniques will be presented. Opportunities for hands-on use of digital equipment in the classroom will be integrated. Two hours lecture, one hour non-lecture. Transfer Credit: CSU Offered: S;even yrs.

Neurodiagnostic Technology 298—Clinical Internship (1) (4 week course)  
Prerequisite: Neurodiagnostic Technology 289.  
Clinical internship to perform neurodiagnostic testing at affiliated hospital sites. Students will apply for a specialized training area in the field. Emphasizes cumulative application of knowledge and skills in clinical assessment, diagnostic testing, and analysis of test results. Specialized areas may include intraoperative monitoring, neonatal testing, epilepsy monitoring, pediatric testing, research applications, brain mapping, and others. Offered on a credit-no credit basis only. Thirty-two hours clinical. Transfer Credit: CSU Offered: S;even yrs.
NUTRITION CARE

Nutrition Care 100—Careers in Dietetics and Food Science (1) (9 week course)
Career opportunities and requirements in the fields of dietetics and food science are explored. Discussion will include current and projected trends which relate to career opportunities. Course covers scope and responsibilities of professional members in various food-related careers. Same as Food and Nutrition 100. Students completing Nutrition Care 100 may not receive credit for Food and Nutrition 100. Two hours lecture, one hour non-lecture. Transfer Credit: CSU Offered: F;S.

Nutrition Care 175—Health Care Field Experience (3)
Prerequisite: Culinary Arts 150 and Food and Nutrition 170
Corequisite: Nutrition Care 180.
Importance and scope of providing food and nutritional services in health care or community facilities to include clinical experience. Team concept approach and public relations will be emphasized. Students will be required to follow dress standards set by the facility in which they are working. TB clearance required. One and one-half hours lecture, eight hours field experience (lab). Transfer Credit: CSU Offered: S.

Nutrition Care 180—Introduction to Medical Nutrition Therapy (3)
Prerequisite: Food and Nutrition 170.
The principles of nutrition as they relate to special and abnormal physical conditions. Includes the effect of proper nutrition upon the human body, the medical or surgical problems which can arise and the dietary modifications necessary as a result. Routine hospital diets are studied and planned. Two hours lecture, two hours laboratory. Transfer Credit: CSU Offered: S.

Nutrition Care 280—Intermediate Nutrition Care (2) (9 week course)
Prerequisite: Nutrition Care 180.
Nutrition education principles and techniques for individual, family, and small group instruction in normal and preventive nutrition care. Consideration is given to community and cultural influences on nutrition. Two hours lecture, six hours non-lecture. Transfer Credit: CSU Offered: F.

Nutrition Care 281—Supervised Practice 1 (3) (9 week course)
Prerequisite: Nutrition Care 280.
Supervised practice in community facilities/ agencies dealing with the nutritional health of people. Rotation through agencies or experiences in public health, community agencies, and schools. Students will be required to follow dress standards set by the facility in which they will work. Includes dietary evaluation and nutrition counseling. One hour lecture, twenty hours field experience. Transfer Credit: CSU Offered: F.

Nutrition Care 285—Advanced Nutrition Care (2) (9 week course)
Prerequisite: Nutrition Care 281.
Planning nutrition care through menu writing, liquid nutrition evaluation and case studies. Application of menu planning principles to people in various stages of the life cycle, of different cultures, and with varying diet modifications. Two hours lecture, six hours non-lecture. Transfer Credit: CSU Offered: S.

Nutrition Care 286—Supervised Practice 2 (3) (9 week course)
Prerequisite: Nutrition Care 285.
Supervised experience in an acute care medical facility. Rotation through the various jobs/responsibilities of the dietetic technician. Students will be required to follow dress standards set by the facility in which they will work. One hour lecture, twenty hours field experience. Transfer Credit: CSU Offered: S.

ORNAMENTAL HORTICULTURE

Ornamental Horticulture 090—Orientation to Horticulture (.5) (6 week course)
Educational opportunities at Orange Coast, further education, careers in horticulture, professional organizations and licensing. Job finding. Offered on a credit-no credit basis only. Two hours. Offered: F;S.

Ornamental Horticulture 100—Horticulture Science (3)
The science and culture of plants upon which man’s existence depends. The principles and practices used to grow plants for food and environmental enhancement will be emphasized. Three hours. Transfer Credit: CSU Offered: as needed.

Ornamental Horticulture 109—Knowing Your Soils (3)
A nontechnical study of the fundamental concepts of soil science. Methods of investigations for the management of soils and soil substitutes. Three hours. Transfer Credit: CSU Offered: F;S.

Ornamental Horticulture 111—Landscape Drafting Technique (1) (9 week course)
Basic landscape drafting practices, lettering, line work, symbols, sheet composition and dimensioning. One hour lecture, two hours laboratory. Transfer Credit: CSU Offered: F;S.

Ornamental Horticulture 163—Maintenance and Repair of Small Gasoline Engines and Other Gardening Equipment (2)
Principles of small internal combustion gasoline engines, servicing and preventive maintenance, tune-ups and adjustment. Care and maintenance of other gardening equipment. One hour lecture, two hours laboratory. Transfer Credit: CSU Offered: as needed.

Ornamental Horticulture 170—Pest Control Applicators and Gardeners P.C.O. Certification (1) (9 week course)
Preparation for California Certification Exam as Pesticide Applicator and Gardeners Maintenance Pest Control Operators. Emphasis on safe use of pesticides, alternative pest management. Ornamental, turf, grass, industrial, right-of-way and seed treatment control. Two hours. Transfer Credit: CSU; UC credit limitation Offered: F.

Ornamental Horticulture 181—Ornamental Trees (3)
Identification, habits of growth, culture, propagation and use in landscape design for Southern California. Two hours lecture, three hours laboratory. Transfer Credit: CSU; UC credit limitation Offered: S.

Ornamental Horticulture 182—Ornamental Shrubs (3)
Habits of growth, culture, propagation and use in landscape design for Southern California. Identification will be emphasized. Two hours lecture, three hours laboratory. Transfer Credit: CSU; UC credit limitation Offered: S.

Ornamental Horticulture 183—Plant Propagation (3)
Principles and practice of propagation of horticultural plants. Propagation from seed, cuttings, layering, budding, grafting. Two hours lecture, three hours laboratory. Transfer Credit: CSU; UC Offered: S.

Ornamental Horticulture 184—Nursery Practices and Management (3)
Commercial nursery operations. Nursery layout, propagation, seed sowing, transplanting, potting, canning, fertilization, irrigation. Bedding plants, greenhouse plants, trees and shrubs. Retail and wholesale nursery practices and management. Two hours lecture, three hours laboratory. Transfer Credit: CSU Offered: F.

Ornamental Horticulture 185—Plant Diseases (1.5) (9 week course)
Common diseases of plants, emphasis on ornamentals grown in Southern California. Their symptoms and control of salinity, air pollutants, fungi, bacteria, virus, nematodes and other causal agents of plant diseases. Three hours. Transfer Credit: CSU Offered: S.

Ornamental Horticulture 186—Pests of Ornamentals (1.5) (9 week course)
Common mild, insect and other animal pests and common weeds of Southern California. Their economic importance, control, and their recognition and typical damage to ornamental plants and to agriculture will be emphasized with a section on structural pests and insects of medical importance. Two hours lecture, three hours laboratory. Transfer Credit: CSU Offered: F.
Information in italics designates the semester(s) in which the course is offered. The Division Office reserves the right to make changes as budget or other constraints warrant. F=Fall, S=Spring, Sum=Summer, Int=Intersession.

PHILOSOPHY

Philosophy 100—Introduction to Philosophy (3) (CAN PHIL 2)
A survey of the fundamental problems of philosophy: ethics and aesthetics, logic, philosophy of religion, metaphysics, persons and personal identity, freedom and/or determinism, theory of knowledge, society, and political issues. Basic questions asked about the universe and our place in it. This course may also be offered online. Three hours. Transfer Credit: CSU; UC Offered: F-S-Sum.

Philosophy 110—World Religion (3)
An identification of the nature of religious thinking and belief. The variety of patterns developed in both the West and the East are explored with a special emphasis on the relevance to the contemporary intellectual world. May be taken for grades or on a credit-no credit basis. Same as Religious Studies 110. Students completing Philosophy 110 may not receive credit for Religious Studies 110. Three hours. Transfer Credit: CSU; UC Offered: F-S-Sum.

Philosophy 115—Philosophy of Religion (3)
An examination of key issues and problems of religion, including the nature of religious language, religious experience, arguments for and against the existence of God, the nature of God, the problem of evil, and the relation between science and religion. May be taken for grades or on a credit-no credit basis. Same as Religious Studies 115. Students completing Philosophy 115 may not receive credit for Religious Studies 115. Three hours. Transfer Credit: CSU; UC Offered: F-S-Sum.

Philosophy 116—Aesthetics/Philosophy of Art (3)
A philosophical approach to a critical evaluation of works of art (literary, musical, visual). May be taken for grades or on a credit-no credit basis. Three hours. Transfer Credit: CSU; UC Offered: as needed.

Philosophy 120—Ethics (3) (CAN PHIL 4)
An introduction to ethical theories and problems. An analysis of the theories and principles on which moral judgments are based and the way these judgments are used in moral problems such as abortion, euthanasia, capital punishment, sexual equality, discrimination, censorship and economic justice. Special attention will be given to the kinds of arguments used in ethical discussion. May be taken for grades or on a credit-no credit basis. Same as Religious Studies 120. Students completing Philosophy 120 may not receive credit for Religious Studies 120. Three hours. Transfer Credit: CSU; UC Offered: F-S.

Philosophy 125—History of Ancient Philosophy (3) (CAN PHIL 8)
This introductory course surveys ancient philosophy. It explains the philosophical positions of the ancients, their religious attitudes, and the cultural milieu out of which ancient philosophical thought arose. This course is recommended for philosophy majors, historians, and those interested in the roots of modern civilization. May be taken for grades or on a credit-no credit basis. Three hours. Transfer Credit: CSU; UC Offered: as needed.

Philosophy 130—Social Philosophy (3)
Study of the philosophical foundations of social and political thought. Examination of such concepts as state, law, obligation, sanction, education, property, right and justice through an analysis of the various types of states in which these concepts play a role. May be taken for grades or on a credit-no credit basis. Three hours. Transfer Credit: CSU; UC Offered: as needed.

Philosophy 150—Logic and Critical Thinking (3)
Prerequisite: English 100.
An introduction to the critical analysis and rational evaluation of argument and other forms of expression. Course content covers the uses of language, distinctions between deductive and inductive reasoning, and practice in detecting formal and informal fallacies. The student will develop tools for distinguishing between and evaluating beliefs, opinions, claims, explanations and arguments. A strong emphasis is instruction in writing which models the critical thinking knowledge and skills examined in the course. May be taken for grades or on a credit-no credit basis. Three hours. Transfer Credit: CSU; UC Offered: F-S-Sum.

Philosophy 165—The Theory of Knowledge (3)
A critical survey of theories of truth, knowledge and belief, perception, and related problems. An evaluation of the limits and extent of human reasoning. The course includes the mathematical-deductive method, the problem of induction, and an assessment of the conditions of the possibility of experience. The course assesses how evidence is assembled, interpreted, evaluated, and addresses what counts as a good reason to believe, i.e., the problems of justifying evidence. May be taken for grades or on a credit-no credit basis. Three hours. Transfer Credit: CSU; UC Offered: F-S-Sum.

Philosophy 185—Contemporary Philosophy (3)
A course dealing with the method and problems of twentieth century philosophy. It gives particular attention to the issues of consciousness, human nature, freedom, death, and the social dimensions. Three hours. Transfer Credit: CSU; UC Offered: as needed.

Philosophy 220—Introduction to Symbolic Logic (3) (CAN PHIL 6)
Translate simple, quantified and multiple quantified English sentences to symbolic form. Determine the validity of arguments containing simple sentences and sentences involving single quantification. Prove arguments composed of simple sentences, sentences involving single and multiple quantification. May be taken for grades or on a credit-no credit basis. Same as Mathematics 220. Students completing Mathematics 220 may not receive credit for Philosophy 220. Three hours. Transfer Credit: CSU; UC Offered: F-S.
PHOTOGRAPHY

Photography 101—Photography and Society (3)
The total photographic visual environment of modern man: magazines, newspapers, advertising, snapshot portraits, calendars, art, family albums, political posters, postcards, greeting cards, and fashions. Students will do no photography. May be taken for grades or on a credit-no-credit basis. Three hours. Transfer Credit: CSU Offered: as needed.

Photography 102AB—Astrophotography (1) (9 week course)
Course presents a thorough grounding in the basics of astronomical photography, and with repetition, an opportunity to do intermediate level independent work. General topic is reviewed and the specific requirements for lunar, solar, planetary, and various kinds of stellar photography are outlined. Telescope set up and use is also covered. Field practice outside follows some of the discussions. Counts toward “100” level elective course requirement for photography majors. May be taken for grades or on a credit-no-credit basis. One hour lecture, two hours non-lecture. Transfer Credit: CSU Offered: as needed.

Photography 102—Basic Photography (3) (CAN ART 18)
Discussion and demonstration of basic black/white 35mm photography. Instruction in the theory and technique of camera use, processing film to negatives, and making contact prints and enlargements. Discussion of aesthetics and history of photography, including an international and intercultural perspective. Emphasis on photography as a means of communication and personal expression, and on the critical evaluation of student work in terms of these goals. Required for film/video majors. Also required for photography majors entering the program without prior training in photography. May be taken for grades or on a credit-no-credit basis. Two hours lecture, two hours laboratory, two hours arranged. Transfer Credit: CSU; UC Offered: F;S;Sum.

Photography 121—View Camera (2) (9 week course)
Prerequisite: Photography 120.
View camera techniques. Camera movements; film handling, printing and developing methods; and working applications of view cameras. Required in combination with Photography 120 for photography majors entering the program without prior training in photography. May be taken for grades or on a credit-no-credit basis. Two hours lecture, two hours laboratory, two hours arranged. Transfer Credit: CSU; UC Offered: as needed.

Photography 122AB—Personal Expression (3)
Prerequisite: Photography 120.
Creative photography exploring the possibilities of the use of visual language in relation to ideas. Discussion of aesthetics and history of photography, including an international and intercultural perspective. Advanced techniques of camera use and printing will be included, but the emphasis will be placed on the personal expression of ideas. Instruction is offered at beginning and intermediate levels. Fulfills “100” level optional course requirement for photography majors. May be taken for grades or on a credit-no-credit basis. Two hours lecture, four hours laboratory. Transfer Credit: CSU Offered: F;S;Sum.

Photography 125—Introduction to Digital Photography (3)
Prerequisite: Photography 120.
Designed to introduce the student to the field of digital photographic imaging and image processing with computers. Course will expose student to basic computer retouching methods, as well as simple image manipulation. May be taken for grades or on a credit-no-credit basis. Two hours lecture, four hours non-lecture. Transfer Credit: CSU Offered: F;

Photography 130—History and Aesthetics of Still Photography (3)
An overview of the history and technological development of the science-art of still photography from 1800 to the present and an examination of aesthetic trends within the medium during the twentieth century and their growth into contemporary styles of expression. Major emphasis will be placed on the practice of photography in the United States but comparisons and references will be made to work carried on in other countries. Required for photography majors with the strong recommendation it be taken concurrently with Photography 120 or 180. Three hours. Transfer Credit: CSU; UC Offered: F;

Photography 131—American Photography Since 1945 (3)
a critical history of American photography since 1945. The pictorial and written history of photography will be examined from social, political and art historical perspectives. The course will survey the major photographers, exhibitions and critical writings of the period. May be taken for grades or on a credit-no-credit basis. Three hours. Transfer Credit: CSU; UC Offered: as needed.

Photography 132—Photo Analysis (3)
Prerequisite: Photography 120 or 180.
The analysis of photographs as a means of communication to assist the photographer in making better pictures. Photographs will be studied and analyzed for psychological content, political implications, composition theories, color theories, critical theories and historical significance. All forms of photography will be examined but commercial photography will be emphasized. No photographs will be made during class period. Three hours. Transfer Credit: CSU Offered: as needed.

Photography 145AD—Photography Exhibition Gallery (2)
A course for students interested in procedures and concepts involved in the scheduling of exhibitions and operation of a photo gallery. Course will provide contact with fine arts photographers, experience in publicity, installation of work, and general working experience in the Orange Coast College Photo Gallery. Curatorial experience will vary each semester as students will be exposed to new exhibitions. Fulfills “100” level optional course requirement for photography majors. May be taken for grades or on a credit-no-credit basis. One hour lecture, three hours laboratory. Transfer Credit: CSU Offered: F;S.

Photography 150AD—Photo Lab (.5)
Prerequisite: Photography 120 or 180.
Assistance with projects using special darkroom techniques for various printing procedures in 35mm black/white photography. This is a workshop course providing supervised laboratory training and additional laboratory work for students simultaneously enrolled in other studio/production courses. Students determine own projects. Instruction is offered at beginning, intermediate, intermediate/advanced and advanced levels. Counts toward “100” level elective course requirement for photography majors. Offered on a credit-no-credit basis only. Two hours laboratory. Transfer Credit: CSU Offered: F;S;Sum.

Photography 151—Photo Non-Lab (1.5) (9 week course)
Photography for producing better pictures—sceney, family, travel or commercial. Emphasis is on lenses, film, lighting methods, flash systems and other accessories. May be taken for grades or on a credit-no-credit basis. Three hours. Transfer Credit: CSU Offered: as needed.

Photography 152AD—Photo Gallery (2)
Appreciation and critical analysis of fine art photography. Presentations and discussions provide a background for the viewing of work in this field trip oriented class while visiting most of the major galleries in the greater Los Angeles metropolitan area. This is a contemporary issues course and the course content varies each semester since the exhibitions are of different photographers and different periods. Fulfills “100” level optional course requirement for photography majors. May be taken for grades or on a credit-no-credit basis. Three hours. Transfer Credit: CSU Offered: F;

Photography 153—Portrait (2)
Prerequisite: Photography 120 or 180.
Techniques of taking informal, formal, environmental and group portraits. Fulfills “100” level optional course requirement for photography majors. May be taken for grades or on a credit-no-credit basis. Two hours lecture, two hours laboratory. Transfer Credit: CSU Offered: F;

Photography 155—Introduction to Color Photography (2)
Prerequisite: Photography 120 or 180.
Color theory and the aesthetics of color photography. Transparency production and printing emphasized. May be taken for grades or on a credit-no-credit basis. Two hours lecture, two hours laboratory. Transfer Credit: CSU Offered: F;S;Sum.
Photography 156AB—Basic Photographic Negative and Print Retouching (2)
Negative and print retouching with both black/white and color materials. Completion of this course will provide the student with an introduction to work as a professional photographic retoucher. Instruction is offered at beginning and intermediate levels. Fulfills ‘100’ level course requirement for photography majors. May be taken for grades or on a credit-no credit basis. One hour lecture, three hours laboratory. Transfer Credit: CSU Offered: S.

Photography 160AD—Advanced Photography Laboratory (1-2)
Prerequisite: Photography 120 or 180.
Assistance with studio, advanced black/white, or view camera projects. It provides supervised laboratory training to students preparing for careers in professional photography and additional laboratory work for students simultaneously enrolled in certificate studio/production courses. Students determine own projects. Instruction is offered at beginning, intermediate, intermediate/advanced and advanced levels. Counts toward ‘100’ level elective course requirement for photography majors. May be taken for grades or on a credit-no credit basis. Three to six hours laboratory. Transfer Credit: CSU Offered: F,S,Sum.

Photography 161AD—Advanced Color Photography Laboratory (1-2)
Prerequisite: Photography 155 or 280.
A course for students requiring additional color laboratory experience. Assistance with color negative and transparency printing projects. This is a workshop course intended as, but not limited to, an augmentative laboratory course for those enrolled in advanced color photography courses. Students determine own projects. Instruction is offered at beginning, intermediate, intermediate/advanced and advanced levels. Counts toward ‘100’ level elective course requirement for photography majors. May be taken for grades or on a credit-no credit basis. Three to six hours laboratory. Transfer Credit: CSU Offered: F,S,Sum.

Photography 180—Introduction to Professional Photography (4)
Prerequisite: Photography 120.
Instruction in the basic professional techniques of producing black and white still photographs including the use of professional cameras and darkroom procedures, stressing technical excellence in all phases. Required for photography majors entering the program with a solid instructional background in 35mm photography. Three hours lecture, four hours laboratory. Transfer Credit: CSU Offered: F,S.

Photography 187—Laboratory Practices (3)
Prerequisite: Photography 120 or 180.
Study of professional black and white photographic techniques. Emphasis on film selection and testing, developer selection and testing, exposure and exposure meters; contrast control (Zone System), paper selection and testing, advanced fine printing techniques, alteration of photographic materials through sensitization and reduction, basic sensitometry, practical photochemistry, and health and safety in photography. Required for photography majors. Two hours lecture, four hours laboratory. Transfer Credit: CSU Offered: F.

Photography 188—Commercial Photography (5)
Prerequisite: Photography 120 and 121, or Photography 180.
Overview of the profession of photography. Study and application of the techniques of commercial black and white still photography. Emphasis in the following areas: incandescent, electronic flash and natural lighting; small and large products, copy, portrait and architectural photography; advertising illustration, special effects image techniques and basic business techniques. Required for photography majors. Five hours lecture, three hours laboratory. Transfer Credit: CSU Offered: F.

Photography 189—Photograph Collecting and Connoisseurship (3)
The course is designed for photography collectors, gallery and museum personnel, investors and corporate investment counselors. Topics include an overview of the history and its processes, the economics of purchasing and marketing photographs, commercial galleries and auction houses, appraisal and evaluation, individual and corporate tax advantages, care and preservation, connoisseurship and aesthetic issues. The course will consist of lectures, class discussion and field trips to galleries, private collections and museums. Fulfills ‘100’ level elective course requirement for photography majors. May be taken for grades or on a credit-no credit basis. Three hours. Transfer Credit: CSU Offered: as needed.

Photography 194AC—Photography and Computer Graphics 2 (4)
Prerequisite: Photography 125 or Digital Media Arts 193.
Lectures and demonstrations to familiarize students with advanced techniques in digital photography with an emphasis on output. Both fine art and commercial applications are covered. Same as Digital Media Arts 194AC. Students completing Photography 194AC may not receive credit for Digital Media Arts 194AC. Two hours lecture, six hours non-lecture. Transfer Credit: CSU Offered: F,S.

Photography 195AB—Photography for Publication (3)
Prerequisite: Photography 120 or 180.
Prepares students to plan, perform photography and layout photographs (by computer) for various print media such as newspapers, magazines, annual reports, public relations, brochures, etc. Business and ethical concerns in the industry will be covered. Strongly recommended for photography majors. May be taken for grades or on a credit-no credit basis. Two hours lecture, four hours non-lecture. Transfer Credit: CSU Offered: as needed.

Photography 196AB—Photo Bookworks (3)
Prerequisite: Photography 120 or 180.
The use of photographs in artists’ bookworks is discussed. Major course projects include the production of several unique photographic books. Layout, typography, editing of photos, and makeup of a book are additional topics covered. May be repeated with different subject matter and presentation style. Instruction is offered at intermediate and advanced levels. Recommended for photography majors. May be taken for grades or on a credit-no credit basis. Two hours lecture, four hours non-lecture. Transfer Credit: CSU Offered: as needed.

Photography 200AB—Documentary Photography (3)
Prerequisite: Photography 120 or 180.
Provides advanced photo students with familiarization and exposure to documentary photography by completion of a group project. Instruction is offered at intermediate and advanced levels. Strongly recommended for photography majors with an interest in journalism, material culture and social issues. Counts toward ‘200’ level elective course requirement for photography majors. Two hours lecture, two hours laboratory, two hours field/travel. Transfer Credit: CSU Offered: as needed.

Photography 220AD—Fashion Photography (3)
Prerequisite: Photography 120 and 121, or Photography 180.
Editorial and advertising fashion photography as it is practiced professionally. Knowledge of color materials is useful. Instruction is offered at beginning, intermediate, intermediate/advanced and advanced levels. For repeating students this becomes a contemporary issues course with course content and independent portfolio work varying according to evolutions in the field and selected area(s) of specialization. Counts toward ‘200’ level elective course requirement for photography majors. Two hours lecture, two hours laboratory, two hours arranged. Transfer Credit: CSU Offered: F,S.

Photography 240AB—Portfolio Evaluation and Development (3)
Prerequisite: Photography 188.
Instruction for students wishing to pursue a career in commercial photography on how to develop, present and sell their work. Topics range from image selection, sequencing and presentation to establishing of initial business contacts. May be repeated with different subject matter and presentation style. Instruction offered at intermediate and advanced levels. Strongly recommended for photography majors. May be taken for grades or on a credit-no credit basis. Two hours lecture, four hours non-lecture. Transfer Credit: CSU Offered: S.
Photography 241—Business Practices for Photographers (3)
Presentation of basic business practices in photography including current pricing structures and marketing procedures. Emphasis is on establishing a photographic business, principles of accounting, calculating fixed and variable expenses, general small business practices, possible legal and ethical problems and a review of professional organizations. Helps students to identify and achieve professional photographic goals and objectives. Strongly recommended for Photography majors. Counts toward '200' level elective class requirement. May be taken for grades or on a credit-no credit basis. Three hours. Transfer Credit: CSU Offered: S.

Photography 260AD—Special Projects (2)
Prerequisite: Minimum of ten (10) units of photography at Orange Coast College.
Faculty-directed in-depth study of a limited area of photographic concern. Topic(s) and faculty chosen by the student. Strongly recommended for photography majors. Instruction is offered at beginning, intermediate, intermediate/advanced and advanced levels. Counts toward '200' level optional course requirement. One hour conference, one hour arranged. Transfer Credit: CSU Offered: F;S.

Photography 261AD—Non-Lab Special Projects (2)
Prerequisite: Minimum of ten (10) units of photography at Orange Coast College.
Faculty-directed study into the history, criticism, interpretation or literature of photography, not involving any lab work. Topic(s) and faculty chosen by the student. Recommended for photography majors. Instruction is offered at beginning, intermediate, intermediate/advanced and advanced levels. Counts toward '200' level optional course requirement. One hour conference with chosen instructor, three hours arranged. Transfer Credit: CSU Offered: F;S.

Photography 276AB—Printing from Color Transparencies (3)
Prerequisite: Photography 120 or 180 and Photography 280. An intermediate and advanced course covering modern photographic medium. Technical and creative experimentation will be emphasized. Materials and processes such as hand coloring, solarizations, litho films, non-camera imagery, negative manipulation, reticulation and multiple printing will be covered. Counts toward '200' level optional course requirement for photography majors. Two hours lecture, four hours laboratory. Transfer Credit: CSU Offered: S.

Photography 282—Professional Portraiture (3)
Prerequisite: Photography 120 or 180 and Photography 280. Prepares for employment in professional portrait studio. Includes studio lighting techniques, camera room practices, laboratory techniques and the variety of specialized services offered by a portrait studio. Counts toward '200' level optional course requirement for photography majors. Two hours lecture, two hours laboratory, two hours arranged. Transfer Credit: CSU Offered: S.

Photography 283AB—Art Photography (3)
Prerequisite: Photography 120 or 180. Photography as a fine art medium. Topics include principles of photographic design, aesthetics and history of art photography. Students may use black/white or color photography. Instruction is offered at intermediate and advanced levels. Photo 283A is required for photography majors. Two hours lecture, four hours laboratory. Transfer Credit: CSU Offered: F.

Photography 284AB—Non-Silver Photography (3)
Prerequisite: Photography 120 or 180. An introduction to non-silver photographic processes including Cyanotype, Calotype, Gum Bichromate, printing. Departing from the strict photographic print to allow the student to explore other printing processes, integrating technical proficiency with multi-media photographic aesthetics. Instruction offered at beginning and intermediate levels. Counts toward '200' level optional course requirement for photography majors. May be taken for grades or on a credit-no credit basis. Two hours lecture, four hours non-lecture. Transfer Credit: CSU Offered: F.

Photography 287—Modern Print Making (3)
Prerequisite: Photography 120 or 180. An introduction to all aspects of color photography at the professional level. A strong theoretical basis will be introduced, but primary orientation will be toward solving practical problems in color photography. Areas covered will include: color theory, exposure, small and large format transparencies, color negatives, printing from negatives ('Type-C'), printing from transparencies (Cibachrome), testing. Two hours lecture, four hours laboratory. Transfer Credit: CSU Offered: S.

Photography 288—Architectural Photography (3)
Prerequisite: Photography 280. Commercial photography intended for advanced students. Projects in black and white and color negatives, and color transparency materials. Some field work with instructor. Counts toward '200' level optional course requirement for photography majors. Two hours lecture, two hours laboratory, two hours arranged. Transfer Credit: CSU Offered: S.

Photography 290—Advertising Illustration Photography (3)
Prerequisite: Photography 280. For advanced photography students and professionals with specific interest in the commercial photography field of advertising illustration. Ability to work with black and white, color negative and color transparency materials required. Counts toward '200' level optional course requirement for photography majors. Two hours lecture, two hours laboratory, two hours arranged. Transfer Credit: CSU Offered: S.

PHYSICAL EDUCATION
It is strongly recommended that students not repeat beginning physical education courses but acquire a variety of experiences through a wide selection of activities.

Fitness Activities
Physical Education 102AD—Stretch and Flex (5-1.5) (9-18 week course)
The course emphasizes proper techniques of movement, joint flexibility, breathing and body alignment for postural integration. The relationship between fitness and health related topics to improve, be part of, and maintain a wellness lifestyle. May be taken for grades or on a credit-no credit basis. 25-.75 hours lecture, 75-.25 hours activity. Transfer Credit: CSU; UC credit limitation Offered: F.

Physical Education 104AD—Hatha Yoga (1.5-1) (9-18 week course)
Designed to teach a variety of beginning and intermediate yoga postures. Breathing, concentration/meditation, and relaxation techniques will be presented with an emphasis on Hatha Yoga as a method of personal development encompassing body, mind, and spirit. May be taken for grades or on a credit-no credit basis. 75-.25 hours activity. Transfer Credit: CSU; UC credit limitation Offered: F.

Physical Education 105AD—T’ai Chi Chih (5)
A newly developed system of Qigong discipline based upon ancient principles and consisting of 20 movement patterns designed to generate, circulate and harmonize internal energy flows for health enhancement. May be taken for grades or on a credit-no credit basis. 5 hours lecture, 1.5 hours non-lecture. Transfer Credit: CSU; UC credit limitation Offered: S.
Physical Education 106AD—Triathlon Techniques (.25)
Design a multi-sport fitness program for the novice exerciser to competitor. Develop individual training programs and receive video analysis in swimming, cycling and running. Other topics include injury prevention, nutrition, equipment selection, equipment technology and maintenance. Guest speakers. May be taken for grades or on a credit-no credit basis. Two hours lecture, one hour non-lecture. Transfer Credit: CSU; UC credit limitation Offered: S.

Physical Education 107AD—Fitness Programs (.5-.3) (9-18 week course)
This course allows students to use college facilities and attend day time PE activity classes. As part of the course requirement, students make selections from a series of computer-analyzed fitness and lifestyle evaluations, as well as attend seminars on physical fitness and wellness. This course will explore the relationship of fitness and health related topics to improve, be part of, and maintain a wellness lifestyle. One hour orientations detailing how this program functions are given during the first week of classes. Students are required to attend one orientation. Refer to semester class schedule for lab hours and orientation times. Offered on a credit-no credit basis. .3 to 1.8 hours lecture, .07 to 4.2 hours activity. Transfer Credit: CSU Offered: F.S.

Physical Education 108AD—Strength and Conditioning (.5-.3)
Individual strength and conditioning programs. May be taken for 5.0-.3 units depending on the number of hours the student works out each week. Workouts must be done in the Strength Lab during the hours the lab is open. Student must first attend a one-hour session. Orientations will be held during the first two days of the semester. Offered on a credit-no credit basis only. .5 to 1.8 hours lecture, .07 to 4.2 hours laboratory. Transfer Credit: CSU; UC credit limitation Offered: F.S.Sum.

Physical Education 109AD—Sports Conditioning (.5-.25)
This course is designed to develop fundamental skills and techniques specifically for athletic competition. Workouts and drills are held on athletic fields and in the fitness facilities. .25-1.5 hours lecture, .75-3.5 hours activity. Transfer Credit: CSU; UC credit limitation Offered: F.S.

Physical Education 110AD—Cardiovascular Fitness (.5-2.5)
Cardiovascular exercise program. Stretching, fast-walk, jogging, and running programs will be set up on an individual basis. Pulse monitoring, nutrition, and strength will also be emphasized. This course will explore the relationship between fitness and health related topics to improve, be part of, and maintain a wellness lifestyle. May be taken for grades or on a credit-no credit basis. One to five hours lecture/activity. Transfer Credit: CSU; UC credit limitation Offered: F.S.Sum.

Physical Education 111AD—Weight Training (.5-.15) (9-18 week course)
The student will learn the basic principles of weight training and exercises and be able to demonstrate proper biomechanics of weight training exercises. May be taken for grades or on a credit-no credit basis. .25-75 hour lecture, .75-2.25 hours activity. Transfer Credit: CSU; UC credit limitation Offered: F.S.Sum.

Physical Education 112AD—Step Aerobics (.5-1.5) (9-18 week course)
This is a contemporary workout designed to improve each participant’s strength and cardiovascular fitness level through steady-state stepping movements. The student will be exposed to a graduated continuous system of rhythmic stepping at various platform heights, emphasizing strength, flexibility, and endurance which are basic components of physical fitness. May be taken for grades or on a credit-no credit basis. .25-75 hours lecture, .75-2.25 hours non-lecture. Transfer Credit: CSU; UC credit limitation Offered: F:S.Sum.

Physical Education 113AD—Cardio Weight Training (.5-1.5) (9-18 week course)
This course emphasizes the five Olympic lifts along with plyometric and technique training for speed and explosive-ness. Cardiorespiratory endurance exercises are included. May be taken for grades or on a credit-no credit basis. .25-75 hours lecture, .75-2.25 hours activity. Transfer Credit: CSU; UC credit limitation Offered: F:S.

Physical Education 114AD—Aerobic Exercise (.5-1.5) (9-18 week course)
A contemporary workout done to music designed to improve cardiovascular fitness, strength, flexibility, agility, balance, endurance, and coordination through exercise, general movement, and basic elements of dance. May be taken for grades or on a credit-no credit basis. .25-75 hour lecture, .75-2.25 hours activity. Transfer Credit: CSU; UC credit limitation Offered: F:S.Sum.

Physical Education 115AD—Cross Training (.5-.15) (9-18 week course)
A multi-dimensional approach to total body fitness. Cross training will encompass aerobics, running and weight training and provide the student the opportunity to develop and maintain a complete conditioning program which balances cardiovascular conditioning, strength, flexibility, and coordination. This course will explore, be part of, and maintain a wellness lifestyle. May be taken for grades or on a credit-no credit basis. .25-75 hour lecture, .75-2.25 hours activity. Transfer Credit: CSU; UC credit limitation Offered: F:S.

Physical Education 116AD—Athletic Team Training (.5-.15) (9-18 week course)
Course designed for students who are interested in improving their skills for competitive athletic performance. May be taken for grades or on a credit-no credit basis. .25-75 hours lecture, 1.5-7.5 hours non-lecture. Transfer Credit: CSU; UC credit limitation Offered: F:S.Sum.

Physical Education 125AD—Body Sculpting (.5-1.5) (9-18 week course)
Body sculpting is a contemporary workout designed to improve each participant’s muscular tone, strength, endurance, and flexibility. The student will be exposed to a graduated continuous system of sculpting the body through the use of various resistance techniques. May be taken for grades or on a credit-no credit basis. .5-75 hours lecture, 1.5-2.25 hours non-lecture. Transfer Credit: CSU; UC credit limitation Offered: F.S.Sum.

Physical Education 126AD—Body Pump (.5-2) (9-18 week course)
Body Pump is a group barbell program that challenges a major muscle group in the body. Ten stationary routines using weights and music to strengthen and tone. High repetition boosts endurance and speeds up metabolism. May be taken for grades or on a credit-no credit basis. .5-1.0 hour lecture, .1-3.0 hours non-lecture. Transfer Credit: CSU Offered: F:S.Sum.

Physical Education 129AD—Fitness for Performance (.5-2.5) (2-18 week course)
This course is designed to enhance all components of physical fitness: muscular strength and endurance, cardio-respiratory endurance, flexibility, and reduction of body fat. Develop a variety of fitness regimens to improve performance and reduce the risk of injury. May be taken for grades or on a credit-no credit basis. .5-1.5 hours lecture, .75-3.5 hours non-lecture. Transfer Credit: CSU Offered: F:S.Sum.

Physical Education 130AD—Aikido (.5-.15) (9-18 week course)
Aikido is a Japanese art of self-defense which is both non-aggressive and non-competitive. Besides offering students a method of self-defense and all-around physical conditioning, Aikido contributes greatly to self-confidence. In addition, it teaches patience, self-discipline, awareness, and respect. This course may be taken four times, allowing students to progress from basic fundamentals to refined techniques. May be taken for grades or on a credit-no credit basis. .25-75 hours lecture, .75-2.25 hours activity. Transfer Credit: CSU; UC credit limitation Offered: F:S.Sum.

Physical Education 132AD—Self-Defense (.5-.15) (9-18 week course)
Designed for women, this course emphasizes rape prevention and teaches physical skills while practicing and increasing awareness and assertiveness. May be taken for grades or on a credit-no credit basis. .25-75 hour lecture, .75-2.25 hours activity. Transfer Credit: CSU; UC credit limitation Offered: F:S.Sum.

Performance & Health
Physical Education 132—Introduction to Wellness (1) (9 week course)
Identification and analysis of cardiovascular disease risk factors in order to improve cardiovascular health and general well-being. May be taken for grades or on a credit-no credit basis. Same as Health Education 132. Students completing Physical Education 132 may not receive credit for Health Education 132. Two hours. Transfer Credit: CSU Offered: F.S.
Physical Education 133—Sport Safety Training (2) (9-18 week course)

This course prepares participants with the knowledge and skills necessary to help provide a safe environment for athletes. Emphasis is on helping sustain life and minimize the consequences of injury or sudden illness until medical help arrives. Same as Health Education 133. Students completing Physical Education 133 may not receive credit for Health Education 133. May be taken for grades or on a credit-no credit basis. Two to four hours. Transfer Credit: CSU Offered: F.S.

Physical Education 134—Fitness and Health (3)

Theory and benefits of physical activity to fitness-related health. The study of human adaptation to exercise including such topics as cardiovascular conditioning, neuromuscular training, body composition, nutrition for performance, stretching, sports injuries and aging. Same as Health Education 134. Students completing Physical Education 134 may not receive credit for Health Education 134. May be taken for grades or on a credit-no credit basis. Three hours. Transfer Credit: CSU; UC credit limitation Offered: F.S.

Physical Education 136—Nutrition, Fitness and Performance (2)

An applied nutrition course for individuals interested in health, fitness, and athletics. Principles of nutrition are studied and applied to the physically active lifestyle. Designed for the active individual and for the Fitness Specialist certificate. Pre-event food and fluid selection, nutrient requirements during activity, various nutrition supplements, muscle mass and body fat related to physical performance. May be taken for grades or on a credit-no credit basis. Same as Food and Nutrition 136 and Health Education 136. Students completing Physical Education 136 may not receive credit for Food and Nutrition 136 or Health Education 136. Two hours. Transfer Credit: CSU Offered: F.S.

Physical Education 138—Drugs and Sports (2) (9 week course)

An in-depth look at substance abuse among athletes. The focus will be on the athletic environment, drug effects, reasons for drug usage, the impact on the team, and position alternation. Same as Health Education 138. Students completing Physical Education 138 may not receive credit for Health Education 138. May be taken for grades or on a credit-no credit basis. Four hours. Transfer Credit: CSU Offered: F.S.

Water Activities

Physical Education 140AD—Aqua Fitness (.5-1.5) (9-18 week course)

Prerequisite: Ability to swim 25 yards and tread water for one minute.

Impact-free physical fitness through flotation-assisted, deep-water aerobics training. Designed to improve and increase cardiovascular fitness, flexibility, muscular tone, aerobic conditioning and physical rehabilitation. Combining the properties of weightlessness and resistance, the student will progress through a graduated training program without impact on bones and joints. May be taken for grades or on a credit-no credit basis. .25-.75 hours lecture, .75-2.25 hours activity. Transfer Credit: CSU; UC credit limitation Offered: as needed.

Physical Education 142AD—Aqua Aerobics (.5-1.5) (9-18 week course)

A class designed to improve physical fitness through prescribed exercises performed in the water. The class is conducted in the shallow pool and there is no prerequisite on swimming ability. May be taken for grades or on a credit-no credit basis. .75-.75 hour lecture, 1.5-2.25 hours activity. Transfer Credit: CSU; UC credit limitation Offered: F.S.Sum.

Physical Education 143AD—Swimming (.5-1.5) (9-18 week course)

Course teaches the basics of freestyle, breaststroke, as well as breathing skills while enhancing endurance. May be taken for grades or on a credit-no credit basis. .25-.75 hour lecture, .75-2.25 hours activity. Transfer Credit: CSU; UC credit limitation Offered: F.S.

Physical Education 144AD—Swimming for Fitness (1) (9-18 week course)

This course introduces the novice to the fundamentals of swimming through dockside lectures and hands-on experience in Lido 148 swimming lanes. Points of sail, basic terminology, tacking, gybing, theory, and safety are emphasized. Same as Marine Activities 144AD. Students completing Physical Education 144AD may not receive credit for Marine Activities 144AD. May be taken for grades or on a credit-no credit basis. One hour lecture, three hours non-lecture. Transfer Credit: CSU Offered: F.S.

Physical Education 146AD—Swimming for Fitness (1) (9-18 week course)

Prerequisite: Ability to swim. Explains the theories and teaches the skills necessary to achieve fitness through swimming. Swimming programs are designed to attain desired levels of cardiovascular efficiency. May be taken for grades or on a credit-no credit basis. 0.3 to 1.5 hours lecture, 0.7 to 3.5 hours activity. Transfer Credit: CSU; UC credit limitation Offered: F.S.Sum.

Physical Education 149AD—Introduction to Keel Boats (1) (9 week course)

Prerequisite: Ability to swim 50 yards and tread water for five minutes; basic sailing ability.

This course introduces the intermediate sailor to the fundamentals of sailing through dockside lectures and hands-on experience in Shields 30 sloops. Points of sail, basic terminology, tacking, gybing, theory, and safety are emphasized. Same as Marine Activities 149AD. Students completing Physical Education 149AD may not receive credit for Marine Activities 149AD. May be taken for grades or on a credit-no credit basis. One hour lecture, three hours non-lecture. Transfer Credit: CSU Offered: F.S.

Physical Education 160AD—Kayaking (.5-1.5) (9-16 week course)

Prerequisite: Students must be able to swim 100 yards and tread water for five minutes. This prerequisite will be validated in class during the first week of the course. This course is designed to teach fundamental kayaking techniques needed to become a safe and effective kayaker. A fee for use of equipment and use of the off-campus facility is required. Same as Marine Activities 160AD. Students completing Physical Education 160AD may not receive credit for Marine Activities 160AD. May be taken for grades or on a credit-no credit basis. .75-.75 hour lecture, 1.5-2.25 hours activity. Transfer Credit: CSU; UC credit limitation Offered: F.S.Sum.

Racquet Activities

Physical Education 150AD—Badminton (.5-1.5) (9-18 week course)

Development of skills necessary to participate in the game of badminton. The objective is to improve proficiency of skills through further repetition and instruction. May be taken for grades or on a credit-no credit basis. 0.5 hour lecture, 1.5 hours activity. Transfer Credit: CSU; UC credit limitation Offered: F.S.

Physical Education 154AD—Table Tennis (.5-1.5) (9-18 week course)

Introduction and practice in the essential stroke skills, rules, etiquette and competition in singles and doubles. May be taken for grades or on a credit-no credit basis. .5 hour lecture, 1.5 hours activity. Transfer Credit: CSU; UC credit limitation Offered: F.S.
Information in italics designates the semester(s) in which the course is offered. The Division Office reserves the right to make changes as budget or other constraints warrant. F=Fall, S= Spring, Sum=Summer, Int=Inter=Intersession

Physical Education 155AD—Tennis (.5-1.5) (9-18 week course)
Instruction and practice in the essential stroke skills, rules, etiquette and competition in singles and doubles. May be taken for grades or on a credit-no credit basis. 25-75 hours lecture, 75-2.05 hours activity. Transfer Credit: CSU; UC credit limitation Offered: F;S;Sum.

Physical Education 157AD—Indoor Racquetball (.5-1.5) (9-18 week course)
Practice in basic skills and introduction of game strategy. May be taken for grades or on a credit-no credit basis. 25-.75 hour lecture, .75-2.25 hours activity. Transfer Credit: CSU; UC credit limitation Offered: F;S;Sum.

Physical Education 167AD—Rock Climbing (.5-1.5) (9-18 week course)
Basic climbing techniques and safety fundamentals prepare the student for participation in rock climbing. Securing the climbing harness properly, properly tying to the harness, proper use of climbing commands, safely falling, and arresting falls will be covered. A fee for use of an off-campus facility will be required. 5-10.0 hours lecture, 1.5-3.0 hours activity. Non-lecture: Transfer Credit: CSU; UC credit limitation Offered: F;S;Sum.

Physical Education 173AD—Basketball (.5-1.5) (9-18 week course)
May be taken for grades or on a credit-no credit basis. 5-75 hour lecture, 1.5-2.25 hours activity. Transfer Credit: CSU; UC credit limitation Offered: F;S;Sum.

Physical Education 174AD—Bowling (.5-1.5) (9-18 week course)
Development of skills necessary to participate in bowling. League fee is required to cover the use of lanes, bowling shoes and tournament trophies. May be taken for grades or on a credit-no credit basis. 25-.75 hour lecture, 75-2.25 hours activity. Transfer Credit: CSU; UC credit limitation Offered: F.S.

Physical Education 177AD—Soccer (.5-2) (9-18 week course)
This course is designed for men and women with beginning, intermediate, and advanced soccer ability. Students will improve skills through application of rules, theory and study, improve flexibility and endurance, and participate in drills, scrimmages and games. The relationship between fitness and health-related topics to improve, be part of, and maintain a wellness lifestyle will be explored. May be taken for grades or on a credit-no credit basis. 5.1-10.0 hour lecture, 1.5-3.0 hours activity. Transfer Credit: CSU; UC credit limitation Offered: F;S;Sum.

Physical Education 178AD—Volleyball (.5-1.5) (9-18 week course)
Development of skills necessary to participate in a game of volleyball at the beginning, intermediate and advanced levels. May be taken for grades or on a credit-no credit basis. 25-.75 hour lecture, .75-2.25 hours activity. Transfer Credit: CSU; UC credit limitation Offered: F;S;Sum.

Physical Education 179AD—Golf (.5-1.5) (9-18 week course)
Beginning through intermediate levels with instruction in putting, chipping, pitching and sand strokes, as well as the basic fundamentals of the full swing. May be taken for grades or on a credit-no credit basis. 5-.75 hour lecture, 1.5-2.25 hours activity. Transfer Credit: CSU; UC credit limitation Offered: F;S;Sum.

Physical Education 181AD—Coed Slo-Pitch Softball (.5-2) (9-18 week course)
Instruction and practice in the basic skills of slo-pitch softball with emphasis on pitching, batting, base running, and fielding techniques. Strategy will be introduced in team play. May be taken for grades or on a credit-no credit basis. 5.1-10.0 hour lecture, 1.5-3.0 hours activity. Transfer Credit: CSU; UC credit limitation Offered: F;S;Sum.

Physical Education 190AD—Adapted Exercise for Back and Neck Disorders (.5-1.5) (9-18 week course)
This course is designed for ambulatory students with back and/or neck disorders who can benefit from an individualized exercise program. Instruction and practice will be given in stretching, resistive exercises, and relaxation techniques for improvement in strength, flexibility, and tension reduction. Pressure points and use of physioball is also included. Student must be able to stand and transfer to the floor independently. May be taken for grades or on a credit-no credit basis. 25-.75 hour lecture. 75-2.25 hours activity. Transfer Credit: CSU; UC credit limitation Offered: F;S;Sum.

Physical Education 191AD—Adapted Strength Training (.5-1.5) (9-18 week course)
Course is designed for students with physical disabilities requiring and individualized exercise program. Instruction and practice in individualized weight training and resistive exercises will be given for improvement in muscular strength, endurance, flexibility, and postural remediation. May be taken for grades or on a credit-no credit basis. 25-.75 hour lecture, 75-2.25 hours activity. Transfer Credit: CSU; UC credit limitation Offered: F;S;Sum.

Physical Education 192AD—Adapted Individual Sports (.5-1.5) (9-18 week course)
This course is designed for physically disabled students. Instruction and practice in the methods, techniques, and rules of bowling. Adapted bowling equipment is available for student use. Class will meet at a local bowling alley. A fee is required to cover use of lanes, shoes, and equipment. May be taken for grades or on a credit-no credit basis. 25-.75 hour lecture, 75-2.25 hours activity. Transfer Credit: CSU; UC credit limitation Offered: as needed.

Physical Education 194AD—Adapted Aquatics (.5-1.5) (9-18 week course)
Designed for students with physical disabilities who can benefit from individualized exercise and practice in non-impact aerobic type exercises in the pool. Individualized endurance swimming, muscular strength and flexibility activities, as well as gait training will be offered. May be taken for grades or on a credit-no credit basis. 25-.75 hour lecture, 75-2.25 hours activity. Transfer Credit: CSU; UC credit limitation Offered: as needed.

Physical Education 195AD—Adapted Aqua Athletics (.5-1.5) (9-18 week course)
Designed for students with physical disabilities who can benefit from an individualized aquatic exercise program. Instruction and practice in cardiovascular activities using a variety of ergometry equipment will be given. May be taken for grades or on a credit-no credit basis. 5-1.5 hours lecture, 1.5-4.5 hours activity. Transfer Credit: CSU; UC credit limitation Offered: F;S;Sum.

Physical Education 196AD—Adapted Cardiovascular Fitness (.5-1.5) (9-18 week course)
Course is designed for students with physical disabilities who can benefit from an individualized cardiovascular exercise program. A variety of upper and lower body cardiovascular equipment is available in the Adapted Lab, including treadmills, StepTrains, arm cranks, recumbent bikes, step and Nordic track machines. May be taken for grades or on a credit-no credit basis. 25-.75 hour lecture, 75-2.25 hours activity. Transfer Credit: CSU; UC credit limitation Offered: F;S;Sum.

Physical Education 197AD—Adapted Stretching (.5-1.5) (9-18 week course)
Course is designed for physically disabled students who can benefit from individualized stretching and muscular endurance activities. Activities are conducted both from a sitting position and lying down on mats. Relaxation tech- niques, pressure points, passive and resistive stretching, and exercises will be demonstrated and performed. May be taken for grades or on a credit-no credit basis. 25-.75 hour lecture, 75-2.25 hours activity. Transfer Credit: CSU; UC credit limitation Offered: F;S;Sum.
credit limitation Offered: F;S;Sum.

Intercollegiate Athletics

COED SPORTS

Physical Education 222AD—Pep Squad (2)
Cheer leaders and song leaders as members of the pep squad. May be taken for grades or on a credit-no credit basis. Two and one-half hours lecture, seven and one-half hours activity. Transfer Credit: CSU Offered: F.S.

Physical Education 237AD—Badminton Team (2)
Credit: CSU; UC credit limitation Offered: 16 week course

Physical Education 238AD—Crew Team (2)
Prerequisite: Crew fundamentals. May be taken for grades or on a credit-no credit basis. Two and one-half hours lecture, seven and one-half hours activity. Transfer Credit: CSU; UC credit limitation Offered: S.

Physical Education 240AD—Soccer Team (2)
May be taken for grades or on a credit-no credit basis. Two and one-half hours lecture, seven and one-half hours activity. Transfer Credit: CSU; UC credit limitation Offered: F.

Physical Education 241AD—Softball Team (2)
May be taken for grades or on a credit-no credit basis. Two and one-half hours lecture, seven and one-half hours activity. Transfer Credit: CSU; UC credit limitation Offered: S.

Physical Education 242AD—Swimming Team (2)
May be taken for grades or on a credit-no credit basis. Two and one-half hours lecture, seven and one-half hours activity. Transfer Credit: CSU; UC credit limitation Offered: S.

Physical Education 243AD—Tennis Team (2)
May be taken for grades or on a credit-no credit basis. Two and one-half hours lecture, seven and one-half hours activity. Transfer Credit: CSU; UC credit limitation Offered: F.

Physical Education 244AD—Track and Field Team (2)
May be taken for grades or on a credit-no credit basis. Two and one-half hours lecture, seven and one-half hours activity. Transfer Credit: CSU; UC credit limitation Offered: S.

Physical Education 245AD—Volleyball Team (2)
May be taken for grades or on a credit-no credit basis. Two and one-half hours lecture, seven and one-half hours activity. Transfer Credit: CSU; UC credit limitation Offered: F.

Physical Education 246AD—Water Polo Team (2)
May be taken for grades or on a credit-no credit basis. Two and one-half hours lecture, seven and one-half hours activity. Transfer Credit: CSU; UC credit limitation Offered: S.

MEN’S SPORTS

Physical Education 221AD—Golf Team (2)
May be taken for grades or on a credit-no credit basis. Two and one-half hours lecture, seven and one-half hours activity. Transfer Credit: CSU; UC credit limitation Offered: S.

Physical Education 250AD—Baseball Team (2)
May be taken for grades or on a credit-no credit basis. Two and one-half hours lecture, seven and one-half hours activity. Transfer Credit: CSU; UC credit limitation Offered: F.

Physical Education 251AD—Basketball Team (2)
May be taken for grades or on a credit-no credit basis. Two and one-half hours lecture, seven and one-half hours activity. Transfer Credit: CSU; UC credit limitation Offered: F.

Physical Education 252AD—Crew Team (2)
Designed to hone skills for intercollegiate crew competition and to make a commitment for athletic excellence. May be taken for grades or on a credit-no credit basis. Two and one-half hours lecture, seven and one-half hours activity. Transfer Credit: CSU; UC credit limitation Offered: F.S.

Physical Education 253AD—Cross Country Team (2)
May be taken for grades or on a credit-no credit basis. Two and one-half hours lecture, seven and one-half hours activity. Transfer Credit: CSU; UC credit limitation Offered: F.

Physical Education 254AD—Track and Field Team (2)
May be taken for grades or on a credit-no credit basis. Two and one-half hours lecture, seven and one-half hours activity. Transfer Credit: CSU; UC credit limitation Offered: S.

Physical Education 255AD—Volleyball Team (2)
May be taken for grades or on a credit-no credit basis. Two and one-half hours lecture, seven and one-half hours activity. Transfer Credit: CSU; UC credit limitation Offered: F.

Physical Education 256AD—Basketball Team (2)
May be taken for grades or on a credit-no credit basis. Two and one-half hours lecture, seven and one-half hours activity. Transfer Credit: CSU; UC credit limitation Offered: S.

Physical Education 257AD—Soccer Team (2)
May be taken for grades or on a credit-no credit basis. Two and one-half hours lecture, seven and one-half hours activity. Transfer Credit: CSU; UC credit limitation Offered: F.

Physical Education 258AD—Swimming Team (2)
May be taken for grades or on a credit-no credit basis. Two and one-half hours lecture, seven and one-half hours activity. Transfer Credit: CSU; UC credit limitation Offered: F.

Physical Education 259AD—Tennis Team (2)
May be taken for grades or on a credit-no credit basis. Two and one-half hours lecture, seven and one-half hours activity. Transfer Credit: CSU; UC credit limitation Offered: S.

Physical Education 260AD—Track and Field Team (2)
May be taken for grades or on a credit-no credit basis. Two and one-half hours lecture, seven and one-half hours activity. Transfer Credit: CSU; UC credit limitation Offered: S.

Physical Education 261AD—Volleyball Team (2)
May be taken for grades or on a credit-no credit basis. Two and one-half hours lecture, seven and one-half hours activity. Transfer Credit: CSU; UC credit limitation Offered: S.

Physical Education 262AD—Water Polo Team (2)
May be taken for grades or on a credit-no credit basis. Two and one-half hours lecture, seven and one-half hours activity. Transfer Credit: CSU; UC credit limitation Offered: F.

Professional Physical Education

Professional physical education courses are intended for physical education, recreation, and dance majors. Students should consult the Transfer Information section or their counselor for specific requirements.

Physical Education 199AD—Current Issues in Physical Education (.5-3) (9-18 week course)
Current issues in the field of physical education, rotating through a variety of topics, such as principles of coaching, mental aspects of sports, principles of fitness and performance, competition and the athlete, and careers in physical education and exercise science. May be taken for grades or on a credit-no credit basis. One to three hours. Transfer Credit: CSU Offered: F;S;Sum.
Physical Education 268—Introduction to Adapted Physical Education (2.5) (9-18 week course)
Introduction to adapted physical education designed for majors in fitness specialist, physical education, physical therapy, sports medicine, nursing, and allied health fields.
Theory and practice of strength, flexibility, cardiovascular, aquatic, gait and balance development, and assessment for persons with disabilities are topics covered. Instruction in specific disabilities, terminology, psychology, attitudes, and contraindicated and recommended exercises, posture evaluation, remediation, teaching methodologies, and individualizing exercise programs is provided. Two hours lecture, two hours non-lecture. Transfer Credit: CSU Offered: as needed.

Physical Education 272—Group Exercise Instructor Training (3)
This course is designed for people who want to be group fitness instructors or for current group fitness instructors who want to enhance their knowledge. Developing and teaching a fitness class, basic anatomy and kinesiology, proper stretching techniques, heart rate monitoring, correct body alignment, and injury prevention will be covered. May be taken for grades or on a credit-no credit basis. Three hours. Transfer Credit: CSU Offered: F.

Physical Education 274—Movement Analysis (3)
The musculo-skeletal system and its function in human movement. Analysis of movements in sport skills and the muscles and bones involved. Three hours. Transfer Credit: CSU; UC credit limitation Offered: F-S.

Physical Education 277—Coaching Theory and Techniques (3)
Motivation of the student athlete, meaningful practice schedules, preparation for the contest, dealing with winning and losing, influence of community support groups and a code of ethics. Three hours. Transfer Credit: CSU; UC credit limitation Offered: S.

Physical Education 278—Sports Management (3)
Introduction to sports and fitness management programs, operation, procedures, facilities and equipment. Three hours lecture, one hour non-lecture. Transfer Credit: CSU Offered: S.

Physical Education 279—Theory of Soccer (1) (9 week course)
Designed for men and women to analyze the theory and techniques pertinent to the game of soccer. Two hours. Transfer Credit: CSU; UC credit limitation Offered: S.

Physical Education 281—Sports Medicine (3)
Technique and theory in prevention of athletic injuries. Includes modalities for therapy and prevention of injury through exercise. Three hours. Transfer Credit: CSU; UC Offered: F-S.

Physical Education 284—Fitness and Exercise Testing (3)
Prerequisite: Current CPR certification.
Theory and techniques of physical fitness evaluation, exercise testing and exercise prescription. Three hours. Transfer Credit: CSU Offered: S.

Information in italics designates the semester(s) in which the course is offered. The Division Office reserves the right to make changes as budget or other constraints warrant. F=Fall, S=Spring, Sum=Summer, Int=Intersession

Physical Education 285—Athletic Taping and Modalities (3)
The entry-level theory and technique of athletic strapping and physiological effects and the use of therapy modalities. Instruction in the use of ultrasound, electric stimulation, heat/cold, and whirlpool. Three hours lecture, one hour non-lecture. Transfer Credit: CSU Offered: F-S.

Physical Education 287AD—Sports Medicine Practicum (2-4)
Designed to provide clinical experience for students interested in sports-related injury care and prevention. Experiences will include taping for prevention of injury, use of modalities, and exercise programs in rehabilitation of injuries. One hour lecture, three to nine hours non-lecture. Transfer Credit: CSU Offered: F-S.

Physical Education 289—Strength and Conditioning Theory (3)
Theory and applications of strength development, muscular endurance, flexibility, neuromuscular coordination and nutrition. Includes planning and setting up programs designed to achieve the desired goals in the most efficient way. Also includes introduction to physical fitness testing. Three hours lecture, one hour laboratory. Transfer Credit: CSU Offered: F.

Physical Education 299AD—Current Topics for the Fitness Specialist (.5-3) (9-18 week course)
Study and discussion of topics and issues of current interest to the fitness specialist, fitness specialist major and others interested in upgrading their knowledge in fitness and related areas. Units vary according to topic selected, semester offered and number of meetings scheduled. May be taken for grades or on a credit-no credit basis. One to three hours. Transfer Credit: CSU Offered: as needed.

PHYSICS

Physics 101—Descriptive Introduction to Physics (3)
Recommended preparation: Elementary algebra and plane geometry.
A brief, but complete, presentation of the fundamental phenomena and laws in physics with experimental illustrations enhancing the development of conceptual scientific thinking. Not open to those who hold credit for any other college physics. May be taken for grades or on a credit-no credit basis. Three hours. Transfer Credit: CSU; UC credit limitation Offered: F-S;Sum.

Physics 111—Introductory Physics Laboratory (1)
Prerequisite: Physics 110 or concurrent enrollment.
Introductory physics laboratory for students to complement Physics 110. Not open to those who hold credit for any other college physics-laboratory course. May be taken for grades or on a credit-no-credit basis. Three hours laboratory. Transfer Credit: CSU; UC credit limitation Offered: F-S.

Physics 120—General Physics: Mechanics, Waves, Thermodynamics (4) (CAN PHYS 2)
Prerequisite: Mathematics 120 or concurrent enrollment.
Satisfies requirements for biological sciences and technical programs except physics, chemistry and engineering. Suitable as an elective in liberal arts courses. May be taken for grades or on a credit-no-credit basis. Four hours lecture and demonstration, two hours laboratory. Transfer Credit: CSU; UC credit limitation Offered: F-S;Sum.

Physics 125—General Physics: Electricity, Magnetism, Light, Modern Physics (4) (CAN PHYS 4)
Prerequisite: Physics 120.
Continuation of Physics 120. May be taken for grades or on a credit no-credit basis. Four hours lecture and demonstration, two hours laboratory. Transfer Credit: CSU; UC credit limitation Offered: F-S.

Physics 130—General Mechanics/Waves/Thermodynamics (4)
Prerequisite: Math 180.
Corequisite: Math 185.
A study of general principles of mechanics, waves, and thermodynamics. Emphasis will be on Newton’s three laws of motion, theory of gravity, conservation laws, waves of thermodynamics, generation and propagation of mechanical waves. Three hours lecture, one hour discussion, three hours laboratory. Transfer Credit: CSU; UC credit limitation Offered: F-S.

Physics 135—General Electromagnetism/Light/Modern Physics (4)
Prerequisite: Physics 130 and two semesters of calculus.
A study of general principles of electricity, electromagnetism, optics, theory of relativity, and quantum theory with applications to atoms, nuclei, and elementary particles. Three hours lecture, one hour discussion, three hours laboratory. Transfer Credit: CSU; UC credit limitation Offered: S.

Physics 185—General Physics: Mechanics, Waves (4) (CAN PHYS 8)
Prerequisite: Mathematics 180.
Corequisite: Mathematics 185.
Recommended preparation: One year of high school physics or a semester of college physics.
The Physics 185, 280, 285 sequence is required for students planning to major in physics, chemistry or engineering. Four hours lecture, three hours laboratory. Transfer Credit: CSU; UC credit limitation Offered: F-S.
COURSES

Physics 280—General Physics: Electricity and Magnetism (4) (CAN PHYS 12)

Prerequisite: Physics 185 and two semesters of calculus.

Three hours lecture, one hour problem session, three hours laboratory. Transfer Credit: CSU; UC credit limitation Offered: F.

Physics 285—General Physics: Thermodynamics, Light, Relativity, Quantum Physics (4) (CAN PHYS 14)

Prerequisite: Physics 280 or 185 with grade of "C" or better.

Heat, light, modern physics. Three hours lecture, one hour problem session, three hours laboratory. Transfer Credit: CSU; UC credit limitation Offered: S.

POLITICAL SCIENCE

Political Science 101—Survey of Current Issues (3)

An in-depth analysis of crucial current problems in American society and/or the world. Study will be directed toward a definition of issues, acquisition of pertinent factual data, assessment of the validity and relevancy of information, a determination of ideological and value conflict and the evaluation of problem solutions. May be taken for grades or on a credit-no credit basis. Three hours. Transfer Credit: CSU; UC Offered: F;S;Sum.

Political Science 110—Introduction to International Relations (3)

Introduction to international politics. Study of the relations of nation-states including the functions of power, ideology, diplomacy, international law, and organization, as well as military and economic factors. Consideration of United States, Russian, and Chinese foreign policy and prominent cold war and post-cold war war problems as they illustrate concepts of international politics. May be taken for grades or on a credit-no credit basis. Three hours. Transfer Credit: CSU; UC Offered: F;S.

Political Science 115—California Politics and Government (3)

A practical, contemporary examination of the forces and factors which shape the making of public policy on the state and local levels of government in California. Current issues and problems will be emphasized. May be taken for grades or on a credit-no credit basis. Three hours. Transfer Credit: CSU Offered: as needed.

Political Science 125—Introduction to Urban Politics and Government (3)

A study of governmental problems at the urban level. Particular emphasis is given to contemporary issues facing the Orange County urban community. Alternative solutions and conflicting viewpoints are examined. May be taken for grades or on a credit-no credit basis. Three hours. Transfer Credit: CSU Offered: as needed.

Political Science 180—Introduction to Government (3) (CAN GOVT 2)

An introduction to the principles and problems of government with particular emphasis on the American political system at all levels. This course satisfies the state university requirements in the Constitution of the United States, state and local government. May be taken for grades or on a credit-no credit basis. Three hours. Transfer Credit: CSU; UC credit limitation Offered: F;S;Sum.

Political Science 180H—Honors Introduction to Government (3)

An introduction to the principles and problems of government with particular emphasis on the American political system at all levels. This course satisfies the state college requirements in the Constitution of the United States, state and local government. May be taken for grades or on a credit-no credit basis. Three hours. Transfer Credit: CSU; UC credit limitation Offered: as needed.

Political Science 185—Introduction to Comparative Government (3)

A comparative study of constitutional principles, governmental institutions, and political problems of selected governments abroad. Particular attention is given to Great Britain, Soviet Union, France, and Germany. May be taken for grades or on a credit-no credit basis. Three hours. Transfer Credit: CSU; UC Offered: F;S.

Political Science 190—Introduction to American Legal System (3)

The American legal system focusing on contemporary problems and controversies. May be taken for grades or on a credit-no credit basis. Three hours. Transfer Credit: CSU; UC Offered: as needed.

Political Science 195—Introduction to Community Organizing (3)

Problems and methods of organizing citizen action groups. Types of organizations, resource information, tactics and strategies. Review of existing citizen action organizations. May be taken for grades or on a credit-no credit basis. Three hours. Transfer Credit: CSU Offered: as needed.

POLYSOMNOGRAPHY

Polysomnography 150—Introduction to Polysomnography (3)

Corequisite: Polysomnography 160.

Beginning polysomnography includes a fundamental and detailed study of the various sleep disorders, their symptoms, consequences, treatments, and polysomnographic manifestations. Sleep stage scoring, pattern recognition, and data computation are covered. Instruction in patient examination and history taking for sleep disorders. Three hours. Transfer Credit: CSU Offered: F;even yrs..

Polysomnography 160—Polysomnography Testing (2)

Corequisite: Neurodiagnostic Technology 110 or concurrent enrollment.

Polysomnography 165—Polysomnography Clinical 1 (.5) (9 week course)

Corequisite: Allied Health 115.

Clinical application of polysomnographic testing at an affiliated sleep disorder center to include patient interaction, application of testing equipment, and monitoring sleep behavior. Offered on a credit-no credit basis only. Five hours non-lecture. Transfer Credit: CSU Offered: F;even yrs..

Polysomnography 170—Polysomnographic Practice (1)

Corequisite: Polysomnography 150 and 160.

Preparatory course for polysomnography clinical experience. Topics will include medical ethics, clinical emergencies, behavioral and performance objectives, and employability skills. One hour. Transfer Credit: CSU Offered: F;even yrs..

Polysomnography 175—Polysomnography Clinical 2 (1) (4 week course)

Corequisite: Allied Health 115 and Polysomnography 160 and 165.

Clinical application of polysomnographic testing at an affiliated sleep disorder center to include patient interaction, application of testing equipment, and monitoring sleep behavior. Offered on a credit-no credit basis only. Twenty-four hours clinical. Transfer Credit: CSU Offered: Inter

Polysomnography 250—Polysomnography Record Review (2.5) (14 week course)

Corequisite: Polysomnography 150, 160, and 165.

Review of normal and abnormal polysomnographic recordings. Learn to recognize normal and abnormal sleep and breathing patterns and behaviors, artifacts, titration of CPAP, BiPAP, and oxygen. Scoring and calculation of polysomnographic recordings. Three hours. Transfer Credit: CSU Offered: S;odd yrs.
Psychology 100—Introductory Psychology (3) (CAN PSY 2)

Introduction to the scientific study of human behavior. Designed to provide the student with a basic background in the principal areas, problems, and concepts of psychology. May be taken for grades or on a credit-no credit basis. Three hours. Transfer Credit: CSU; UC Offered: F;S;Sum.

Psychology 105—Psychology of Women (3)

This course evaluates traditional theories of the psychology of women and how they relate to women today. It will examine what science has taught us about the nature of women and how their psychology differs from that of men. May be taken for grades or on a credit-no credit basis. Three hours. Transfer Credit: CSU; UC Offered: F;S.

Psychology 110—Psychology of Adjustment (3)

The study of the concepts and principles of personal and social adjustment. Various theories of healthy adjustment are explored that include humanistic, cognitive, behavioral, psychodynamic, and biological approaches. These theories are coupled with the personal discipline and responsibility of the individual student. The material is geared to be relevant and applicable to contemporary society. May be taken for grades or on a credit-no credit basis. Three hours. Transfer Credit: CSU; UC credit limitation Offered: F;S;Sum.

Psychology 117—Stress Management (1-3) (9-18 week course)

The nature and causes of stress. The effects of stress on psychological and physical well-being. Methods and techniques of stress reduction. May be taken for grades or on a credit-no credit basis. One to six hours. Transfer Credit: CSU Offered: F;S;Sum.

Psychology 125—Introduction to Counseling and Peer Helping (3)

An introductory course designed for students interested in counseling or helping roles: professional, paraprofessional, volunteer and peer. Basic theories and practices will be examined and analyzed within the human relations model. The student will learn techniques of attending, listening and responding, as well as ethics, intervention and referral. May be taken for grades or on a credit-no credit basis. Four hours lecture. Transfer Credit: CSU Offered: F;S.

Psychology 140—Psychology of Adult Development and Aging (3)

Traditional myths and stereotypes are examined in the light of scientific discoveries of the psychological aspects of aging. Special emphasis is placed on the unique developmental needs, tasks, and roles which confront each of us as we progress through the middle and advanced years. May be taken for grades or on a credit-no credit basis. Three hours. Transfer Credit: CSU; UC Offered: F;S;Sum.

Psychology 156—An Introduction to Psychological Principles for Human Services (2) (9 week course)

Recommended preparation: Psychology 100. Preparation for a career in the area of human services. Exposes the student to practical applications of Logotherapy, Axiotherapy, Direct Decision Therapy, and Behavior Modification. Four hours. Transfer Credit: CSU Offered: as needed.

Psychology 157—An Introduction to Psychological Principles for Business (3)

Recommended preparation: Psychology 100. Psychology concepts applicable to business, includes foundations of business psychology, goal theory, motivational concepts, behavior modification, humanism, interviewing techniques, psychological testing, decision making, stress management, crisis intervention, assertiveness training. Useful as in-service, as well as pre-employment training in business. May be taken for grades or on a credit-no credit basis. Three hours. Transfer Credit: CSU Offered: as needed.

Psychology 158—Introduction to Abnormal Psychology (3)

Prerequisite: Psychology 100. An introduction to emotional and mental disorders from a biological, sociological, and psychological approach. Recommended for, but not limited to, psychology and/or other mental health care career students, psychology technicians, human services personnel, MFCC and LCSW students. May be taken for grades or on a credit-no credit basis. Three hours. Transfer Credit: CSU; UC Offered: F;S.

Psychology 160—Statistics for the Behavioral Sciences (3) (CAN PSY 6)

Prerequisite: Mathematics 030 or qualifying OCC mathematics placement score. See mathematics assessment requirement. Basic statistical procedures and their application to research and practice in the various areas of the behavioral sciences. Calculations and meaning of descriptive and inferential statistics including estimation, correlation, regression, sampling theory, hypothesis testing, Z test, analysis of variance, T test and nonparametric statistics. May be taken for grades or on a credit-no credit basis. Students completing Mathematics 160 may petition for alternative credit for Psychology 160. Three hours. Transfer Credit: CSU; UC credit limitation Offered: F;S.

Psychology 165—Introduction to Human Sexuality (3)

Scientific analysis of human sexual behavior from the psychological, sociological, and physiological points of view. Designed to provide the academic and theoretical basis for the entire field of human sexuality. May be taken for grades or on a credit-no credit basis. Same as Sociology 165. Students completing Psychology 165 may not receive credit for Sociology 165. Three hours. Transfer Credit: CSU; UC credit limitation Offered: F;S;Sum.

Psychology 175—Advanced Human Sexuality (3)

Prerequisite: Psychology 165 or Sociology 165. Personality and socialization as related to sexual behavior, problems, and sexual dysfunction. How knowledge, preferences, lifestyle, awareness, and education influence sexuality. May be taken for grades or on a credit-no credit basis. Same as Sociology 175. Students completing Psychology 175 may not receive credit for Sociology 175. Three hours. Transfer Credit: CSU; UC credit limitation Offered: F;S.
Psychology 185—Principles of Psychology (3)
Prerequisite: Psychology 100.
This course is a survey of contemporary research in the subfield of psychology and addresses the processes underlying behavior, biology and behavior, and social behavior with an emphasis on contemporary interests, recent discoveries, and innovations in the field of psychology. Recommended for general education and for students majoring in the behavioral sciences. Three hours. Transfer Credit: CSU; UC Offered: F,S.

Psychology 199AD—Current Topics in Psychology (.5-3) (1-18 week course)
Study and discussion of topics and issues of current interest in psychology. Units vary according to topic selected, semester offered, and number of meetings scheduled. Of interest to the student majoring in psychology, social science or general education. May be taken for grades or on a credit-no credit basis. One half hour to three hours. Transfer Credit: CSU; UC credit limitation Offered: F,S.

Psychology 215—Psychology of Behavior Modification and Assertion (2) (9 week course)
Learn cognitive and behavioral change techniques especially relevant to personal and social behaviors, such as assertiveness. May be taken for grades or on a credit-no credit basis. Four hours. Transfer Credit: CSU Offered: F,S.

Psychology 220—Psychology of Personality (3)
Prerequisite: Psychology 100.
A survey of the individual intellectual and emotional components of personality and the cultural, social and individualistic influences on it in the context of major theories and current research. May be taken for grades or on a credit-no credit basis. Three hours. Transfer Credit: CSU; UC credit limitation Offered: F,S.

Psychology 250—Elementary Physiological Psychology (3)
Prerequisite: Psychology 100.
Recommended preparation: Psychology 100.
An examination of the brain and its relationship to behavior. The following topics will be examined: the nervous systems, the split brain, the neuron, vision, hearing, taste, smell, sleep and dreaming, emotion, eating and drinking, memory, perception of pain, biofeedback, biological clocks, depression, and schizophrenia. Three hours. Transfer Credit: CSU; UC Offered: F,S.

Psychology 260—Introductory Social Psychology (3)
The scientific study that seeks to understand the nature and causes of individual behavior in social situations. Topics include awareness/cognition, attitudes/persuasion, prejudice/discrimination, attraction/love, conformity/obedience, aggression/Violence, loyaling/leadership, and illness prevention/wellness. Three hours. Transfer Credit: CSU; UC Offered: F,S.

Psychology 277—Psychology of Teaching Practice (2)
Exposure to the actual classroom environment as a teacher assistant. The professor and student will arrange a suitable grade level placement in a public/private school for a minimum of five hours per week. Offered on a credit-no credit basis only. Transfer Credit: CSU Offered: F,S.

Psychology 280—Introduction to Experimental Methods (4) (CAN PSY 5)
Prerequisite: Psychology 100.
This course addresses the principles and techniques which enter into experimental research concerning behavior and emphasizes designing, conducting, analyzing, and reporting research in the behavioral sciences. Three hours lecture, three hours laboratory. Transfer Credit: CSU; UC Offered: F,S.

RADIOLOGIC TECHNOLOGY
Radiologic Technology 105—Fundamentals of Radiation Protection Practices (1) (4 week course)
The fundamentals of radiation protection and radiobiology. A study of the effects of radiation in humans and the principles of protection as applied to potential CVT and other occupational radiation workers. This course will not meet the requirements of radiation protection for the Department of Radiological Health for limited permit or CRT radiographers. Four hours lecture, one-half hour arranged. Transfer Credit: CSU Offered: F.

Radiologic Technology 110—Radiological Physics and Protection (3)
Prerequisite: Technology 040 and Biology 221.
The fundamentals of radiation and radiological physics. Operation of medical radiographic x-ray units. A study of the effects of radiation in humans and the principles of protection as applied to radiography. Introduction to health physics instrumentation with a study of radiation control regulations. Two and one-half hours lecture, one and one-half hours laboratory. Transfer Credit: CSU Offered: F.

Radiologic Technology 165—Beginning Radiologic Practice (1.5) (9 week course)
Prerequisite: Allied Health 111.
Introduction to radiographic positioning principles, study of contrast media, acquaintance with x-ray apparatus, and laboratory practice and film critique of chest, abdominal studies and upper extremities. Two hours lecture, four hours laboratory. Transfer Credit: CSU Offered: F.

Radiologic Technology 171—Clinical Lab 1 (1) (8 week course)
Prerequisite: Radiologic Technology 165 and Allied Health 115.
Clinical experience in an affiliated radiology department under the supervision of certified radiology and health care personnel. Radiographic skills in chest and abdomen procedures will be emphasized. Sixteen hours clinical. Transfer Credit: CSU Offered: F.

Radiologic Technology 172—Clinical Lab 2 (1) (4 week course)
Prerequisite: Radiologic Technology 171.
Clinical experience in an affiliated radiology department under the supervision of certified radiology and health care personnel utilizing a condensed format. Radiographic skills to include assisting with routine contrast media studies of the GI and GU tracts. Thirty-two hours clinical. Transfer Credit: CSU Offered: Inter.
Radiologic Technology 175—Radiographic Positioning and Critique 2 (3)
Prerequisite: Radiologic Technology 170.
Radiographic positioning principles, laboratory practice, and film critique of the lower extremities, vertebral column, and basic skull. Overview of common pathologies of identified areas. Two hours lecture, four hours laboratory. Transfer Credit: CSU Offered: S.

Radiologic Technology 176—Clinical Lab 3 (5.5)
(16 week course)
Prerequisite: Radiologic Technology 171 and 172.
Clinical experience in an affiliated radiology department under the supervision of certified radiology and health care personnel. Radiographic skills to be emphasized will be fluoroscopic procedures, GU tract, upper and lower extremities, and routine spinal column. Twenty-four hours clinical. Transfer Credit: CSU Offered: S.

Radiologic Technology 177—Clinical Lab 4 (3)
(8 week course)
Prerequisite: Radiologic Technology 176.
Clinical experience in an affiliated radiology department under the supervision of certified radiology and health care personnel. Radiographic skills to be emphasized will be routine skull radiography, portable radiography, minor special procedures, and introduction to pediatric and trauma radiography. Thirty-two hours clinical. Transfer Credit: CSU Offered: S.

Radiologic Technology 180—Radiographic Imaging (3)
Prerequisite: Technology 040.
Introduction to factors influencing radiographic image formation, principles of film processing, x-ray exposure techniques and essentials of radiographic quality. Radiographic image critique skills will be developed. Two hours lecture, three hours laboratory. Transfer Credit: CSU Offered: F.

Radiologic Technology 185—Radiographic Pathology (1)
(9 week course)
Prerequisite: Radiographic Technology 170.
Advanced study, identification, and critique of common radiographic pathologies in major body systems. Assists the learner in providing quality patient care. Two hours. Transfer Credit: CSU Offered: S.

Radiologic Technology 265—Principles of Digital Imaging and Computer Applications (3)
Prerequisite: Radiologic Technology 165.
Introduction to digital imaging, CT and MRI and computer systems as utilized in radiology departments. Overview of digital and analog devices with emphasis on computers and required peripheral equipment. Basic imaging principles as applied to computerized tomography and magnetic resonance to include physics, imaging protocols, R/F electronics and gradient coil design and use. Software and display strategies for each modality will be discussed. Course does not include clinical experience. Three hours. Transfer Credit: CSU Offered: F.

Radiologic Technology 270—Radiographic Positioning and Critique 3 (3)
Prerequisite: Radiologic Technology 175.
Radiographic positioning, film critique of advanced skull to include sinuses, TMJs, mastoids, mandible, facial bones, bony thorax and pelvic girdle. Introduction to ancillary imaging modalities including sectional anatomy. Two hours lecture, three hours laboratory. Transfer Credit: CSU Offered: F.

Radiologic Technology 271—Clinical Lab 5 (7.5)
(16 week course)
Prerequisite: Radiologic Technology 177.
Clinical experience in an affiliated radiology department under the supervision of certified radiology and health care personnel. Emphasis on independent radiography and decision making. Advanced cranial studies and torso exams will be emphasized. Thirty-two hours clinical. Transfer Credit: CSU Offered: F.

Radiologic Technology 275—Radiographic Positioning and Critique 4 (3)
Prerequisite: Radiologic Technology 270.
Introduction to advanced imaging principles and procedures to include diagnostic specials, interventional angiography, CT and MR. Sectional anatomy as related to these imaging procedures will be discussed. Principles of mammographic imaging per California State (RHB) regulations. Introduction to quality assurance principles and techniques. Elements of professional development. Two hours lecture, two hours laboratory. Transfer Credit: CSU Offered: S.

Radiologic Technology 276—Clinical Lab 6 (1)
(4 week course)
Prerequisite: Radiologic Technology 271.
Clinical experience in an affiliated radiology department under the supervision of certified radiology and health care personnel. Radiographic skills emphasized are advanced contrast media procedures, trauma, portable radiography, pediatric and surgical exams. Thirty-two hours clinical. Transfer Credit: CSU Offered: S.

Radiologic Technology 277—Clinical Lab 7 (5.5)
(16 week course)
Prerequisite: Radiologic Technology 276.
Clinical experience in an affiliated radiology department under the supervision of certified radiology and health care personnel. Emphasis on independent radiography and decision making. Professional growth and program exit skills are expedited. Twenty-four hours clinical. Transfer Credit: CSU Offered: S.

Radiologic Technology 285—CRT/ARRT Board Preparation (1)
(8 week course)
Prerequisite: Radiologic Technology 110.
Comprehensive categorical review of diagnostic radiologic technology in preparation for state and national certification boards. Two hours. Transfer Credit: CSU Offered: S.

Radiologic Technology 290—Applied Physics & Fluoroscopy (4)
Prerequisite: Radiologic Technology 110.
Applied principles of physics to current radiographic equipment including fluoroscopy, image viewing, and recording systems, and tomography. Study of knowledge and skills required to qualify student for fluoroscopy component of state licensure exam. Review of imaging concepts, x-ray beam quantity and quality, and radiation protection. Four hours. Transfer Credit: CSU Offered: S.

REAL ESTATE
Real Estate 110—Real Estate Principles (3)
Offered: S.
Real Estate 120—Legal Aspects of Real Estate (3)
Prerequisite: Real Estate 110, or real estate license.

RELIGIOUS STUDIES
Religious Studies 100—Introduction to Religious Studies (3)
An introduction to the study of religion as an academic discipline with particular emphasis on the nature of religion, the methods used to study religious life, ways of expressing religious experience, and the practice of religion. May be taken for grades or on a credit-no credit basis. Three hours. Transfer Credit: CSU Offered: F;S.
Religious Studies 110—World Religion (3)
An identification of the nature of religious thinking and belief. The variety of patterns developed in both the West and the East are explored with a special emphasis on the relevance to the contemporary intellectual world. May be taken for grades or on a credit-no credit basis. Same as Philosophy 110. Students completing Religious Studies 110 may not receive credit for Philosophy 110. Three hours. Transfer Credit: CSU; UC Offered: F-S, Sum.

Religious Studies 115—Philosophy of Religion (3)
An examination of key issues and problems of religion, including the nature and significance of religion and religious experience, arguments for and against the existence of God, the nature of God, the problem of evil, and the relation between science and religion. May be taken for grades or on a credit-no credit basis. Same as Philosophy 115. Students completing Religious Studies 115 may not receive credit for Philosophy 115. Three hours. Transfer Credit: CSU; UC Offered: F-S.

Religious Studies 120—Ethics (3)
An introduction to ethical theories and problems. An analysis of the theories and principles on which moral judgments are based and the way these judgments are used in moral problems such as abortion, euthanasia, capital punishment, sexual equality, discrimination, censorship and economic justice. Special attention will be given to the kinds of arguments used in ethical discussion. May be taken for grades or on a credit-no credit basis. Same as Philosophy 120. Students completing Religious Studies 120 may not receive credit for Philosophy 120. Three hours. Transfer Credit: CSU; UC Offered: F-S.

Religious Studies 125—Introduction to the Bible (3)
This course covers the field of general Biblical introduction, including higher criticism, canonicity, methods of textual transmission, and the history of the Bible in English. May be taken for grades or on a credit-no credit basis. Three hours. Transfer Credit: CSU; UC Offered: F-S.

Religious Studies 126—History of Christianity (3)
A history of Christianity focusing on its central periods, personalities and ideas from its origins to the present. May be taken for grades or on a credit-no credit basis. Three hours. Transfer Credit: CSU; UC Offered: as needed.

Religious Studies 130—Life and Times of Jesus (3)
A study of the historical situation of the world of Jesus’ day and an investigation of the main outlines of His life and teaching. The contribution of Judaism and the Greek and Roman world to the shaping of the Christian religion. May be taken for grades or on a credit-no credit basis. Three hours. Transfer Credit: CSU; UC Offered: as needed.

Religious Studies 140—History of Judaism (3)
This course surveys the history of Judaism from the earliest possible time to the present time. It describes the time prior to Abraham and discusses the development of the literature, rituals, and ceremonies through the centuries to the present time. It shows the impact of Jewish practices and thought on the changing world. May be taken for grades or on a credit-no credit basis. Three hours. Transfer Credit: CSU; UC Offered: as needed.

Religious Studies 145—Mysticism and Meditation (3)
An identification of the nature of mysticism. An examination of the varieties of mysticism in the world with special emphasis on their development and practices. Meditation techniques related to mystical experiences and explained. May be taken for grades or on a credit-no credit basis. Three hours. Transfer Credit: CSU; UC Offered: as needed.

Religious Studies 150—Eastern Thought (3)
An introduction to the religions of Asia including Hinduism, Buddhism, Taoism, and Confucianism. In addition to historical background and the current status of the religion, the course will focus on the scripture of each religion. May be taken for grades or on a credit-no credit basis. Three hours. Transfer Credit: CSU; UC Offered: as needed.

Religious Studies 155—Contemporary Religious Movements (3)
An identification of the nature of religious movements, sects and cults in America and their relationship to current historical religions. The relations of current movements to the American culture and to the individual. Eastern religious influences and their relevance to the contemporary world. Recommended for religious studies and philosophy majors. May be taken for grades or on a credit-no credit basis. Three hours. Transfer Credit: CSU; UC Offered: as needed.

Religious Studies 160—Contemporary Religious Movements (3)
The nature of current religious developments, such as sects and cults in America and their relationship to current historical religions. The relation of current movements to the American culture and to the individual. Eastern religious influences and their relevance to the contemporary world. Recommended for religious studies and philosophy majors. May be taken for grades or on a credit-no credit basis. Three hours. Transfer Credit: CSU; UC Offered: as needed.

Religious Studies 170—The Bible as Literature (3)
Recommended preparation: English 100. Read, analyze, and write about important texts of the Old and New Testament. Examine the philosophical, cultural, mythic, religious, and historical elements related to Bible literature. Appreciate the literary devices and styles evident in the books of the Bible and the commentary made by individual works in the Bible on moral, social, and aesthetic issues. Examine the influence of the Bible on the student’s own cultural background. Same as English 141. Students completing Religious Studies 180 may not receive credit for English 141. May be taken for grades or on a credit-no credit basis. Three hours. Transfer Credit: CSU; UC Offered: F-S.

Religious Studies 180—The Bible and the Cultural Experience (3)
Courses that are transferable to the University of California are designated “UC”. Some of these courses have limits on the amount of credit that is granted. See the UC Transferable Course List available in the Counseling Center or Transfer Center for these limitations.

Religious Studies 185—Contemporary Religious Movements (3)
The nature of current religious developments, such as sects and cults in America and their relationship to current historical religions. The relation of current movements to the American culture and to the individual. Eastern religious influences and their relevance to the contemporary world. Recommended for religious studies and philosophy majors. May be taken for grades or on a credit-no credit basis. Three hours. Transfer Credit: CSU; UC Offered: as needed.

RESPIRATORY CARE

Respiratory Care 185—Respiratory Anatomy and Physiology (3)
Prerequisite: Biology 221. Anatomy and physiology of the cardiopulmonary system with emphasis on abnormalities of function and clinical assessment by respiratory therapists. Includes anatomy of the pulmonary and cardiac systems, pulmonary ventilation, respiratory mechanics, pulmonary blood flow, diffusion, oxygen transport, hypoxemia and hypoxia, carbon dioxide transport, acid-base balance, and regulation of respiration. Three hours. Transfer Credit: CSU Offered: F.

Respiratory Care 190—Basic Respiratory Care Equipment (3)
Prerequisite: Respiratory Care 185. Corequisite: Respiratory Care 191 and 195. The theories of equipment operation, procedures, and rationale for treatment of cardiorespiratory illness including use of compressed gases, humidity, and aerosol equipment used in oxygen therapy, oxygen analysis, infection control, hyperinflation techniques, basic ventilation measurement, and intermittent positive pressure breathing (IPPB) and chest physiotherapy. Emphasizes clinical application of equipment and techniques. Two hours lecture, three hours laboratory. Transfer Credit: CSU Offered: S.

Respiratory Care 191—Clinical Lab 1 (1.5)
Prerequisite: Concurrent enrollment in Respiratory Care 190 and 195. Beginning clinical practice of procedures presented in Respiratory Care 190. Includes hospital and respiratory therapy department orientation, recordkeeping, patient chart evaluation, use of compressed gases, medical gas therapy, humidity and aerosol therapy, drug administration, sterilization and cleaning of equipment, incentive spirometry, IPPB and chest physiotherapy, and patient assessment. Offered on a credit-no-credit basis only. Eight hours laboratory clinical. Transfer Credit: CSU Offered: S.

Respiratory Care 192—Clinical Lab 2 (1) (4 week course)
Prerequisite: Respiratory Care 190, 191, and 195. Continued applications of procedures and concepts of basic clinical therapy presented in the first year of the respiratory care program. Application and skills evaluation in advanced administration of aerosol therapy, IPPB, pharmacological agents, chest physiotherapy, medical gases, and patient assessment. Offered on a credit-no-credit basis only. Twenty-four hours clinical. Transfer Credit: CSU Offered: Sum.
Respiratory Care 195—Respiratory Pharmacology (1) (9 week course)
Prerequisite: Respiratory Care 185.
Corequisite: Respiratory Care 190 and 191.
A study of drugs and their administration in treating respiratory pathologies. Includes bronchodilators, steroids, mucokinetics, antibiotics and respiratory stimulants and depressants. Two hours. Transfer Credit: CSU Offered: S.

Respiratory Care 255—Home Care and Rehabilitation (2)
Prerequisite: Respiratory Care 190
Corequisite: Respiratory Care 276.
Techniques and operation of respiratory home care and pulmonary rehabilitation. Includes special equipment set-up, patient and family education, patient evaluation, and care of the ventilator-dependent patient at home. Also includes regulations of home care and third-party reimbursement. Two hours. Transfer Credit: CSU Offered: F.

Respiratory Care 260—Arterial Blood Gases, Theory and Practice (2.5)
Prerequisite: Respiratory Care 185.
Interpretation of arterial blood gases, arterial puncture technique, blood gas analysis. Interpretation of fluid and electrolyte imbalances, renal physiology and acid base control, phlebotomy theory. Two hours lecture, one hour non-lecture. Transfer Credit: CSU Offered: F.

Respiratory Care 265—Pulmonary Pathology (3)
Prerequisite: Respiratory Care 185.
The study of cardiopulmonary disease processes with an emphasis on pathophysiology, manifestations and treatment. Relates each disease state to pulmonary evaluation, testing and treatment. Three hours. Transfer Credit: CSU Offered: F.

Respiratory Care 270—Ventilators and Respiratory Management (2)
Prerequisite: Respiratory Care 260.
Corequisite: Respiratory Care 276.
Principles and techniques of management of patients requiring ventilatory support. Includes mechanical descriptions of ventilators in common use (including laboratory demonstrations and hands-on practice), as well as patient assessment of need for ventilatory support along with assessment for changes in ventilatory support techniques. One hour lecture, three hours laboratory. Transfer Credit: CSU Offered: F.

Respiratory Care 275—Respiratory Care Procedures (3)
Prerequisite: Respiratory Care 185.
Corequisite: Respiratory Care 276.
Respiratory Care procedures including physical assessment of the chest, chest x-ray assessment, airway management, bronchoscopy, chest tube drainage, electrocardiogram performance and interpretation and ALS procedures. Two hours lecture, three hours laboratory. Transfer Credit: CSU Offered: F.

Respiratory Care 276—Clinical Lab 3 (3)
Prerequisite: Respiratory Care 192.
Corequisite: Respiratory Care 270 and 275.
Clinical application of procedures and concepts presented in Respiratory Care 260, 270 and 275, as well as continuing experience in the skills utilized in Respiratory Care 191 and 192. Includes arterial puncture and analysis, airway management, artificial airways, mechanical aspiration of secretions, bronchoscopy, ventilatory management, patient assessment and monitoring, and other therapeutic measures as related to pathological processes. Offered on a credit-no credit basis only. Sixteen hours clinical. Transfer Credit: CSU Offered: F.

Respiratory Care 278—Pulmonary Case Assessment (1) (4 week course)
Prerequisite: Respiratory Care 276.
Assessment of critical pulmonary patients with emphasis on assessment techniques, critical care procedures, and management techniques as applied to case studies. Includes use of both actual and simulated patient scenarios using information gathering and decision making by the respiratory care practitioner. Four hours seminar, eight hours clinical. Transfer Credit: CSU Offered: Intersession.

Respiratory Care 279—Physician Series 1 (1)
Corequisite: Respiratory Care 276.
Physician presentations on current topics in pulmonary medicine emphasizing patient assessment and treatment. Discussion with physicians about individual clinical problems. One hour. Transfer Credit: CSU Offered: F.

Respiratory Care 280—Critical Care Monitoring (1) (14 week course)
Prerequisite: Respiratory Care 260 and 270.
Corequisite: Respiratory Care 286.
Discussion of theory, use, and application of medical techniques used to monitor cardiopulmonary status, and advanced techniques of diagnosis and treatment. Includes hemodynamic monitoring and in vivo blood gas monitoring. Two hours. Transfer Credit: CSU Offered: S.

Respiratory Care 285—Pulmonary Function Testing (2) (14 week course)
Prerequisite: Respiratory Care 260 and 265.
Theory and application of function testing by mechanical and electronic devices. Two hours lecture, two hours non-lecture. Transfer Credit: CSU Offered: S.

Respiratory Care 286—Clinical Lab 4 (2.5) (14 week course)
Prerequisite: Respiratory Care 276.
Corequisite: Respiratory Care 280 and 290.
Clinical application of respiratory therapy primarily in critical care areas. Includes airway management, patient assessment, ventilator mechanics and management, and monitoring of the critically ill patient. Offered on a credit-no credit basis only. Sixteen hours clinical. Transfer Credit: CSU Offered: S.

Respiratory Care 287—Clinical Internship (2) (4 week course)
Prerequisite: Respiratory Care 286.
Advanced clinical utilization of knowledge and skills in critical care or specialty areas. Cumulative application of assessment, diagnostic, therapeutic, and judgmental skills acquired within the respiratory care program. Offered on a credit-no credit basis only. Forty hours laboratory/clinical. Transfer Credit: CSU Offered: S.

Respiratory Care 289—Physician Series 2 (1) (14 week course)
Prerequisite: Respiratory Care 286.
Advanced level physician presentations on current topics in pulmonary medicine emphasizing patient assessment and treatment. Discussion with physicians about individual clinical problems. 1.3 hours lecture per week. Transfer Credit: CSU Offered: S.

Respiratory Care 290—Neonatal Intensive Care (2) (14 week course)
Prerequisite: Respiratory Care 260, 270 and 275.
Corequisite: Respiratory Care 286.
Theory and practice of neonatal intensive respiratory care with an emphasis on the role of the respiratory care practitioner. Includes fetal anatomy and physiology, delivery and assessment, resuscitation techniques, neonatal pathologies, respiratory care diagnostic techniques and therapeutic procedures, and techniques for mechanical ventilation. Provider approved by the California Board of Registered Nursing. CEP #12555 for 56 hours. Two hours lecture, two hours non-lecture. Transfer Credit: CSU Offered: S.

SPECIALTIES

Social Science 011—Career Opportunities in the Social Sciences (3)
Survey of the diverse career opportunities for the social science major including methods of securing positions. May be taken for grades or on a credit/no credit basis. Three hours. Offered: as needed.

Social Science 100—Cultural Dimensions of International Trade (3)
The understanding and study of the global corporation in its political, cultural, geographic, historical and ethical settings. Three hours. Transfer Credit: CSU Offered: as needed.
Sociology 110—Introduction to Marriage and the Family (3)
The family, its structures and functions. Emphasis on the sociological theory and research on marriage, kinship systems, components of mate selection, intimate relationships, and child-rearing practices. The family is examined in historical perspective and in relation to social change. Three hours. Transfer Credit: CSU Offered: F,S.

Sociology 112—Sociology of Divorce (3)
The sociological, psychological, economical, and legal aspects of divorce with emphasis on changes in self-concept, as well as parental and child adjustments. May be taken for grades or on a credit/no-credit basis. Three hours. Transfer Credit: CSU Offered: as needed.

Sociology 115—Contemporary Chicano (3)
An investigation and study of the concerns, issues, and problems facing the Chicano in American life, particularly in California, since the 1930s. May be taken for grades or on a credit/no-credit basis. Three hours. Transfer Credit: CSU; UC Offered: as needed.

Sociology 120—Population: Issues and Trends (3)
Survey of trends, characteristics, and distributions of populations in various societies. Analysis of patterns of fertility, mortality, and migrations as affected by social, cultural, economic, and political factors. Attention to causes and consequences of different rates of growth. May be taken for grades or on a credit/no-credit basis. Three hours. Transfer Credit: CSU; UC Offered: as needed.

Sociology 125—Introduction to Environment, Energy, and Society (3)
An introduction to the social and institutional factors contributing to environmental problems. The origins of environmental problems in social organization, the history of the environmental movement, and the sociology of energy and food production will be covered. May be taken for grades or on a credit/no-credit basis. Three hours. Transfer Credit: CSU; UC Offered: F,S.

Sociology 150—Multicultural Behavior (3)
Multicultural approaches to cultural diversity including immigration policy, affirmative action, and bilingual debates. Intercultural comparisons including Native American, African American, Hispanic American, Asian American, and European American cultural traditions. Social science theories and methodologies for development of positive intercultural relationships. Same as Anthropology 150. Students completing Sociology 150 may not receive credit for Anthropology 150. May be taken for grades or on a credit/no-credit basis. Three hours. Transfer Credit: CSU; UC Offered: F,S.

Sociology 165—Introduction to Human Sexuality (3)
Scientific analysis of human sexual behavior from the psychological, sociological and physiological points of view. Designed to provide the academic and theoretical basis for the entire field of human sexuality. May be taken for grades or on a credit/no-credit basis. Same as Psychology 165. Students completing Sociology 165 may not receive credit for Psychology 165. Three hours. Transfer Credit: CSU; UC credit limitation Offered: F,S;Sum.

Sociology 175—Advanced Human Sexuality (3)
Prerequisite: Sociology 165 or Psychology 165. Personality and socialization as related to sexual behavior, problems, and sexual dysfunction. How knowledge, preferences, lifestyle, awareness, and education influence sexuality. Same as Psychology 175. Students completing Sociology 175 may not receive credit for Psychology 175. May be taken for grades or on a credit/no-credit basis. Three hours. Transfer Credit: CSU; UC credit limitation Offered: F,S.

Sociology 180—Introductory Sociology (3) (CAN SOC 2)
The study of social relationships and human group organization. Attention is given to the foundations of society, culture, group organization, social differentiation and the methods of sociological study. Emphasis is on American social institutions. Three hours. Transfer Credit: CSU; UC credit limitation Offered: F,S;Sum.

Sociology 180H—Honors Introductory Sociology (3)
The study of social relationships and human group organization. Attention is given to the foundations of society, culture, group organization, social differentiation, and the methods of sociological study. Emphasis is on American social institutions. Three hours. Transfer Credit: CSU; UC credit limitation Offered: as needed.

Sociology 185—Analysis of Social Problems (3) (CAN SOC 4)
An analysis of contemporary social problems. Topics include global ecology, political economy, sexual behavior, drug use, racism, sexism, ageism, education, environment, health issues, crime, and violence. Three hours. Transfer Credit: CSU; UC credit limitation Offered: as needed.

Sociology 185H—Honors Analysis of Social Problems (3)
An analysis of contemporary social problems. Topics include global ecology, political economy, sexual behavior, drug use, racism, sexism, ageism, education, environment, health issues, crime, and violence. Three hours. Transfer Credit: CSU; UC credit limitation Offered: as needed.

Sociology 190—The Ethnic Family (3)
Ethnic and minority families in the United States today. Emphasis on family interaction, child training patterns, the family's relationship to society and community-helping agencies. Same as Ethnic Studies 190. Students completing Sociology 190 may not receive credit for Ethnic Studies 190. May be taken for grades or on a credit/no-credit basis. Three hours. Transfer Credit: CSU; UC Offered: odd yrs.

Sociology 200—Society and the Individual (3)
The development of the individual as group participant, the functions of norms, sanctions and social controls. Special attention to theories of socialization, conformity and deviance. Three hours. Transfer Credit: CSU; UC Offered: F.

Sociology 206—Sociology of Death and Dying (3)
An analysis of information and attitudes concerning death and bereavement in our society. Within this framework the following will be examined: dying as a social process, functions of bereavement behavior, fear of death and dying, death related rituals, demographic aspects of mortality, developmental responses to death, and ethical issues. May be taken for grades or on a credit/no-credit basis. Three hours. Transfer Credit: CSU Offered: as needed.
SPANISH

Spanish 180 and 185 are not recommended for native speakers of that language. Spanish 160 is more appropriate.

Spanish 110—Spanish Conversation 1 (3)
Fundamental principles of grammar, pronunciation, vocabulary and usage in conversational situations. Emphasis on speaking and comprehension of the spoken language. Designed for students whose primary goal is to speak Spanish. May be taken concurrently with Spanish 180 for additional practice in speaking Spanish. May be taken for grades or on a credit-no credit basis. Three hours. Transfer Credit: CSU Offered: as needed.

Spanish 160—Spanish for Spanish Speakers (5)
Recommended preparation: Bilingual ability in Spanish and English.
Designed for bilingual students of English and Spanish who desire an introduction to Spanish spelling, grammar, reading comprehension, and composition. The course formalizes for the students the Spanish they bring to the class and extends vocabulary, grammatical structures, and cultural significance to standard Spanish. The course is taught in Spanish. May be taken for grades or on a credit-no credit basis. Five hours. Transfer Credit: CSU; UC credit limitation offered: as needed.

Spanish 170—Spanish for International Business 1 (3)
A beginning course in Spanish specifically designed for international business. The basic structures of Spanish and international business vocabulary will be practiced in order to communicate and do business in a Spanish speaking country. Students will also develop a greater understanding of the cultures, economies, and social structures of the Spanish speaking countries. May be taken for grades or on a credit-no credit basis. Three hours. Transfer Credit: CSU Offered: F.S.

Spanish 175—Spanish for International Business 2 (3)
Prerequisite: Spanish 170.
Continuation of Spanish 170. Additional structures of Spanish and international business vocabulary will be practiced in order to communicate and do business in a Spanish speaking country. Students will also continue developing a greater understanding of the culture, economy, and social structure of the Spanish speaking countries. May be taken for grades or on a credit-no credit basis. Three hours. Transfer Credit: CSU Offered: F.S.

Spanish 180—Elementary Spanish (5) (CAN SPAN 2)
Developing elementary proficiency in speaking, listening, reading, and writing Spanish. Introduction to Hispanic cultures through selected readings and discussions. Designed for students seeking to fulfill foreign language requirements and for those who wish an introduction to the language and to the rich and varied cultures in which it is used. May be taken for grades or on a credit-no credit basis. Five hours. Transfer Credit: CSU; UC credit limitation offered: F.S;Sum.

Spanish 180A—Beginning Elementary Spanish (2.5)
An extended course equivalent to the first half of Spanish 180 and intended for students seeking more time to acquire Spanish. Taken together, Spanish 180A and 180B equal Spanish 180. Fundamentals of the Spanish language emphasizing comprehension, speaking, reading, writing, and introduction to selected literary works by leading Hispanic authors depicting culture and philosophic points of view. Not intended for native speakers. May be taken for grades or on a credit-no credit basis. Three hours. Transfer Credit: CSU; UC credit limitation offered: as needed.

Spanish 180B—Continuing Elementary Spanish (2.5)
Prerequisite: Spanish 180A.
An extended course continuing Spanish 180A and equivalent to the second half of Spanish 180 and intended for students seeking more time to acquire Spanish. Includes fundamentals of the Spanish language and culture with practice in reading, writing, speaking, and comprehension of Spanish at the beginning, first semester level. Introduction to selected literary works by leading Hispanic authors depicting culture and philosophic points of view. Not intended for native speakers. May be taken for grades or on a credit-no credit basis. Three hours. Transfer Credit: CSU; UC credit limitation offered: as needed.

Spanish 180H—Honors Elementary Spanish (5)
Prerequisite: Spanish 180.
Continuation of Spanish 180 emphasizing the continued development of elementary proficiency in speaking, listening, reading, and writing Spanish. Further study of Hispanic cultures through selected readings and discussions. Designed for students seeking to fulfill foreign language requirements and for those who wish to expand their knowledge of the language and of the rich and varied cultures in which it is used. May be taken for grades or on a credit-no credit basis. Five hours. Transfer Credit: CSU; UC credit limitation offered: F.S.

Spanish 185—Continuing Elementary Spanish (2.5)
Prerequisite: Spanish 180.
An extended course continuing Spanish 180A and intended for students seeking more time to acquire Spanish. Equivalent to the second half of Spanish 185. Emphasis on developing effective and correct skills in conversation, reading, writing in the Spanish language at a second semester level. Taken together, Spanish 185A and 185B equal Spanish 185. May be taken for grades or on a credit-on credit basis. Three hours. Transfer Credit: CSU; UC credit limitation offered: as needed.

Spanish 185H—Honors Elementary Spanish (5)
Prerequisite: Spanish 180H.
Continuation of Spanish 180H emphasizing the continued development of elementary proficiency in speaking, listening, reading, and writing Spanish. Further study of Hispanic cultures through selected readings and discussions. Designed for students seeking to fulfill foreign language requirements and for those who wish to expand their knowledge of the language and of the rich and varied cultures in which it is used. May be taken for grades or on a credit-no credit basis. Five hours. Transfer Credit: CSU; UC credit limitation offered: F.S.

Spanish 199AD—Current Topics in Spanish (2-5)
(2-18 week courses)
Study and discussion of topics and issues of current interest in the Hispanic world and cultures of Spain, Latin America, and the United States. Group participation by level to develop skills in using Spanish through listening, reading, writing, and speaking activities. This course may also be offered online. May be taken for grades or on a credit-no credit basis. Two to five hours. Transfer Credit: CSU; UC credit limitation offered: F.S;Sum,inter.

Spanish 260—Spanish for Spanish Speakers (5)
Designed to improve the communications skills of Spanish speaking students who need formal training in the language, the course focuses on formal speaking, reading, grammar, spelling, vocabulary building, and composition. The diversity of the Hispanic culture through literature, music, and film will be explored. The course will be taught in Spanish. May be taken for grades or on a credit-no credit basis. Five hours. Transfer Credit: CSU; UC credit limitation offered: as needed.
Spanish 280—Intermediate Spanish (5) (CAN SPAN 8)
Prerequisite: Spanish 185.
Continuation of Spanish 185. Includes further study of the Spanish language and Hispanic cultures with practice in speaking, listening, reading, and writing at the intermediate level. May be taken for grades or on a credit-no credit basis. Five hours. Transfer Credit: CSU; UC credit limitation Offered: F.S.

Spanish 280A—Beginning Intermediate Spanish (2)
Prerequisite: Spanish 185 or Spanish 185A and 185B. An extended course equivalent to the first half of Spanish 280 and intended for students seeking more time to acquire Spanish. Taken together, Spanish 280A and 280B equal Spanish 280. Includes further study of Spanish culture and language with practice in reading, writing, speaking and comprehension for Spanish at the third semester level. May be taken for grades or on a credit-no credit basis. Two hours. Transfer Credit: CSU; UC credit limitation Offered: as needed.

Spanish 280B—Continuing Intermediate Spanish (2)
Prerequisite: Spanish 280A. An extended course continuing Spanish 280A and equivalent to the second half of Spanish 280. Intended for students seeking more time to acquire Spanish. Taken together, Spanish 280A and 280B equal Spanish 280. Includes further study of Spanish culture and language with practice in reading, writing, speaking and comprehension of Spanish at the third semester level. May be taken for grades or on a credit-no credit basis. Two hours. Transfer Credit: CSU; UC credit limitation Offered: as needed.

Spanish 280H—Honors Intermediate Spanish (5)
Prerequisite: Spanish 185H.
Continuation of Spanish 185H. Includes further study of the Spanish language and Hispanic cultures with practice in speaking, listening, reading, and writing at the intermediate level. May be taken for grades or on a credit-no credit basis. Five hours. Transfer Credit: CSU; UC credit limitation Offered: F.S.

Spanish 285—Intermediate Spanish (5) (CAN SPAN 10)
Prerequisite: Spanish 280 or 280H.
Continuation of Spanish 280. Emphasis is on culturally authentic reading and writing, along with continued development of listening/speaking competencies. Course generally continues formal study of language structure and will introduce basic literary concepts. Emphasis is on development of cohesive written narrations and expository prose as preparation for higher level specialized work. May be taken for grades or on a credit-no credit basis. Five hours. Transfer Credit: CSU; UC Offered: F.S.

Spanish 285AC—Spanish Reading in Elementary School (5) (9 week course)
Prerequisite: Spanish 185.
An introductory course for Spanish foreign language students interested in working in multicultural or bilingual elementary school settings with focus on reading in Spanish to Limited English Proficiency children (K-5). Students will read in the classrooms at the elementary school sites in the area. One hour. Transfer Credit: CSU

Spanish 289—Advanced Spanish (3)
Prerequisite: Spanish 285.
A general consolidation of the four language skills: reading, comprehension, composition and conversation. Practical conversation, composition and reading on everyday topics, current events and cultural material. The course is taught in Spanish. May be taken for grades or on a credit-no credit basis. Three hours. Transfer Credit: CSU; UC Offered: as needed.

Spanish 290—Advanced Spanish (3)
Prerequisite: Spanish 285.
Continuation of Spanish 289. A general consolidation of the four language skills: reading, comprehension, composition and speaking. Reading of plays and stories in Spanish. Consideration of Latin America from mid-nineteenth century to the present. May be taken before Spanish 289. May be taken for grades or on a credit-no credit basis. Three hours. Transfer Credit: CSU; UC Offered: as needed.

Speech N099—Fundamentals of Speech Communication (3)
This course is designed to give students preparation and experience in the fundamentals of speech communication (interpersonal, intercultural and oral presentation skills) that will enable them to participate more successfully in further speech courses. May be taken for grades or on a credit-no credit basis. Three hours. Not applicable to AA degree. Offered: as needed.

Speech 100—Interpersonal Communication (3) (CAN SPCH 8)
This course is designed to teach students effective communication skills through the study of self-concept, listening, perception, language usage, persuasion, and nonverbal communication. An emphasis is placed on developing and applying good communication skills and overcoming the barriers to effective communication. Writing and speaking skills are emphasized and evaluated. Three hours. Transfer Credit: CSU Offered: F,S,Sum.
Speech 150A—Forensics Workshop (1-4)
Speech competition in debate, extemporaneous, impromptu, persuasive speaking, informative speaking, reader’s theatre, and interpretation events. May be taken for 1, 2, 3 or 4 units depending on the number of hours and the number of events and tournaments in which the student participates. One hour lecture, zero to nine hours non-lecture. Transfer Credit: CSU Offered: F-S.

Speech 155—Intercultural Communications (3)
The study, practice and application of communication theories as they relate to different cultural, subcultural, ethnic and racial groups. Emphasis on interpersonal effectiveness, including skills in nonverbal processing, assessment of different cultural interational patterns, and the reduction of racism and ethnocentrism. May be taken for grades or on a credit-no credit basis. Three hours. Transfer Credit: CSU; UC Offered: F-S.

Speech 160—Listening Skills (3)
Improving listening ability in all situations with an emphasis on lecture listening and social listening. Understanding communication theory, overcoming bad listening habits and developing active listening skills through everyday practice. May be taken for grades or on a credit-no credit basis. Three hours. Transfer Credit: CSU Offered: as needed.

Speech 170—Nonverbal Communication (3)
The study of nonverbal cues and their effect on interpersonal communication. Develop a greater understanding of nonverbal messages and strengthen mind/body awareness. An emphasis will be placed on developing effective communication skills as they relate to physical appearance and dress, body movement, face and eye communication, vocal cues which accompany spoken words, and the use of environment and space. May be taken for grades or on a credit-no credit basis. Three hours. Transfer Credit: CSU Offered: as needed.

Speech 180—Health Communication (3)
A course which focuses on communication in the health care setting. Includes the study of interpersonal communication skills and the principles of intrapersonal, small group, organizational and mass communication as relevant to health care issues. Skills to be developed include interviewing (as in the recording of medical information) and negotiation care issues. Skills to be developed include interviewing (as in the recording of medical information) and negotiation care issues. Skills to be developed include interviewing (as in the recording of medical information) and negotiation care issues. May be taken for grades or on a credit-no credit basis. Three hours. Transfer Credit: CSU Offered: F.

Speech 205—Communication in Organizations (3)
A course designed to improve the communication skills of those who are working, or planning to work, in any type of organization. Emphasis will be given to making decisions, achieving goals, motivation, leadership, conflict, organizational structure and climate and their practical application in organizations. May be taken for grades or on a credit-no credit basis. Three hours. Transfer Credit: CSU Offered: as needed.

Speech 235—Reader’s Theatre (3)
An introduction to Reader’s Theatre, its techniques, its relation to interpretation and theatre. Techniques of adapting literary material to a Reader’s Theatre script, staging of productions, production and directing. Same as Theatre Arts 235. Students completing Speech 235 may not receive credit for Theatre Arts 235. Three hours. Transfer Credit: CSU; UC Offered: as needed.

Speech 240—Business and Professional Speech Communications (3)
Practical application of contemporary communication theory relevant to the technical, business and professional person. Includes technique in negotiation, behavior tracking activities, profiling, interviewing and resume preparation. May be taken for grades or on a credit-no credit basis. Three hours. Transfer Credit: CSU Offered: as needed.

Speech 260—Experimental Topics in Speech (1-3)
Provides students with the opportunity to participate in a wide variety of speech-related activities which are not otherwise available, such as directing events at speech tournaments, working with a student speakers bureau, judging at speech contests, etc. May be taken for grades or on a credit-no credit basis. One hour lecture, zero to six hours non-lecture. Transfer Credit: CSU; UC credit limitation Offered: as needed.

Speech-Language Pathology Assistant 100—Introduction to Speech-Language Pathology Assistant (2) (16 week course)
An introduction to the Speech-Language Pathology Assistant career. Professional standards and responsibilities, legal and ethical issues, government regulations, and management of individuals with speech-language and hearing disorders are emphasized. Consideration is given to cultural, ethnic, and linguistic diversity. Two hours lecture plus one a time four hours arranged. Transfer Credit: CSU Offered: F.

Speech-Language Pathology Assistant 115—Speech, Language, and Hearing Development (2.5) (16 week course)
Prerequisite: Biology 221.
Structural human anatomy and physiology with emphasis on the developmental function of speech, hearing, and swallowing mechanisms. Development of phonation into speech production and language development. Two and one-half hours lecture, one hour lab. Transfer Credit: CSU Offered: F.

Speech-Language Pathology Assistant 120—Speech-Language Administrative Procedures (2) (16 week course)
Organizational and functional skills required in the speech pathology workplace. Emphasis on office management, client interaction requirements, communication techniques, technical writing, educational techniques, and computer applications. Two hours lecture, one hour lab. Transfer Credit: CSU Offered: F.

Speech-Language Pathology Assistant 140—Introduction to Communication Disorders (3) (16 week course)
Prerequisite: Speech-Language Pathology Assistant 115.
Study of communication disorders in both children and adults to include classification and prevalence, types of disorders, classification, diagnostic techniques, remediation of speech, and treatment protocols. The role of the speech-language pathologist and audiologist is covered. Three hours lecture and a one time six hours arranged. Transfer Credit: CSU Offered: S.

Speech-Language Pathology Assistant 150—Introduction to Phonetics (3) (16 week course)
Corequisite: Speech-Language Pathology Assistant 140.
Introduction to phonetics, including the analysis, description, and transcription of speech. The course encompasses speech production, acoustics, International Phonetic Alphabet, phonetic measurements, dialects, and the analysis of both normal and abnormal speech sounds. Protocol techniques for therapy are covered. Three hours lecture, two hours lab. Transfer Credit: CSU Offered: S.

Speech-Language Pathology Assistant 160—SLPA Clinical Experience 1 (.5) (4 week course)
Corequisite: Early Childhood 165.
Beginning clinical observation of practices and procedures required in the workplace. Patient interaction, observation skills, record keeping, and beginning practice of therapeutic protocols will be covered. Offered on a credit-no credit basis only. Four hours clinical observation, one hour arranged. Transfer Credit: CSU Offered: S.

Speech-Language Pathology Assistant 180—Screening and Therapeutic Processes (3) (16 week course)
Prerequisite: Speech-Language Pathology Assistant 140.
Screening procedures and equipment used in evaluation of client status and development of treatment protocols. Administration of screening assessment tests, protocol forms, use of checklists and anecdotal records for speech, hearing, and language disorders. The course includes therapeutic equipment and procedures used in client protocol applications and patient safety issues. Two hours lecture, three hours lab. Transfer Credit: CSU Offered: F.

Speech-Language Pathology Assistant 190—SLPA Clinical Experience 2 (2) (16 week course)
Prerequisite: Speech-Language Pathology Assistant 160.
Corequisite: Speech-Language Pathology Assistant 180.
Application of clinical practice procedures and therapeutic techniques under the guidance of a speech pathologist. Patient observation, assessment, treatment protocols, and record keeping procedures. Offered on a credit-no credit basis only. Twelve hours clinical, one hour discussion. Transfer Credit: CSU Offered: F.
Speech-Language Pathology Assistant 200—Adult and Geriatric Disorders (2) (16 week course)

Prerequisite: Speech-Language Pathology Assistant 180.

Therapeutic techniques and assessment directed at adult and geriatric conditions. Special emphasis on acquired conditions and specialized application/ adaptation of screening, protocols, and therapy. Two hours lecture and one time four hours arranged. Transfer Credit: CSU Offered: S.

Speech-Language Pathology Assistant 250—SLPA Clinical Experience 3 (4) (16 week course)

Prerequisite: Speech-Language Pathology Assistant 180 and 190.

Advanced application of clinical practice procedures and techniques performed by a speech-language pathology assistant. Includes direct patient interaction and therapeutic techniques under the guidance of a speech pathologist. Patient observation, assessment, treatment protocols, record keeping procedures, and discussion of case study management issues are also covered. Offered on a credit-no credit basis only. Sixteen hours clinical, two hours discussion. Transfer Credit: CSU Offered: S.

THEATRE ARTS

(See English 105)

TECHNICAL WRITING

(See English 105)

TECHNOLOGY

Technology 040—Technical Math (3)

An applied math course designed for the student with minimal background in mathematics to develop “need to know” skills necessary to be successful in technical, science, and vocational courses which require specific mathematical skills. Considerable review of essential math is emphasized. May be taken for grades or on a credit-no credit basis. Four hours. Offered: F;S;Sum.

Technology 100—A Taste of Tomorrow’s Technology (3) (16 week course)

Examine and discuss technology as it relates to various occupational fields and its future impact on our society. Areas under discussion include architecture, building and construction, woodworking and furniture design, heating, ventilation and air conditioning, electronics, drafting, computer automated drafting, manual machining, computer numbered control machining, welding, high technology, aviation technology, and airline travel careers. Three hours. Transfer Credit: CSU Offered: F.

All courses numbered 100 or higher are transferable to the California State Universities (CSU). Courses that are transferable to the University of California are designated “UC.” Some of these courses have limits on the amount of credit that is granted. See the UC transferable Course List available in the Counseling or Transfer Center for these limitations.

Course numbers followed by an AB, AC, or AD may be repeated once, twice or three times respectively. Courses that are non-credit or not AA applicable are designated with the letter “N” preceding the course number.

THEATRE ARTS

Theatre Arts 100—Introduction to Theatre (3) (CAN DRAM 18)

A course designed for those who wish to explore more thoroughly the performing arts with special attention given to a survey of all the contributing elements. An examination through lecture, demonstration, laboratory participation, small group discussion, guest performers and speakers of all areas of theater production. A course designed to prepare the student for other course offerings in the theatre curriculum. Students are required to see two college-produced plays. Three hours. Transfer Credit: CSU; UC credit limitation Offered: F;S;Sum.

Theatre Arts 101—Introduction to History and Literature of the Theatre (3)

This course involves the general nature of dramatic presentation including elements of dramatic structure, types of drama, and the contributions of the playwright, actor, director, designer, technician and audience. This course includes an introduction to the important eras in theatre history and a study of several well-known plays. The student is required also to view at least two college productions and two films for credit. May be taken for grades or on a credit-no credit basis. Three hours. Transfer Credit: CSU; UC credit limitation Offered: as needed.

Theatre Arts 104—Improvisation (3)

The rehearsal and performance of individual and group scenes of improvisation. The goal of the course is to help students work with ease on the stage. Two hours lecture, two hours studio. Transfer Credit: CSU; UC Offered: as needed.

Theatre Arts 105—Drama and Acting (3)

Designed for the general education student, this course is an introduction in literature of theatre and an examination of the ways an actor interprets his role in a play. Included is a study of dramatic literature, the history of acting, acting fundamentals and a critical analysis of college-produced plays. Three hours. Transfer Credit: CSU; UC Offered: F;S;Sum.

Theatre Arts 106—Acting Fundamentals (3) (CAN DRAM 8)

An introduction to acting. Units of study will include interaction, characterization and emotion. Students are expected to participate in class exercises, prepare memorized scenes and criticize the acting techniques employed in two dramatic productions outside of class. Required for theatre arts majors. May be taken for grades or on a credit-no credit basis. Three hours lecture, one hour studio. Transfer Credit: CSU; UC Offered: F;S;Sum.

Theatre Arts 107—Acting 2 Fundamentals (3) (CAN DRAM 22)

A continuing study of the acting craft as begun in Theatre Arts 106. The students will focus with greater intensity on their relationships to characterization, movement, vocal technique and literature studies. The bulk of study will be both improvisation and selected dramatic scenes. Three hours lecture, one hour studio. Transfer Credit: CSU; UC Offered: F.S.

Theatre Arts 110AD—Theatre Laboratory (2)

Technical theatre and general theatre process under faculty instruction. One hour lecture, five hours laboratory. Transfer Credit: CSU; UC Offered: F.S.

Theatre Arts 115—Acting for Camera and Stage (3)

Prerequisite: Theatre Arts 106.

This course will explore the comparative processes of stage, television and cinema acting. The focus of the exploration will be the similarities found in the creative acting process contrasted with the differences in the techniques applied in the three performance arenas of film, stage and television. The student will be introduced to both the artistic mode and practice all aspects of acting including agents, guilds, unions, commercials, feature films, industrial video, live theatre, equity waiver, soap operas, regional repertory and location work. The class will include scene work, exercises, on-camera experience, field trips to assorted professional acting environments, guest speakers, video comparison studies of prominent actors in the field and translation of acting experiences, scenes, etc., from one medium into the other two. May be taken for grades or on a credit-no credit basis. Two hours lecture, four hours non-lecture. Transfer Credit: CSU; UC Offered: as needed.

Theatre Arts 141AD—OCC Theatre Repertory (1-3)

Participation in workshop or experimental productions. Designed to extend and enrich basic theatre background established in beginning acting and technical courses. Students direct, act and mount one-act and experimental plays. During their study, students will also be involved in scenery, costuming, lighting, make-up and publicity. May be taken for grades or on a credit-no credit basis. One hour lecture: two to eight hours non-lecture. Transfer Credit: CSU; UC Offered: F;S;Sum.

Theatre Arts 144AD—Summer Theatre Festival (4) (8 week course)

The production of major plays, one acts, and scenes in repertory. Students will be assigned to work in at least two of several different areas of theatre: acting, scenery, construction and painting, lighting, costuming, make-up and theatre management. May be taken for grades or on a credit-no credit basis. Four hours lecture, sixteen hours laboratory. Transfer Credit: CSU; UC Offered: Sum.

Theatre Arts 145AB—Touring Production (3)

Students will participate in elements of presenting a show at various locations. These elements will include: acting, set design, set construction, lighting, sound design, costuming, make up, and interaction with audiences through question and answer sessions. This course may require occasional overnight stays. Roles are assigned through audition. One hour lecture, seven hours studio. Transfer Credit: CSU; UC Offered: as needed.
Theatre Arts 165AD—Stagecraft Lab (1) (9 week course)
Introduction to stage craft activities including scenery construction, set painting, lighting rigging, stage props and theatre operations. One-hour lecture, two hours non-lecture. Transfer Credit: CSU; UC Offered: as needed.

Theatre Arts 170AD—Stage Crew Activity (1)
The student will participate in productions presented to the community in one or more of the following areas of concentration: scenery building and painting, stage lighting, and stage property design and construction. Strongly recommended for theatre majors. Three hours studio. Transfer Credit: CSU; UC Offered: F;S.

Theatre Arts 171AD—Play Production (2) (9 week course)
Participation in productions presented to the community. The student will be involved in one or more of the following areas: scenery building and painting, stage lighting, make-up, costumes, publicity, house management and acting. Assignments will be given to the student upon enrollment in the course. All actors will pass auditions. Strongly recommended for theatre majors. May be taken for grades or on a credit/no-credit basis. Two hours lecture, ten hours studio. Transfer Credit: CSU; UC Offered: F;S.

Theatre Arts 175—Stage Scenery (3)
The course includes an in-depth study of all the diverse theatre crafts such as scenery, construction, scene painting and properties, and a survey study of scenery design. Also, the historical development and major trends of stagecraft will be studied. The student will prepare a practical project consisting of a scene design or scale model. Required for students planning to transfer to CSU Long Beach and Fullerton. May be taken for grades or on a credit-no credit basis. Three hours lecture, one hour studio. Transfer Credit: CSU; UC Offered: as needed.

Theatre Arts 176—Stage Lighting (3)
An introductory course in stage lighting that includes basic electronics, color, projection, types, uses, and maintenance of lighting equipment, and lighting design. Students will participate in the lighting of college productions. Recommended for students who are interested in television and film/video. Required for the student planning to transfer to CSU Long Beach and UCI. Three hours lecture, one hour studio. Transfer Credit: CSU; UC Offered: as needed.

Theatre Arts 177AD—Make-up (3)
A practical introduction to the techniques of applying theatrical and film make-up. Recommended for students of drama interested in gaining a better understanding of the proper uses of theatrical make-up. Three hours lecture, one hour studio. Transfer Credit: CSU; UC Offered: F;S.

Theatre Arts 189—Stage Combat (2)
Fundamentals of stage combat emphasizing such weapons as quarterstaff, foil, epee, saber, broadsword, rapier and dagger. Such stunt techniques as fist fighting and falls are included. Strongly recommended for acting majors and theatre arts teachers. May be taken for grades or on a credit-no credit basis. Two hours lecture, two hours studio. Transfer Credit: CSU; UC Offered: as needed.

Theatre Arts 200—Voice and Articulation (3) (CAN DRAM 6)
Major physiological bases of speech. Problems of speaking correctly. May be taken for grades or on a credit-no credit basis. Three hours. Transfer Credit: CSU; UC Offered: as needed.

Theatre Arts 206—Acting 3—Scene Study (3)
Advanced stage techniques based on the study of selected dramatic scenes. Areas of concentration include projection, voice and diction, rhythm and styles of acting. Three hours lecture, one hour studio. Transfer Credit: CSU; UC Offered: F;S.

Theatre Arts 207—Acting 4—Classical Styles (3) (CAN DRAM 6)
Advanced acting techniques with particular emphasis on stage diction. Units of study include phonetics, voice projection, vocal quality, dialects and the application of vocal techniques to dramatic literature. Required of theatre arts majors. Three hours lecture, one hour studio. Transfer Credit: CSU; UC Offered: F;S.

Theatre Arts 215—Rehearsal and Performance (2)
A course designed to enrich and extend the basic technical theatre and acting background established in the beginning stagecraft and acting classes. Actual participation in college productions in all aspects. Area of participation is selected by the student to satisfy individual interests. One hour lecture, three hours studio. Transfer Credit: CSU; UC Offered: as needed.

Theatre Arts 221—Elements of Stage Design (3)
An intense study of stage design techniques going far beyond the introductory stage. The course is designed to provide both background and experience in set conceptualization, rendering, floor planning, model building, scenic art techniques, and materials selection. Two hours lecture, four hours studio. Transfer Credit: CSU; UC Offered: as needed.

Theatre Arts 275AD—Directing (3)
An examination of the bases, principles, procedures and problems in play direction. Each student will be required either to direct one of the productions in experimental theatre or to serve as an assistant for the main stage production. Three hours lecture, four hours studio. Transfer Credit: CSU; UC Offered: as needed.

Theatre Arts 276—Performing Arts Management (2) (8 week course)
Economic and administrative aspects of American theatre and performing arts applied to repertory, community, and educational organizations. Administrative assignments related to stage productions, as well as other performances. May be taken for grades or on a credit-no credit basis. Four hours. Transfer Credit: CSU Offered: as needed.

TOOL DESIGN
(See Machine Technology)

VIETNAMESE

Vietnamese 180—Elementary Vietnamese (5)
Introduction to the Vietnamese language with emphasis on the tones, sound system, vocabulary, and grammar necessary for the development of basic listening, speaking, reading, and writing skills. Vietnamese culture and civilization will also be covered. May be taken for grades or on a credit-no credit basis. Five hours. Transfer Credit: CSU Offered: as needed.

WELDING TECHNOLOGY

Welding Technology 100—Arc and Oxy-acetylene Welding (3)
Beginning course in arc and oxy-acetylene welding which covers safety practices, use of equipment, braze and cutting operations and applications to various types of steels. Two hours lecture, four hours laboratory. Transfer Credit: CSU Offered: F;S.

Welding Technology 101—Arc and Oxy-acetylene Welding (4)
Same as Welding Technology 100. Two hours lecture, six hours laboratory. Transfer Credit: CSU Offered: F;S.
Welding Technology 102AD—Weld Testing GMAW (.5) (1-18 week course)
Weld testing for mastery of levels I, II, III, and/or IV in the Gas Metal Arc Welding process. When completed, may lead to a Certificate of Completion. A Certification Certificate will also be issued for the appropriate level. Offered on a credit-no credit basis only. One and one-half to twenty-seven hours laboratory. Transfer Credit: CSU Offered: F,S.

Welding Technology 103—Weld Testing GMAW (.5) (1-18 week course)
Designed for students ready to test for mastery of Gas Metal Arc Welding process to the industry standard set by the Inter-Industry Conference on Auto Collision Repair (I-CAR) required tests. A Welder Qualification Certification will be issued upon passing the test. Offered on a credit-no credit basis only. One and one-half hours to twenty-seven hours laboratory. Transfer Credit: CSU Offered: F,S.

Welding Technology 104—Weld Testing GTAW (.5) (1-18 week course)
Weld testing for mastery of level I in the Gas Tungsten Arc Welding process. When completed may lead to a certificate of completion. Offered on a credit-no credit basis only. One and one-half to twenty-seven hours laboratory. Transfer Credit: CSU Offered: F,S.

Welding Technology 105AD—Weld Testing Basic (.5) (1-18 week course)
Weld testing for mastery of levels I, II, III, or IV in the Shielded Metal Arc Welding process. When completed, may lead to a Certificate of Completion. A Certification Certificate will also be issued for the appropriate level. Offered on a credit-no credit basis only. One and one-half to twenty-seven hours laboratory. Transfer Credit: CSU Offered: F,S.

Welding Technology 106AD—Weld Testing Intermediate (.5) (1-18 week course)
Weld testing for mastery of level V and/or VI in the Shielded Metal Arc Welding process. When completed, may lead to a Certificate of Completion. A Certification Certificate will also be issued for the appropriate level upon successful completion. Offered on a credit-no credit basis only. One and one-half hours to twenty-seven hours laboratory. Transfer Credit: CSU Offered: F,S.

Welding Technology 107AC—Weld Testing Advanced (.5) (1-18 week course)
Weld testing for mastery of levels VII, VIII and/or IX in Shielded Metal Arc Welding. Offered on a credit-no credit basis only. One and one-half hours to twenty-seven hours laboratory. Transfer Credit: CSU Offered: F,S.

Welding Technology 108AD—Weld Testing Advanced (.5) (1-18 week course)
Weld testing for mastery of levels I, II, III, and/or IV in Flux Cored Arc Welding. Offered on a credit-no credit basis only. One and one-half to twenty-seven hours laboratory. Transfer Credit: CSU Offered: F,S.

Welding Technology 109AD—Weld Testing FCAW (.5) (1-18 week course)
Weld testing for mastery of levels V, VI, VII, and/or VIII in Flux Cored Arc Welding. May lead to a Certificate of Completion. A Certification Certificate will also be issued for the appropriate level upon successful completion. Offered on a credit-no credit basis only. One and one-half to twenty-seven hours laboratory. Transfer Credit: CSU Offered: F,S.

Welding Technology 110—Weld Testing FCAW (.5) (1-18 week course)
Weld testing for mastery of level IX in Flux Cored Arc Welding. When completed, may lead to a Certificate of Completion. A Certification Certificate will also be issued for the appropriate level upon successful completion. One and one-half to twenty-seven hours laboratory. Transfer Credit: CSU Offered: F,S.

Welding Technology 111—Weld Testing Pipe (.5) (1-18 week course)
Weld testing for mastery of levels I and/or II in the Pipe Welding process or Gas Tungsten Arc and Shielded Metal Arc Welding processes. Offered on a credit-no credit basis only. One and one-half to twenty-seven hours laboratory. Transfer Credit: CSU Offered: F,S.

Welding Technology 112AD—Weld Testing Basic (.5) (1-18 week course)
Prerequisite: Welding Technology 100 or concurrent enrollment.
A laboratory class to develop skills in arc and oxy-acetylene welding. Three to fifty-four hours non-lecture. Transfer Credit: CSU Offered: F,S.

Welding Technology 115AD—Arc and Oxy-acetylene Welding Practice (1-2)
Prerequisite: Welding Technology 100 or concurrent enrollment.
A laboratory class to develop skills in arc and oxy-acetylene welding. Three to fifty-four hours non-lecture. Transfer Credit: CSU Offered: F,S.

Welding Technology 120—Mathematics and Science for Welding Technology (3)
Survey course covering the principles of mathematics, elementary chemistry and physics required for study of welding metallurgy. Three hours. Transfer Credit: CSU Offered: as needed.

Welding Technology 122AD—Beginning Welding (1.5)
Arc and oxy-acetylene welding and cutting theory and laboratory practice. Three hours lecture/laboratory. Transfer Credit: CSU Offered: F,S;Sum.

Welding Technology 123AD—Advanced Welding (1.5)
Prerequisite: Welding Technology 122AD or previous welding experience.
Advanced welding theory and practice of ferrous and non-ferrous metals. Three hours lecture/laboratory. Transfer Credit: CSU Offered: F,S;Sum.

Welding Technology 130AD—Gas Tungsten Arc Welding (1.5) (9 week course)
Prerequisite: Welding Technology 100.
GTAW (Gas Tungsten Arc Welding) theory and practice, covering aluminum and stainless steels and qualification requirements. May be taken for grades or on a credit-no credit basis. Two hours lecture, four hours laboratory. Transfer Credit: CSU Offered: S.

Welding Technology 131—Blue Print Reading (2)
A basic course in reading of blueprints associated with the welding fabrication industry. Four hours lecture, two hours laboratory. Transfer Credit: CSU Offered: Sum.

Welding Technology 200—Advanced Welding (3)
Prerequisite: Welding Technology 100 or 101.
Advanced welding theory and practice, covering gas shielded arc processes, welding of non-ferrous metals, certification requirements, and use of welding symbols. Two hours lecture, four hours laboratory. Transfer Credit: CSU Offered: F,S.

Welding Technology 201—Advanced Welding (4)
Prerequisite: Welding Technology 100 or 101.
Advanced welding theory and practice covering gas shielded arc processes, welding of non-ferrous metals, certification requirements and use of welding symbols. Two hours lecture, six hours laboratory. Transfer Credit: CSU Offered: F,S.

Welding Technology 210—Welding Inspection and Testing (4)
Prerequisite: Welding Technology 100 or 101.
Physical tests, metallographic analysis, visual inspection, nondestructive testing of welds, and chemical analysis of metals and alloys. Three hours lecture, three hours laboratory. Transfer Credit: CSU Offered: as needed.

Welding Technology 211—I-CAR Gas Metal Arc Welding Training (4) (8 week course)
Prerequisite: Welding Technology 100 or 101.
Gas metal arc welding theory and practice covering welding to standards set by I-CAR and the American National Standards Institute in preparation for qualification and certification. One hour lecture, four hours non-lecture. Transfer Credit: CSU Offered: F,S;

Welding Technology 220—Welding Specifications and Codes (2)
Covers and specifications used by governmental agencies and industry in control of products and production. Two hours. Transfer Credit: CSU Offered: S.

Welding Technology 230—Welding Metallurgy (3)
Basic metallurgy as applied to welding, metal structures, strength of material. Weldability of metals, heat treatment, welding procedures, welding stresses and control. Three hours lecture, one hour laboratory. Transfer Credit: CSU Offered: S.

Welding Technology 250AD—Pipe Welding and Advanced GTAW (3)
Prerequisite: Welding Technology 200 or 201.
Shielded metal-arc, gas shielded arc, certification requirements, layout and assembly pipe to pipe and pipe to fittings. Two hours lecture, four hours laboratory. Transfer Credit: CSU Offered: as needed.

Welding Technology 255AD—Orbital Welding (1.5) (9 week course)
Prerequisite: Welding Technology 100 or 101.
Advanced welding theory and practice covering the process of gas tungsten arc welding using an automatic orbital welding system. Instruction includes safety, equipment use, and certification requirements. Two hours lecture, four hours laboratory. Transfer Credit: CSU Offered: F,S;Sum.
Information in italics designates the semester(s) in which the course is offered. The Division Office reserves the right to make changes as budget or other constraints warrant. F=Fall, S=Spring, Sum=Summer, Inter=Intersession.
Faculty
<table>
<thead>
<tr>
<th>Name</th>
<th>Title and Publications</th>
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| ACKLEY, DONALD A. (1971)Dean, Library and Media Services | B.A., California State University, Fullerton  
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<td>VARGA, JOHN L. (1976)</td>
<td>Professor, Accounting</td>
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<tr>
<td>VISCIO, FRANK J. (1968)</td>
<td>Professor, Biology</td>
<td>B.S., M.A., California State University, Los Angeles</td>
</tr>
<tr>
<td>VISINTAINER, LINDA L. (1991)</td>
<td>Associate Professor, Radiologic Technology</td>
<td>A.A., El Camino College</td>
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<td>B.V.E., California State University, Long Beach</td>
</tr>
<tr>
<td>WALL, THEODORE E. (1969)</td>
<td>Professor, Philosophy</td>
<td>B.A., University of California, Berkeley</td>
</tr>
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<td>B.D., S.T.M., Drew University</td>
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<tr>
<td>WALLACE, BARRY C. (1968)</td>
<td>Professor, Physical Education and Athletics;</td>
<td></td>
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<tr>
<td></td>
<td>Head Coach, Men's and Women's Golf</td>
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<tr>
<td>WATERS, JOHN J. (1976)</td>
<td>Associate Professor, Machine Technology</td>
<td>B.A., M.A., California State University, Long Beach</td>
</tr>
<tr>
<td>WATSON, DON, JR. (1989)</td>
<td>Professor, Physical Education and Athletics;</td>
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<tr>
<td></td>
<td>Head Coach, Women's Swimming and Water Polo</td>
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<td>A.A., California State University, Long Beach</td>
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<td>M.Ed., United States International University</td>
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<tr>
<td>WEBB, DEBBIE K. (1984)</td>
<td>Associate Professor, Librarian</td>
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<td>A.A., East Los Angeles College</td>
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<td>M.L.S., University of Southern California</td>
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<tr>
<td>WENDELL, ROBERT (1973)</td>
<td>Associate Professor, Art</td>
<td></td>
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<td>WERBLIN, CATHLEEN (1999)</td>
<td>Instructor, Communications</td>
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<td>WHEATON, DONNA (1976)</td>
<td>Professor, Art</td>
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<td>WESTERMAN, DONNA (1976)</td>
<td>Associate Professor, Music</td>
<td></td>
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<td>WESTFORD, ROGER A. (1999)</td>
<td>Instructor, Art</td>
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<td>WICHERT, JACK (1975)</td>
<td>Associate Professor, Business Education</td>
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<td>WICHERT, MARGIE CANFIELD (1975)</td>
<td>Professor, Allied Health/Medical Assisting</td>
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<td>A.A., Emporia State</td>
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<td>M.B.A., Harvard Graduate School</td>
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<td>WILLIS, MARGIE CANFIELD (1975)</td>
<td>Professor, Allied Health/Medical Assisting</td>
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<td>WINTER, NICOLAS (1980)</td>
<td>Associate Professor, English as a Second Language</td>
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<td>B.S., State University of New York, Cortland</td>
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<td>M.A., University of Hawaii</td>
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<tr>
<td>WOLFE, JUDITH A. (1975)</td>
<td>Associate Professor, Spanish/French</td>
<td></td>
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<tr>
<td>WRIGHT, BARBARA J. (1973)</td>
<td>Professor, Physical Education and Athletics</td>
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<tr>
<td>WYNNE, ANN M. (1985)</td>
<td>Professor, History</td>
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<td>YANAGA, RANDALL K. (1986)</td>
<td>Associate Professor, Mechanical Drafting/Machine Technology</td>
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<td>YAKEL, DEBORAH A. (1999)</td>
<td>Instructor, Psychology</td>
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<td>YATES, RONALD L. (1985)</td>
<td>Instructor, Computer Information Systems</td>
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<td>YETT, JAY R. (1984)</td>
<td>Professor, Geology/Natural Science</td>
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<td>ZHE, ROBERT R. (1989)</td>
<td>Counselor, Disabled Students</td>
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<td>ZIMMERMANN, JAY (1965)</td>
<td>Professor, English/Education</td>
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<td>ZOMBEN, MARK S. (1990)</td>
<td>Professor, Aviation Technology</td>
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<td>ZOOK, ROCHELLE (1991)</td>
<td>Assistant Professor, Counseling Services</td>
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Medical Advisors for the School of Allied Health Professions

BARKE, JEFFREY, M.D.
Medical Assisting

CONTINO, MICHAEL, M.D.
Emergency Medical Technology

ROBIN SHAUGHNESSY, M.D.
Cardiovascular Technology

MCINTYRE, HUGH, M.D.
Neurodiagnostic Technology

REINKE, ROBERT, M.D.
Diagnostic Medical Sonography

SELECKY, PAUL, M.D.
Polysomnography
Respiratory Care

TURNER, ROBERT, M.D.
Radiologic Technology
Major Clinical Affiliates for the School of Allied Health Professions

American Medical Response, Torrance
Anaheim Memorial Medical Center, Anaheim
Cedars-Sinai Medical Center, Los Angeles
Chapman Medical Center, Orange
Children's Hospital of Orange County (CHOC), Orange
Children's Hospital and Health Center-San Diego, San Diego
Coastal Aire Care, Brea
Coastal Communities Hospital, Santa Ana
County of Riverside Health Services Agency, Riverside
Daniel Freeman Memorial Hospital, Inglewood
UC EFNEP, Orange County Office, Costa Mesa
Foothill Presbyterian Hospital, Glendora
Fountain Valley Regional Hospital and Medical Center, Fountain Valley
Garden Grove Medical Center, Garden Grove
Good Samaritan Hospital, Los Angeles
Hoag Memorial Hospital Presbyterian, Newport Beach
Huntington Beach Hospital, Huntington Beach
Huntington Memorial Sleep Disorder Center, Pasadena
Irvine Medical Center, Irvine
Jordan Neuroscience- a Medical Corporation, San Bernadino
Kaiser Foundation Hospitals, Southern California Region
Lakewood Regional Medical Center, Lakewood
La Palma Intercommunity Hospital, La Palma
Long Beach Memorial Medical Center, Long Beach
Los Alamitos Medical Center, Los Alamitos
Los Angeles County/USC Medical Center, Los Angeles
Los Angeles Harbor/UCLA Medical Center, Torrance
Los Robles Regional Medical Center, Thousand Oaks
Methodist Hospital of Southern California, Arcadia
Mission Hospital Regional Medical Center, Mission Viejo
Northridge Hospital Medical Center, Northridge
Olive View/UCLA Medical Center, Sylmar
Orange Coast Memorial Medical Center, Fountain Valley
Orange County Department of Health and Human Services, WIC Program, Santa Ana
Pomona Valley Hospital Medical Center, Pomona
Pomona Valley Sleep Disorders Center, Pomona
Presbyterian Intercommunity Hospital, Whittier
Rancho Los Amigos Hospital, Downey
Riverside General Hospital, Moreno Valley
Saddleback Memorial Medical Center, Laguna Hills
St. Francis Medical Center, Lynwood
St. Joseph Hospital, Orange
St. Jude Hospital and Rehabilitation Center, Fullerton
St. Mary Medical Center, Long Beach
St. Vincent Medical Center, Los Angeles
Samaritan Medical Center, San Clemente
San Bernardino County Medical Center, San Bernardino
San Gabriel Valley Medical Center, San Gabriel
San Pedro Peninsula Hospital, San Pedro
Scripps Memorial Hospital, Encinitas
South Coast Medical Center, Laguna Beach
Stanford University Hospital, Stanford
Suburban Medical Center, Paramount
Torrance Memorial Medical Center, Torrance
Tri-City Stanford Healthcare, Oceanside
UCI Medical Center, Orange
UCLA Neuropsychiatric Institute, Los Angeles
UCLA Sleep Disorders Center, Los Angeles
UCSF Stanford Healthcare, San Francisco
Veterans Administration Medical Center, Long Beach
Veterans Administration Medical Center, San Francisco
West Anaheim Medical Center, Anaheim
Western Medical Center, Santa Ana
Western Medical Center – Anaheim, Anaheim
Whittier Hospital Medical Center, Whittier
Numerous Skilled Nursing Facilities, Convalescent Hospitals, Clinics, Physicians’ and Dental Offices, and Ambulance Services
ACKERMAN, WILLIAM
Professor, Machine Technology
1954-83

ALBRECHT, DOROTHY DALLAS
Professor, Business Education
1948-79

ALLINGHAM-DALE, MURIEL
Professor, English
1971-95

ALLEN, JAMES M.
Professor, History
1968-93

ASHBAUGH, STANLEY
Professor, Chemistry
1974-98

BAKER, EDWARD R.
Dean, Fine Arts
1968-98

BARRETT, RICHARD
Professor, Animal Science
1949-77

BENNETT, RICHARD
Professor, French/English
1961-84

BERGER, IRINA V.
Associate Professor, Russian/History
1963-84

BINGO, GEORGE
Professor, Aviation Technology
1968-88

BLAKELY, THOMAS
Director, Evening College
1953-76

BLESCH, CHARLES "CHUCK"
Professor, elding Technology
1976-93

BONIN, ADELYN I.
Professor, German
1959-93

BOWEN, SHIRLEY A.
Professor, Coordinator of Tutorial Center
1986-96

BRADLEY, I. LEE
Counselor/Professor, Psychology & Jazz
1959-95

BRADY, JOHN P. Jr.
Professor, Electronics
1977-98

BRAND, JON S.
Professor, Geography
1965-98

BRIGHTMAN, RICHARD W.
Professor, Business/Computer Information Systems
1963-95

BROOKS, JOHNNIE L.
Associate Professor, Physical Education
1966-88

BROWN, SUSAN
Administrative Dean, Admissions & Records
1964-95

BRUCE, SILAS
Professor, Wastewater Technology
1970-88

BULLER, JOHN L.
Dean, Admissions, Records & Information Services
1958-84

BURCHETT, DEAN
Professor, Psychology/Counselor
1956-84

BUTCHER, NORMA
Professor, Music
1973-83

CALLAHAN, FLORENCE
Professor, Medical Assisting
1965-75

CALLANAN, MARGARET G.
Professor, English
1969-93

CARLSON, LAWRENCE A.
Professor, English
1966-2000

CESAREO, MILJENKO
Professor, Physics
1964-89

CHARD, RICHARD
Administrative Dean, Vocational Education
1980-92

CHILDS, THOMAS H.
Assistant Professor, Political Science; Student Placement Director
1984-85

CIARLO, GEORGE V.
Professor/Librarian
1972-83

CLARK, FRANK L.
Professor, Business
1976-95

CLARK, JOHN R.
Professor, Mathematics/Computer Information Systems
1960-92

CLARKE, JAMES E.
Professor, Construction Technology
1971-98

CLIFTON, ROBERT B.
Professor, Aviation Technology
1969-1999

CONRY, EDWIN C.
Professor, Science & Mathematics
1962-79

COWPERTHWAIT, SARAH M.
Professor, English as a Second Language
1976-93

CRON, JAMES R.
Professor, Welding Technology
1971-93

CRUMLEY, LAVERNE
Professor, English
1971-84

CRUTCHER, ROBERT
Professor, Art
1977-2000

CURTIS, ADRIENNE R.
Associate Professor, Chemistry
1976-99

DENISON, FRANK E.
Professor, Construction Technology
1966-88

DIMSDALE, JEFFREY M.
Dean, Student Services
1968-2000

DONOFF, SHARON K.
Vice President, Student Services
1971-2000

DOSS, RICHARD
Professor, Philosophy
1971-95

DOWLEN, LOUISE
Div. Chair/Professor, English Charter Faculty
1948-78

DUDDRIDGE, DOROTHY
Professor, Dance
1961-84

EASTMAN, JUDITH B.
Professor, English
1974-2000

EATON, MILES
Div. Chair/Professor, Economics Charter Faculty
1948-78

ELDON, FRED A.
Professor, English/Speech
1962-95

ELLIS, GERALD
Dean, Evening College; Professor, Engineering/Math
1954-82

EVERHART, HOWARD
Professor, Air Transportation
1970-85

FAIR, JACk
Professor, Physical Education; Assistant Football Coach
1966-86

---

EMERITUS
ORANGE COAST COLLEGE

FARMER, JOHN P.
Professor, Business Education
1961-83

FITZEL, GORDON L.
Professor, Physical Education and Athletics
1978-2000

FEISTHAMMEL, AUDREY M.
Professor, Home Economics
1968-86

FOLEY, WILLIAM, H.
Assistant Professor, Aviation Technology
1974-95

FREEMAN, GARY
Professor, English
1970-90

FULLERTON, JACK
Professor, Physical Education
1965-89

GAVIN, JOHN
Associate Professor, Air Transportation
1980-88

GERARD, MAURICE
Professor, Psychology/Counselor, Tennis Coach
1957-76

GILLIS, TANDY C.
Associate Professor, Physical Education and Athletics
1976-2000

GOLODNER, PAMELA
Professor, Mathematics
1981-94

GRANT, DAVID A.
College President
Dean of Students
1962-96

GRAZAITIS, MARIANA
Professor/Librarian
1965-89

GREY, BEVERLY HART
Professor, English
1954-84

GRIGGS, PATRICIA A.
Associate Professor, Counseling Services
1984-95

GUNDROY, MAXINE CHERRY
Professor, English
1960-95

HARPER, HUESTON
Professor, Life Science
1950-74

HARVEY, MONTA LEE
Professor, Psychology
1970-98

HENDRICKSON, NOVELLE
Instructor, Interiors/Clothing & Textiles
1974-87

HILGENDORF, JANE A.
Dean, Physical Education and Athletics, Professor, Physical Education
1970-2000

HOEPPNER, ROBERT L.
Professor, Counseling Services
1964-95

HOFFMAN, THEODORE
Professor, Electronics
1965-91

HOLBEN, CAROL ANN
Associate Professor, Mathematics
1970-98

HOWE, RICHARD L.
Professor, Business Education
1964-96

HOWELL, JANET K.
Professor, Psychology/Counselor, Student Placement Director
1966-82

HUBBLE, BROWNLEE
Associate Professor, Counseling Services
1967-93

HUTCHINSON, MINA HARPER
Associate Professor, Home Economics
1955-85

ICHINO, PAUL T.
Associate Professor, Radiologic Technology
1976-98

JACKSON, ANN
Counselor, Professor of English
1975-2000

JACOBS, DONALD R.
Professor, Political Science
1965-95

JAMES, GARY
Dean, Math and Sciences, Professor
1967-93

JARMAN, DAVID L.
Professor, Construction Technology
1975-98

JEANS-VALENCIA, DOLORES
Professor, Aviation Services
1965-85

JENSEN, JOHN L.
Professor, History
1959-84

JOHNS, DAVID G.
Professor, Art
1969-98

JOHNSTON, DAVID W.
Associate Professor, Philosophy
1960-98

JORGENSEN, WILLIAM KEITH
Professor, Mathematics
1976-93

KAGLEY, DORIS
Professor, Counseling Services
1961-93

KARR-POWELL, ARLENE
Professor, Music
1976-95

KASPARIAN, ALICE E.
Professor, Business Education
1958-78

KLECK, WALLACE D.
Professor, Geology/Mathematics
1963-94

KNECHTEL, BARRON
Professor, Mathematics
1954-79

KOSTKA, CONNIE MACK (Mr.)
Associate Professor, Dental Technology
1972-91

KRIEGER, ROBERT F.
Professor, Art
1956-86

KUBIS, PATRICIA
Professor, English
1965-85

LINDER, RICHARD C.
Assistant Professor, English
1968-95

LISTER, RICHARD S.
Professor, Psychology
1968-98

LIVSEY, HERB F.
Professor, English/Physical Education and Athletics
1969-96

LOSANN, JOHN
Professor, Metal Trades
1965-76

LOUIE, DENNIS H.
Professor, Office Information Systems
1978-96

LOW, DON R.
Dean, Counseling Services
1971-98

LUMIAN, NORMAN C.
Professor, History/American Studies
1959-85

MacMILLAN, PAUL G.
Assistant Professor, Business Education
1966-98

MARTIN, LAURI R.
Professor, Photography
1968-96

MATTIAS, GEORGE R.
Professor, Physical Education and Athletics, Assistant Football Coach
1963-93
McAERTY, HELEN K.  
Associate Professor, Chemistry  
1963-88

McCHESNEY, MARY  
Professor, Spanish  
1950-83

McCLURG, DICK  
Professor, Air Transportation  
1968-76

McCulloch, Sara Ellen  
Professor, English  
1964-85

McDONOUGH, CATHERINE  
Director, Student Health Service/Associate Professor  
1971-85

McGILL, JOHN R.  
Executive Dean, Instruction, Dean, Admissions,  
Records & Information Services  
1966-88

McNAMEE, MICHAEL W.  
Instructor/Coordinator,  
Business Information Systems  
1978-85

McTIERNAN, EDITH  
Associate Professor, Allied Health & EEG Program  
Director  
1973-85

MECKE, CHARLOTTE P.  
Professor, English and Education  
1964-91

MERRY, DWAYNE L.  
Professor, Anthropology  
1965-89

MILLAR, RUSSELL W.  
Professor, Political Science/History  
1962-95

MISENER, MARY JEAN  
Professor/Director, Dental Assisting  
1961-74

MITCHEL, ROBERT  
Dean, Business Division  
Associate Professor, Business Education  
1960-88

MOGAN, PATRICIA J.  
Associate Professor, Home Economics  
1959-95

MOORE, ROBERT B.  
College President 1964-82  
Dean of Instruction 1960-64

MORIN, SYLVETTE  
Professor, English as a Second Language  
1989-99

NASBY, DAVID P.  
Professor, Mathematics  
1963-98

NEDOFF, CHARLES  
Professor, Sociology  
1956-88

O’KEEFFE, THOMAS  
Assistant Professor, English  
1979-2000

OBERHAUS, MARY ANN  
Professor, Marketing/Management  
1967-98

OSBORNE, TOM  
Professor, Business Education  
1954-83

OVERHOLT, GENE  
Professor, Business Education  
1959-83

PADDEN, WILLIAM E.  
Associate Professor, Aviation and Space  
1991-2000

PAINTER, ALFRED  
Professor, Philosophy  
1967-83

PANIAN, HENRY, S.  
Professor, History  
1956-90

PAYNE, BILL  
Professor, Art  
1949-74

PEARCE, FRANCES M.  
Professor, Business Education  
1955-75

PEARLMAN, JOSEPH  
Professor, Music  
1965-83

PHILLIPS, ROBERT MALCOLM  
Assistant Professor, Counseling Services  
1957-93

Piner, Charles Bruce  
Professor, Art  
1958-90

PITTON, JAMES A.  
Associate Professor, Chemistry & Physical Science  
1954-91

PONDER, JOHNNY  
Instructor, Computer Information Systems  
1971-92

PONTNEY, JOAN  
Professor, Microbiology  
1969-81

POST, MARTIN  
Professor, Business Education  
1965-83

POWELL, MILDRED S.  
Associate Professor, Home Economics  
1975-85

PRICE, DAVID G.  
Professor, Electro/Mechanical Drafting  
1974-98

PRIDDY, BARBARA J.  
Professor, Business Education  
1973-98

PROUT, CARL W. A.  
Professor, History  
1966-2000

RAUB, RICHARD  
Professor, Music  
1970-93

RECCOW, LOUIS  
Professor, History  
1968-89

REES, HENRY M.  
Professor, Construction Technology  
1975-98

REESE, JAMES I.  
Professor, Geology  
1972-88

RENFRO, MARVIN W.  
Professor, Architectural Technology  
1974-93

REYNOLDS, RICHARD  
Professor, Business Education  
1964-84

RICHARDS, JERREL T.  
Dean, Counseling, Psychology & Special Services  
1958-84

RIDDICK, GLENDA  
Associate Professor, Human Development  
1971-94

RIETSTRA, EDITH  
Librarian/Professor  
1986-2000

ROJAS, EUSTACE  
Professor, Spanish  
Charter Faculty  
1949-83

ROSSO, RAYMOND  
Professor, Physical Education  
Intra-Mural Director/Charter Faculty  
1948-83

RUBINSTEIN, NANCY LEE  
Professor, Business Education  
1965-88

RUTHERFORD, CHARLES  
Professor, Instrumental Music  
1967-98

SANFORD, JOHN R.  
Associate Professor, Photography  
1969-98
SAWYER, ALAN L.
Professor, Mathematics
1957-97

SCHADE, MAXINE
Professor, Restaurant, Hotel Management
1965-92

SCHMITZ, JOSEPH
Associate Professor, Art
1972-84

SCHRYER, RONALD R.
Professor, Mathematics
1965-84

SCRIPPSMA, KENNETH E.
Associate Professor, Hotel Management
1971-92

SHANLEY, KAREN L.
Professor, Dance
1976-2000

SHARKEY, DONNA L.
Professor, Art
1962-86

SIMON, RICHARD
Professor, Communications/Business
1984-2000

SIMONDS, ROBERT
Professor, Construction Technology
1963-81

SLAUGHTER, ROBERT L.
Professor, Business Education
1968-91

SMITH, DOUGLAS C.
Professor, English
1966-98

SMITH, EDITH G.
Professor, Music
1971-98

SMITH, GLENN
Professor, Speech
1971-81

SMITH, LLOYD
Professor, Biological Sciences
1956-80

SNOW, ROSLYN
Professor, English
1962-98

STEPHENS, ROY L.
Professor, Aviation and Space
1976-94

TARZIAN, RALPH
Professor, Art
1965-84

TAYLOR, MARGARET L.
Assistant Professor, Speech/English
1968-2000

TAYLOR, OSCAR
Professor, Architecture
1949-83

THOMPSON, JEAN
Associate Dean, Community Services
1957-81

TOMCHAK, JOSEPH
Professor, Anthropology
1958-86

TUCKER, HAL RICHARD
Professor, Physical Education & Athletics
1962-95

UPTON, JOHN
Professor, Photography
1965-98

WALKER, JOAN
Professor, Radiologic Technology
1969-86

WALLACE, WESLEY V.
Professor/Director, Dental Technology
1966-83

WASSERMAN, LARRY
Professor, Art
1975-98

WATSON, NORMAN E.
Chancellor, CCCD
1952-84

WESTFALL, WENDELL
Librarian, Professor
1971-91

WETZEL, ROBERT C.
Professor, Physical Education & Athletics
1964-95

WHITESELL, JACK K.
Professor, Counseling Services
1965-98

WILSON, ROBERT L.
Dean, Business Education/Professor, Business Education
1969-95

WIN, U KYAW
Professor, Counseling Services
1968-98

WOLFE, WAYNE H.
Professor, Mathematics
1970-2000

WONACOTT, DALE
Professor, Physical Education
Assistant Football Coach
1962-86

WOOD, LARRY B.
Professor, Architectural Technology
1965-1999

WOODWARD, NELL M.
Associate Dean, Academic Administration/Vocational Ed
1964-85

WORKMAN, WILLIAM
Professor, Physical Education and Athletics
1986-2000

WYLIE, JAMES
Professor, Chemistry
1953-85

YAMAZAKI, R. ALAN
Instructor, English
1969-94

YOST, BETTY
Professor, Biology
1976-90
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