FOOTHILL COLLEGE

2014–2015 Course Catalog

FOOTHILL COLLEGE

A public two-year college of the
Foothill-De Anza Community College District

Main Campus
12345 El Monte Road
Los Altos Hills, CA 94022-4599
(650) 949-7777

Middlefield Campus
4000 Middlefield Road
Palo Alto, CA 94303-4739
(650) 949-6950

www.foothill.edu

Foothill College is accredited by the Accrediting Commission for Community and Junior Colleges (ACCJC), Western Association of Schools and Colleges. Foothill College's accreditation was reaffirmed by the ACCJC in January 2012 following the completion of a comprehensive self-study in August 2011 and site evaluation team visit in October 2011. In January 2013, the ACCJC reviewed Foothill College's Follow-Up Report, which addressed four recommendations made by the site evaluation team in 2011. In February 2013, the ACCJC wrote to Foothill College and stated that all recommendations had been addressed and any associated deficiencies resolved. Foothill College will submit a Mid-Term Report to ACCJC in Fall 2014. Learn more at **www.foothill.edu/president/accreditation.php.**

To request this publication in alternative media such as Braille or large print, call (650) 949-7017.

This Catalog Is Your Key to Success
The information you need to succeed as a Foothill College student is in this catalog. The following pages contain a wealth of information about courses, campus resources, student services, program descriptions, degree requirements, and college policies and procedures.

Use the catalog to:
- Plan your educational program;
- Review Foothill College policies and procedures;
- Learn about course and degree requirements; and
- Find important dates, phone numbers and locations.

Whether you want university-transfer preparation, career-training programs, basic skills improvement or professional development, you'll find that Foothill College is a lively center for outstanding instruction and enriching student activities. Lives change in powerful ways at Foothill College.

The Foothill College Physical Sciences & Engineering Center (PSEC), which appears on the catalog cover, opened in January 2013, and serves as the home of the college's Science Learning Institute (SLI). It is regarded as a leader in developing science, technology, engineering and mathematics (STEM) curricula.

At Foothill, we also have fun! From student clubs that match your interests to social events, from leadership classes to student government, from intercollegiate athletics to fine arts exhibits and performing arts concerts, Foothill offers you the total college experience.

Our students, faculty and staff come from a variety of backgrounds and life-stories. These traits, combined with our majestic campus, make Foothill a leader in providing students with a comprehensive, high-quality education.

Rules & Policies May Change
The Foothill-De Anza Community College District and Foothill College have made every reasonable effort to determine that information in this catalog is accurate. Changes may result from California legislature statutes or rules and policies adopted by the Foothill-De Anza Community College District Board of Trustees, chancellor or institutional designee. Courses and programs offered, together with other matters contained herein, are subject to change without notice by the administration of the Foothill-De Anza Community College District or Foothill College for reasons related to student enrollment, level of financial support, or for any other reason, at the discretion of the district and college. The district and college further reserve the right to add, amend or repeal any of its rules, regulations, policies and procedures.

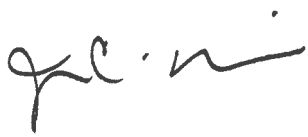
Scan this QR code with your smart phone QR reader app to see Foothill's mobile website.

/foothillcollege twitter/foothillnews

Welcome to the 2014–2015 academic year at Foothill College! As a community of scholars dedicated to student success, we welcome you to Foothill College, an outstanding choice for higher education. Foothill College is dedicated to serving our community and providing outstanding educational opportunities to our students. While state budget reductions present ongoing challenges, Foothill continues to prepare students to transfer to the universities of their choice, to offer the highest quality workforce, degree and certificate programs and to offer basic skills instruction to prepare students for college-level coursework.

Foothill College instructional programs and student services are among the best you will find in the United States. Biological and Health Sciences students consistently earn the highest scores on state and national licensure examinations. Business and Social Sciences students come from more than 90 countries and engage in local projects with global impact. Fine Arts and Communication boasts critically acclaimed performing and studio arts. Kinesiology and Athletics students strive for *mens sana in corpore sano* (a healthy mind in a healthy body). Language Arts students hone their literacy skills through rigorous curriculum in English composition and literature as well as English for Second Language Learners. Physical Sciences, Mathematics and Engineering majors enjoy state-of-the art facilities that prepare them for transfer to highly selective universities. All Foothill students have access to admissions specialists, counselors, librarians, tutors, and student club advisors who are among the many faculty and staff dedicated to making your Foothill experience both productive and enjoyable.

In saving the best for last, let me reveal that the secret of our creativity and innovation at Foothill College is our people! Students, community supporters and employees come together to create a vibrant, welcoming place of learning. Our community supporters contribute their time, money and good will, and they are an integral part of Foothill College's achievements. Our beautiful facilities and grounds are cared for by colleagues who take great pride in a job well done. Our programs and services are delivered by dedicated individuals, who are often local heroes and heroines, or state and national leaders in their fields, or winners of prestigious awards. Our students excel in academics, creative and performing arts, athletics, student government and community service. They are our *raison d'être* and our reason for joy!



Judy C. Miner, Ed.D.
President
Foothill College

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Foothill-De Anza Community College District Mission

The mission of the Foothill-De Anza Community College District is student success. We accomplish this by providing access to a dynamic learning environment that fosters excellence, opportunity and innovation in meeting the diverse educational and career goals of our students and communities. Located in the heart of Silicon Valley, Foothill-De Anza serves the communities of Cupertino, Los Altos, Los Altos Hills, Mountain View, Palo Alto, Stanford, Sunnyvale and portions of San Jose.

Foothill College Mission, Vision, Values & Purpose

Our Mission

Foothill College offers educational excellence to diverse students seeking transfer, career preparation and enhancement, and basic skills mastery. We are committed to innovation, ongoing improvement, accessibility and serving our community.

Our Vision

Foothill College envisions itself as a community of scholars where a diverse population of students, faculty and staff intersect and are engaged in the search for truth and meaning. We recognize that by necessity this search must be informed by a multiplicity of disciplinary modes of inquiry. In order to ensure that every student has the opportunity to share in this vision, Foothill College commits itself to providing students with the necessary student support services, outstanding instruction, and opportunities for leadership both within and outside the classroom. By enacting this vision, the college ensures that it remains the distinctive and innovative institution it has been since its inception.

Our Values

- Honesty
- Integrity
- Trust
- Openness
- Transparency
- Forgiveness
- Sustainability

Our Purpose

To provide access to educational opportunity for all with innovation and distinction.

Our Institutional Learning Outcomes

An important aspect of upholding institutional integrity is maintaining focus on the Foothill College institution-level learning outcomes (ILOs), also known as the 4-Cs. These are:

- Communication;
- Computation;
- Creative, Critical & Analytical Thinking; and
- Community/Global Consciousness & Responsibility.

Every course at Foothill College addresses at least one of these ILOs. In addition to incorporating and reflecting the synthesis of the cognitive and affective domains of learning, the ILOs provide a framework for the development of breadth and depth in courses and programs, and are the basis of all learning experiences at Foothill College.

Since the Foothill College Academic Senate and Curriculum Committee adopted the institution-level learning outcomes as the general educational student learning outcomes, the college's general education pattern is designed to integrate the 4-Cs across the curriculum. The Foothill College general education (GE) pattern, inclusive of courses in the seven areas of humanities, English, natural sciences, social and behavioral sciences, communication and analytical thinking, United States cultures and communities, and lifelong understanding, supports the college's institution-level learning outcomes. Completion of the GE pattern provides students with the depth and breadth of knowledge, and the skills and abilities that will enable them to be productive lifelong learners, ethical human beings and effective citizens.

Accreditation

Foothill College is accredited by the Accrediting Commission for Community and Junior Colleges (ACCJC), Western Association of Schools and Colleges. Foothill College's accreditation was reaffirmed by the ACCJC in January 2012 following the completion of a comprehensive self-study in August 2011 and site evaluation team visit in October 2011. In January 2013, the ACCJC reviewed Foothill College's *Follow-Up Report,* which addressed four recommendations made by the site evaluation team in 2011. In February 2013, the ACCJC wrote to Foothill College and stated that all recommendations had been addressed and any associated deficiencies resolved. Foothill College will submit a *Mid-Term Report* to ACCJC in Fall 2014. Learn more at **www.foothill.edu/president/accreditation.php.**

Foothill College is also accredited by the American Veterinary Medical Association, American Dental Association Commission on Dental Accreditation, American Medical Association Council on Medical Education, and Commission on Accreditation of Allied Health Education Programs.

Foothill College Offers:

- associate in arts, associate in science, associate in arts-transfer and associate in science-transfer degrees, as well as certificates
- preparation for transfer to another college, university or postsecondary institution
- career education, training and services
- basic skills, English for Second Language Learners (ESLL), leadership skills and student development
- student support services to promote student success

Foothill's success is measured by the following quality indicators:

1. Access: Educational Opportunity for All
2. Student Success: Completion of Student Goals
3. Pedagogy, Scholarship & Support of Learning
4. Climate for Learning
5. Fiscal & Enrollment Stability
6. Reputation: Innovation & Distinctiveness

Our History

The Foothill-De Anza Community College District was formed Jan. 15, 1957, following several months of study by citizens groups and the California Department of Education. The district covers an area of about 105 square miles and includes the Palo Alto Unified School, Mountain View-Los Altos Union High School and Fremont Union High School districts.

On Sept. 15, 1958, the district opened a temporary campus on El Camino Real in Mountain View. The Los Altos Hills main campus of Foothill College was completed and opened to students in September 1961.

In 1967, the district opened its second campus, De Anza College, in Cupertino. The two colleges coordinate programs and services, thereby providing our students with the flexibility to enroll in courses at both campuses.

Foothill: An Outstanding Community College

Founded with the hallmark of educational opportunity for all, Foothill College is recognized internationally as one of the nation's most outstanding community colleges. Students of all ages enroll at Foothill for a single class, one- or two-year degree programs, or to complete general education requirements for transfer to four-year universities. Our academic programs lead to associate in arts, associate in science, associate in arts-transfer and associate in science-transfer degrees. They also meet the freshman and sophomore requirements of University of California, California State University and private education systems. In addition, we offer many professional and technical programs for students seeking re-training or career advancement.

Foothill serves northern Santa Clara County, educating more than 13,000 day and evening students at the Main Campus, Middlefield Campus in Palo Alto, online, and many community and industry sites each quarter.

Committed to Our Community

We are committed to community education. At Foothill College, we:

- Offer low-cost, quality education.
- Recognize that our students have different, changing educational needs.
- Strive to create a college community of students, faculty and other educational workers.

Our educational process should help you:

- Develop and recognize human dignity.
- Think for yourself, learn to learn, and practice creative arts and skills.
- Become a contributing community member.

We meet our commitments by providing:

- An academic program to help you transfer to a four-year college or university.
- Professional and technical programs to help you develop skills for job entry, re-entry and career upgrading.
- A general-education program to broaden educational and cultural experiences.
- Remedial and developmental education to bring basic skills up to full potential.
- Excellence in all academic programs, student services and community-outreach programs.
- Convenient community classrooms.
- Out-of-class activities so you can learn in less formal, more hands-on environments.
- A counseling and matriculation program to help you recognize your capabilities, and educational and life goals.
- Health services, psychological services, financial aid, job counseling, placement testing and proctoring services.
- Partnerships with social and educational agencies, business and industry to determine and serve our community's educational needs.

- Cultural programs, recreational activities, resources and facilities available to the general public.

We Celebrate Diversity

We value the diversity of students on our campus and continually work to meet the needs of this entire population. Our faculty, staff and administrators believe that teaching a multicultural perspective is just as important as teaching reading, writing and technology in today's world.

"The Most Beautiful Community College"

The Foothill College campus is located on 122 acres in the rolling foothills of Los Altos Hills. The campus adjoins El Monte Road and Interstate 280, the scenic Junipero Serra Freeway.

The American Institute of Architects has honored Foothill for its outstanding design, and a *San Francisco Chronicle* architecture critic called our campus "the most beautiful community college ever built." The distinctive Pacific-style architecture harmonizes with the surrounding hillside community, creating a beautiful and informal atmosphere conducive to college study.

Measures C Campus Improvements

Measures C and E are bond measures to renovate existing college facilities as well as construct new facilities at Foothill College and De Anza College. Voters approved the passage of Measure E in 1999 and the passage of Measure C in 2006. Funding for Measure C projects is generated from general obligation bonds. These funds are not subject to state budget cuts and can only be used for facilities projects. To review Measure C projects at Foothill College, access **www.foothill.edu/news/construction.php.**

Campus Highlights

- All-Weather Track
- Appreciation Hall
- Bamboo Garden & Azumaya Meditation Pavilion
- Campus Center
- Computer Centers
- Dental Health Clinic
- Football Stadium
- Golf Instruction Complex
- Hubert H. Semans Library & Instructional Support Center
- Interdisciplinary Electronic Arts (IDEA) Center
- Japanese Cultural Center
- Krause Center for Innovation
- Lohman Theatre
- Lower Campus Complex
- Middlefield Campus in Palo Alto
- Observatory
- Olympic-Size Swimming Pool
- Physical Sciences & Engineering Center
- PSME Center
- Robert C. Smithwick Theatre
- Softball/Soccer Field
- Student-Operated KFJC-FM Radio Station
- Teaching & Learning Center
- Tennis Courts
- Veterans Resource Center
- Veterinary Technology & Environmental Horticulture Complexes
- Wellness Center

Public Events

Foothill presents a variety of public events throughout the year. These events include plays and musicals, athletic events, plant sales, gallery exhibits, cultural activities and science lectures. For more information, review the college's event calendar at **www.foothill.edu.**

The highly successful Foothill College Celebrity Forum series, created by Dr. Richard Henning, brings high-profile speakers to Flint Center at De Anza College in Cupertino. For more information, call **(650) 949-7176** or access **www.celebrityforum.net.**

Facility Rental

Foothill College parking lots, classrooms, conference rooms, physical education facilities, theatres, dining room and PSEC facilities are available for rent to the public when they area not being used for campus activities. Rental fees include space rental, equipment and labor.

If you are interested in renting a Foothill facility, access the rental website at **www.foothill.edu/facilityrentals/.** For additional information or to schedule facilities, call:

- Foothill Main Campus, (650) 949-7057;
- Robert C. Smithwick Theatre, Lohman Theatre or Appreciation Hall, (650) 949-7252; and
- Foothill Middlefield Campus, (650) 949-6953.

Important Campus Phone Numbers

Area Code 650 unless otherwise noted

Emergency 911

Admissions & Records
949-7325

Bookstore *949-7305*

Counseling Appointments
949-7423

Disability Resource Center
949-7017

District Police (Non-emergency)
949-7313

Evening/Weekend Programs
949-7253

Extended Opportunity Program & Services (EOPS)
949-7207

Facilities Rental
949-7057

Financial Aid
949-7245

Health Services
949-7243

Honors Institute
949-7638

Internships
949-7208

Library
949-7392

Lost & Found
949-7313

Marketing & Communications
949-7362

Placement Testing
949-7650

Prerequisites/ Matriculation Office
949-7298

Psychological Services
949-7910

Student Activities
949-7282

Theatre Box Office
949-7360

Transfer Center
949-7235

Teaching & Learning Center
949-7447

Veterans Resource Center
949-7001

Middlefield Campus

Main Number
949-6950

Admissions
949-6980

Bookstore
949-6975

Career & College Connections
949-6957

Counseling
949-6959

The Hub (Student Services & Computer Lab)
949-6958

Student Life

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Cheerleading & Dance Squad

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Community Service

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Leadership

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Student Life

Athletics

Foothill is a member of the Coast Conference of the California Community College Athletic Association and NorCal Football Conference. Our men's intercollegiate teams compete in basketball, football, soccer, tennis and swimming. Our women's intercollegiate teams compete in basketball, water polo, soccer, tennis, volleyball, softball and swimming. For more information, call the Kinesiology & Athletics Division at **(650) 949-7222**.

Campus Center

To enhance your college experience, Foothill has developed, designed and opened a state-of-the-art Campus Center. We invite you to use the center for a meal or quick snack, take a break in the Hearthside Lounge and enjoy the breathtaking vistas from the center's outdoor plaza. You'll also find the following services and programs in the Campus Center:

- Altos Conference Room (Room 2019)
- ASFC Design Center (Room 2017)
- ASFC Smart Shop/OwlCard (Room 2016)
- Associated Students of Foothill College (ASFC) Student Government (Room 2011)
- Bookstore (Room 2301)
- College & Career Connections (Room 2150)
- Community Ambassador Program (Room 2150)
- Council Chambers (Room 2018)
- Dean of Student Affairs & Activities (Room 2002)
- Dining Room (Room 2201)
- District Police (Room 2103)
- Health Services (Room 2126)
- Hearthside Lounge (Room 2313)
- Middle College Program (Room 2152)
- Psychological Services (Room 2120)
- Student Accounts (Room 2005)
- Student Activities Office (Room 2009)
- Toyon Conference Room (Room 2020)
- Veterans Resource Center (Room 2014)

Campus Clubs

Campus clubs and organizations cater to a variety of student interests, including academic, athletic, cultural, political, religious, social, special interest and service groups.

We encourage student participation in extracurricular organizations and authorize clubs to develop from sufficient student interest. Club leaders and members may earn leadership/community service units. Each club must have a faculty or staff advisor. For more information, call the Student Activities Office at **(650) 949-7282.**

Campus Radio

Foothill owns and operates KFJC-FM 89.7, a 250-watt educational radio station. If you are interested in technical operation or administration, and programming of educational and entertainment features, call the Fine Arts & Communication Division Office at **(650) 949-7262.**

Cheerleading & Dance Squad

Foothill's Cheerleading & Dance Squad promotes college spirit throughout the year and allows participants to earn limited academic credit. Squad members serve as ambassadors of goodwill, school spirit, scholarship and leadership. For more information, call the Kinesiology & Athletics Division at **(650) 949-7742**.

College Hour

College Hour spotlights student activities—speakers, workshops, cultural programs, information fairs, Club Day, Health Fair and University Transfer Day, entertainment, music and political forums—**Wednesdays from noon to 1 p.m.** Most classes are not scheduled during this hour so you can participate. For more information, call the Student Activities Office at **(650) 949-7282.**

Community Service

Foothill students can volunteer at non-profit community organizations in San Mateo and Santa Clara counties. Learn more about opportunities to benefit youth, seniors, the environment, the homeless and many other worthy causes. To earn college credit, enroll in the *SOSC 79* course. For more information, call the student activities director at (650) 949-7282.

Cultural Enrichment

The Student Activities Office works with the Associated Students of Foothill College (ASFC), faculty, staff, academic divisions and community organizations to present lectures, seminars and forums highlighting art, music, drama, politics, athletics and current issues.

The Heritage & Health Month series includes Health Month; Native American Heritage Month; Jewish Heritage Month; Black History Month; Women's

History Month; Asian Pacific Islander Month; Native American Month; Latino Heritage Month; and Lesbian, Gay, Bisexual & Transgender Heritage Month. These celebrations are just some of the popular events that have earned campus and community recognition. For more information, call the Student Activities Office at (650) 949-7282.

Leadership

Student government provides our student body the opportunity to self-govern and participate with faculty, staff and administration. Leadership and service courses are offered for additional training. You can participate and gain valuable training and experience in the following areas:

- Administration
- Advocacy
- Broadcast communication
- Budget development
- Decision making
- Event coordination
- Governance
- Group dynamics
- Leadership theory and styles
- Marketing
- Organizational development
- Parliamentary procedure
- Planning
- Policy development and implementation
- Problem solving and conflict resolution
- Speech communication
- Student rights and responsibilities
- Team building
- Time management

You can also apply to be a member of Campus Ambassador Program. Ambassadors help with events, hospitality, campus tours and outreach activities.

Practical leadership experience is also available through the Associated Students of Foothill College (ASFC) Campus Council and campus-governance committees. Elections are held during Spring Quarter. For more information, call the ASFC Office at **(650) 949-7281.**

Student Activities Office

Foothill's Student Activities Office offers programs, services and opportunities to develop and enhance leadership skills, prepare for civic responsibility, explore diverse cultures, and help build a strong sense of college community. The staff also helps students, campus clubs and other organizations plan and coordinate events. For more information, call **(650) 949-7282** or visit Room 2009.

Student Services & Programs

Student Services & Support Programs

Admission & Placement Testing Services

Campus Support Centers

Personal Support Services

Special Assistance Services

Special Studies & Programs

Student Services & Programs

Student Services

Student Success & Support Program

The Student Success & Support Program (3SP) is a state-mandated agreement between you and Foothill College to help you reach your educational destination. Our responsibility is to provide:

- an admission process;
- orientation to college programs, services and procedures;
- pre-enrollment placement testing;
- counseling for educational planning and course selection;
- continuous follow up of your progress; and
- referrals to support services.

Your responsibility is to:

- express an educational major at entrance;
- declare a specific educational objective within a reasonable period of enrollment;
- be diligent about class attendance and completing assigned coursework; and
- strive to complete courses and progress toward an educational goal according to Foothill and California standards.

Orientation

The CNSL 5: Introduction to College Course

If you are a new student, new transfer or former student, you must enroll in the *CNSL 5: Introduction to College* course. The *CNSL 5* course may be waived only if the student has provided official transcript proof that he/she has completed 30 quarter units or more of college credit, an associate degree or higher, or an equivalent course at another college. Counseling staff will provide basic information about Foothill services and programs, and requirements for associate and bachelor's degrees, general education and specific majors. Orientation topics may also include time-management techniques, study skills, selecting a major, college success factors, and general education and university transfer requirements.

Placement test scores are used in the *CNSL 5* course as an advisory tool and to help you develop an educational plan for your skill levels. The course is offered each quarter and during Summer Session. See the online class schedule *CNSL 5* listing. For more information, refer to **www.foothill.edu/counseling.**

Counseling

Foothill counselors can help you:

- set realistic university transfer and career goals;
- prepare an education plan and with course selection;
- resolve personal concerns that may interfere with your ability to succeed; and
- make appropriate referrals as needed.

Counseling appointment services are available to Foothill College students with current and active campuswide identification numbers (CWID). To schedule an appointment at the Main Campus, access **fhcounseling.foothill.edu/esara/counseling/eSARS.asp**. To schedule an appointment at the Middlefield Campus, access **fhcounseling.foothill.edu/esars/middlefield_counseling/eSARS.asp**.

Transfer Center

The Transfer Center offers transfer and career resources and workshops. If you are interested in transferring to a four-year college, transfer staff can help with transfer information, completing applications and essays, and choosing the best college.

The Transfer Center offers many services, including a resource of library of books, publications and videos, current college catalogs, EUREKA (computerized career-guidance software), job binders, transfer newsletter, and Internet access for career/transfer-related research.

Throughout the year, the center hosts representatives from the University of California and California State University campuses, and numerous private colleges and universities. These representatives meet one to one with students who plan to transfer. You must sign up in advance to meet with a representative. In Fall Quarter, college representatives visit the campus on Transfer Day to meet with students.

Each quarter, the Transfer Center compiles a comprehensive calendar of workshops, events and campus tours. Transfer workshops include transfer admission agreements, essay writing for college applications, choosing a college, UC applications, and preparing to transfer to a private university. For more information, access **www.foothill.edu/transfer/.** To pick up a copy of the calendar, visit the Transfer Center in Room 8329.

Internships

Internships offer a unique opportunity to gain valuable experience under the mentorship of a professional at a Silicon Valley corporation, nonprofit or public agency. Internships enhance your university transfer application as well as your professional resume.

Foothill College offers internships for students in majors such as psychology, business, engineering, computer science, graphic arts, physical and biological sciences, office administration, multimedia and many others. Internships can be arranged with Bay Area employers and educational institutions. U.S. citizenship is required at some internship sites. Internships may be paid or unpaid. Some can be arranged for college credit, depending upon department approval.

To get started, access **www.foothill.edu/internships/.**

Admission & Placement Testing Services

Student Classifications

To understand Foothill admission and placement testing procedures, you need to know your student classification:

- Continuing Student: You were enrolled at Foothill last quarter
- Former Student: You've attended Foothill, but were not enrolled during the previous quarter (Summer Session does not apply)
- Freshman: You've completed fewer than 45 units of college credit
- Full-Time Student: You're enrolled in 12 or more units this quarter. Or you're enrolled in 6 units during Summer Session
- International Student: You have applied and been accepted to the Foothill College International Students Program
- New Student: You've never enrolled at any college
- New Transfer Student: You have attended a college other than Foothill
- Non-Resident Student: You have not met California residency requirements and must pay non-resident tuition
- Sophomore: You've completed 45 or more units of college credit and haven't earned a degree

Placement Tests

Testing is required for students enrolling in *CHEM 1A, 25* and *30A; ENGL 1A* or *110;* all ESLL (except *ESLL 200A*); and all mathematics courses except *NCBS 401A*. Placement testing is offered on a computer only. Testing is conducted by appointment, access **www.foothill.edu/placement.** If you have successfully completed college-level math, chemistry and English courses, you may be placed in the appropriate math, chemistry, and/or English course by a counselor. To schedule a counseling appointment, access **www.foothill.edu/counseling/counselappt.php.** If you have placement test scores from another college, you may fax them to the attention of the Foothill College Assessment Office at (650) 949-6125. You may enroll in the following courses without placement testing: *ENGL 209,* any NCEL course, and *NCBS 401A*.

Foothill College also offers ability-to-benefit placement testing for the student who lacks a high school diploma and is requesting federal financial aid.

For more information on placement testing services, access **www.foothill.edu/placement/.**

Campus Support Centers

Krause Center for Innovation

Located in Building 4000, the Krause Center for Innovation (KCI) provides open access to a variety of multimedia resources and an open computing lab with Windows and Macintosh workstations. Students can use the lab for online research, papers or other class assignments. For more information, call (650) 949-7680.

Library Services

The Hubert H. Semans Library has more than 90,000 books, periodicals, newspapers and a variety of multimedia resources. You can browse the best-seller reading collection or take a self-paced course to learn how to use a modern library. Our online catalog helps you locate books by subject, title or author. Various computer databases make it easy to find articles in periodicals. You can also access the Internet and search various databases and websites. For more information, call (650) 949-7086, hours; (650) 949-7608, reference desk; (650) 949-7611, circulation.

The Library will undergo a one-year renovation beginning July 2014 and its services will be relocated on campus, including:

- ETS relocated to Building 5800
- Foothill Global Access relocated to Room 5960B
- Library relocated to Building 3600
- Media Center relocated to Room 5941
- Pass the Torch Program relocated to Room 5911
- Teaching & Learning Center relocated to Room 5912
- Technical Services relocated to Room 5960A

For more information, call (650) 949-7086, hours; (650) 949-7608, reference desk; (650) 949-7611, circulation. Access Foothill's online library at **www.foothill.edu/library/**.

PSME Center
The Physical Sciences, Mathematics & Engineering (PSME) Center offers free support and tutoring in mathematics, physics, chemistry, engineering, computer science and biology. Foothill's PSME faculty and graduate students staff the center, where one-to-one tutoring is offered in a supportive and stress-free environment. The center also has numerous computers with the latest math, chemistry and physics software applications; plus programming software for computer science students. The PSME Center is located in Room 4213, and is open weekdays. For more information, call (650) 949-7042.

Media Center
Located in Rooms 5941–5942, the Media Center provides access to a variety of multimedia resources, including non-print materials, audiovisual workstations, and an open computing lab with Macintosh and Windows workstations. Currently enrolled students can use the lab for online research, papers or other class assignments. For hours or more information, call (650) 949-7445.

Foothill Observatory
Operated by the Peninsula Astronomical Society, the Foothill Observatory offers weekly public programs. These programs allow Foothill students and the public to view the day and evening sky with the observatory's large astronomical telescope. The observatory is adjacent to Building 4000. For hours of operation, call (650) 949-7334.

Pass the Torch
Pass the Torch is a one-to-one study team program supporting students in the following subjects: English (reading and composition), English for Second Language Learners (ESLL) composition and mathematics. Study teams consist of a team leader and a team member. The leader, who has earned a successful grade in the subject or has been recommended by his/her instructor, tutors the team member who is currently enrolled in the subject. Teams are matched by their mutually available study times; the pair meets a minimum of two hours each week. Computer and Internet access are available for program participants' use. For more information, call (650) 949-7687.

Teaching & Learning Center
Foothill College offers reading and writing instruction for individual students, groups and classes at the Teaching & Learning Center. Drop-in assistance is available, as is access to support software, and peer support, and one-on-one appointments. The center is open Monday through Friday and some evening hours. For hours, directions, or to make an appointment, call (650) 949-7687.

Personal Support Services

Health Services
The Health Services Office provides confidential health care services to students. Direct free services include flu shots (Fall Quarter), primary care appointments, basic over-the-counter medications, blood pressure checks, one-to-one smoke cessation counseling, and nicotine patches and gum.

Additional on-campus services that are offered on a sliding payment scale by Planned Parenthood include birth control, pregnancy testing, sexually transmitted disease and HIV testing, urinary tract infection treatment, and reproductive health care. Services that are available at cost include physicals, immunizations, lab tests and prescription medications. For more information or to schedule an appointment, visit Room 2126 or call (650) 949-7243.

Housing
Foothill has no dormitory facilities, but the Student Activities Office maintains a rental-listing resource binder. Foothill College does not supervise, recommend or assume responsibility for any housing facility. To list available housing, call (650) 949-7282. To review the resource binder, visit Room 2009.

Psychological Services
Licensed mental health professionals, counselors and graduate interns offer short-term, confidential, no-fee personal counseling to registered Foothill students. Services include individual, couple, family and group counseling. Services are provided in the Psychological Services Office. For psychological services appointments or information, visit Room 2120 or call (650) 949-7910.

Special Assistance Services
The Disability Resource Center, located in Room 5997, provides disability access information, academic support, computer training, counseling, on-campus shuttle and other services. Accommodations for placement testing are available to qualifying students.

For on-campus service and disability accommodation information, call (650) 949-7017. For accommodations for deaf and hearing-impaired students, e-mail Brenda Davis at DavisBrenda@fhda.edu.

The DRC also offers courses and services on campus and in the community for physically, communicatively, learning, developmentally and psychologically disabled adults. Consult the quarterly class schedule online for site and courses under Adaptive Learning. For more information about community-based programs and special classes, call (650) 949-7017.

To request this or any Foothill College publication in alternative media such as electronic text, Braille or large print, e-mail the DRC at **adaptivelearningdrc@fhda.edu** or call (650) 949-7017.

Foothill College offers an alternative path for the student with a verified disability who requests academic modifications and does not want to participate in Foothill's Disability Resource Center programs. For information, call or visit Patricia Hyland, Foothill College ADA/504 coordinator and dean of Student Affairs & Activities at or Room 2002.

EOPS Department

The Extended Opportunity Program & Services (EOPS) and Cooperative Agencies Resources for Education (CARE) are state-funded programs that serve financially and educationally disadvantaged students.

The EOPS and CARE offices are located in the Student Services Center in Room 8202. For program requirements, call (650) 949-7207 or access **www.foothill.edu/services/eops/.**

Veterans Assistance & Services

The Foothill College Veterans Resource Center and Counseling Division staff assist veterans in planning their educational goals while using their Montgomery G.I. Bill, Veterans Educational Assistance Program or Selected Reserve Educational Assistance Program. The college accepts credit from institutions accredited by one of the six regional accredited associations or follows the recommendations of the American Council on Education. Assistance for dependents who qualify for educational benefits is also available.

According to policies of the United States Veterans Administration, students receiving VA eductional benefits (veterans, reservists, dependents) must maintain satisfactory progress. Students receiving VA benefits who fall below a 2.0 grade-point average (GPA) will be placed on academic probation. If unsatisfactory progress continues for two consecutive quarters, students will have benefits suspended until GPA returns to satisfactory progress of 2.0 GPA or better.

For more information, call the Foothill Veterans Resource Center at (650) 949-7001 or e-mail **XuerebCarmela@foothill.edu.**

Refunds & Grading Options for Students Called to Active Military Service

If you are called to military duty before completing your term of study, you may choose from the following options.

- Refund: Petition for an official withdrawal with a full refund of enrollment fees, student fees and non-resident tuition, if applicable. You'll receive a full refund for all books and materials purchased from the college bookstore.
- Credit: Petition for an official withdrawal with credit for enrollment fees, student fees and non-resident tuition, if applicable, toward future enrollment. You may later opt to receive a refund.
- Grade of Incomplete: Request a grade of (Incomplete) from the instructor. Regulations require you to complete the course within one year, but you can request an extension in special circumstances.

Forms for these services are available in the Admissions & Records Office in Room 8101.

Special Studies & Programs

Evening College

If you work during the day or would prefer to take classes in the late afternoon, evening or weekend, Foothill's Evening College offers hundreds of classes each quarter. The Evening College Office is located in Room 1908. For more information, visit or call (650) 949-7253.

Foothill Global Access (Online Learning Program)

Foothill Global Access (FGA) features online courses including lectures, discussion, assignments and tests delivered via the Internet with regular opportunities for electronic interaction with instructors and other students. To enroll in online classes you must have access to a computer, the Internet and an e-mail account.

Foothill College may be required to receive state authorization to enroll students who do not reside in California. Many states have either given the college this authorization or do not require authorization. However, some states require significant fees to receive state authorization. Due to the significant and/or recurring fees for state authorization, Foothill College no longer permits a student to enroll if he/she resides in any of the following states: Arkansas, Maryland, Minnesota, Utah or Wisconsin.

For more Foothill Global Access information, access **www.foothill.edu/fga.**

International Programs

Establishing an international presence is a Foothill College priority. The college has a long history of educating international students since its opening in 1957, and its graduates hail from many diverse corners of the world, from Tonga and Ivory Coast to Kyrgyzstan, Nepal and Latvia.

The International Programs Office caters specifically to international students on F-1 visas. We provide counseling and assistance to more than 1,000 F-1 students from more than 90 different countries. F-1 status is available to foreign citizens who commit to study full time in the United States in programs leading to an associate degree or bachelor's degree at a four-year university through Foothill's transfer pathways. Admission to Foothill is flexible, convenient and personalized. Applications are accepted three times a year for Fall, Winter and Spring quarters. For admissions requirements and application procedures, access the admissions section at **www.foothill.edu/international/ad.php.** Foothill also hosts international students on other visa types, such as J-1, H-1B, H-4, L-2 or F-2. The college has approximately 1,200 international students on all visa types, earning Foothill a #11 spot in the U.S. on the *Institute of International Education's Open Doors Report* ranking associate degree institutions with the largest and most diverse international student populations. Important: Applicants who do not hold or intend to apply for an F-1 status are considered domestic students for application purposes and should apply as non-residents by completing the *Domestic Student Application Form* at **www.foothill.edu/admissions.php.** The International Programs Office features a team of caring multilingual professionals who ensure that students have an outstanding educational experience at Foothill and in the U.S. Our services include a new student orientation program with comprehensive academic, immigration and cultural counseling; regular immigration advising and seminars by a dedicated advisor regarding regulations that affect F-1 student status from passports, visas, employment, travel and academic issues; CINTAX tax-filing assistance program; medical insurance program; and publication of the *I-NEWS* monthly newsletter.

Additionally, the office creates programs and initiatives that support international students as they adjust to the campus and community, expand their horizons and share their unique heritage and cultural backgrounds. Special activities include monthly coffee hours, free tickets to the Celebrity Forum, field trips to Bay Area attractions, Thanksgiving dinner, ice-skating trip and International Student Connection Club. The office also coordinates large-scale programming initiatives aimed at internationalizing the Foothill campus, such as the annual International Film Festival, International Night and Lunar New Year celebrations.

For information about admissions, e-mail **foothillinternational@fhda.edu.** For information about international marketing and activities, e-mail **fhinternational@fhda.edu.**

Middle College: The High School Alternative

Foothill Middle College Program coordinators understand that not all students fit the mold of the traditional high-school student. This alternative program works with at-risk students to rekindle the enthusiasm for learning.

The program offers a serious learning environment in which students must take control of their own learning, explore individual interests through more diversified course offerings, and complete high school graduation requirements. Middle College is based at the Main Campus in Room 2152. For an application or more information, access **www.foothill.edu/programs/middle.php.**

Middlefield Campus Programs

Foothill has offered classes at community sites for more than two decades. Today, approximately 4,000 of our students enroll in classes at Foothill's Middlefield Campus and more than 50 other convenient community locations.

The Middlefield Campus, located at the Cubberley Community Center in Palo Alto, is a full-service campus. It offers computer labs, an art lab, student lounge, gyms, weight room, bookstore and classrooms. The Middlefield Campus is also home to the Foothill Child Development, Paramedic, EMT and Pharmacy Technician programs, and the Family Engagement Institute.

A variety of support services are available at the Middlefield Campus, including counseling, Map Your Future, College & Career Connections, financial-aid assistance, open PC and Mac computer labs, OwlCard distribution and photo station, and placement testing services. We can process all admissions and registration transactions at either the Middlefield Campus or Main Campus.

For more information, call Foothill's Middlefield Campus Career & College Connections at (650) 949-6957. For Middlefield Campus programs information, call (650) 949-6950 or access **www.foothill.edu/middlefield/.**

Occupational Training Institute

The Foothill-De Anza Occupational Training Institute (OTI) offers career and occupational training for

students who are eligible through assistance programs, including CalWORKs (TANF/Welfare to Work), Workforce Investment Act (WIA), North American Free Trade Agreement (NAFTA), Trade Adjustment Assistance (TAA) and Computer Technical Support (CompTechS).

OTI supports intensive career and occupational training, internships and job placement for eligible students who are also economically disadvantaged or dislocated workers. Instructional and related activities are designed to prepare students with the specific skill needs of the job market, as well as to enhance the employability of the students. OTI supports Foothill and De Anza colleges' career training programs such as medical, technical, business and administrative occupations.

Students who participate in CalWORKs (TANF) or who is referred by a WIA or EDD office, may be eligible to receive OTI help to achieve academic and career goals; access academic, career and personal advisement/counseling; develop an individual education plan; purchase required textbooks for classes (limited); pay for child care (limited); receive priority registration (CalWORKs); obtain a paid work-study job or internship; search for employment; access medical care through MediCal, Healthy Kids and Covered California; seek mental health assessments and assistance; obtain referrals to various community services; and receive a computer for school work at no charge through CompTechS.

If a student is referred to OTI by a contracting agency (e.g. Workforce Board), the contracting agency is responsible for paying the OTI administrative fee of $631.03 per quarter, subject to change by state and/or district action. If the student is not referred by a contracting agency, he/she may be personally responsible for paying administrative fees. All referred students may be responsible for textbooks, supplies and parking fees, depending on funds available through the referring contracting agency.

An internship program for students who are interested in careers in information technology, OTI's CompTechS Program is features donated and refurbished computers that are then made available to Foothill students who are referred by the college's Financial Aid Office.

For more information, visit the OTI Office (Room 5004), call (650) 949-7465 or access **www.deanza.edu/oti.**

Veterans Resource Center

The Foothill College Veterans Resource Center (VRC), located in Room 2014, offers veterans and active duty students a welcoming environment to adapt their military skills to civilian life, earn associate degrees or specialty career certificates, and complete university transfer-transfer requirements. The center's goal is to help students achieve their educational and career goals in a supportive environment through academics, camaraderie and wellness.

The VRC provides all military personnel and their families with a convenient, on-campus entry point to access special services, including veterans educational benefits information, financial aid, academic counseling, peer support, mentoring and other services. For more information, visit the VRC, call Veterans Program Specialist Carmela Xuereb at (650) 949-7001, e-mail **XuerebCarmela@foothill.edu** or access **www.foothill.edu/vet/.**

Professional & Workforce Development

Foothill College realizes that its commitment to serve the workforce must extend beyond the classroom curriculum, and degree and certificate programs. The reality of global competition and increasing job complexity means that organizations have a continuing need for their employees to learn new skills and fill in knowledge gaps to ensure high-quality job performance.

Employers find timely and cost-effective solutions outside traditional college credit offerings in working with the Foothill College Professional & Workforce Development Center. The center offers employers a variety of customized training solutions—on-site instructor-led classes, Web-based training, coaching, on-the-job training, just-in-time skills acquisition, consultations, needs assessments and other services. Programs range from soft skills workshops to advanced technical training. A quick response to client needs, hands-on training and practical application drive our customized solutions that transform business processes and employee productivity for our training partners. For more information, call (650) 949-7797 or access **www.foothill.edu/workforce/.**

Short Courses

Foothill and De Anza colleges offer approximately 150 fee-based, short courses each quarter. Nearly 12,000 students enroll in these courses each year.

The Short Courses Office is located at De Anza College in the Student and Community Services Building. In accordance with the Civic Center Act, the college is only designated as a place for community groups when there is no interference with the regular educational program. For more information, access **communityeducation.fhda.edu/** or call (408) 864-8817.

Financial Planning & College Costs

Student Fees

Instructional Materials Fees

Estimated Annual Cost of Attending Foothill College

Examples of Additional Costs

Refunds & Repayments

Financial Aid

State Aid

Other Aid

Textbooks & Supplies

Financial Planning & College Costs

Student Fees

All students pay $31 per unit[1]. In addition, the non-resident student tuition fee and the foreign student tuition fee is $149 per unit, for a total of $180 per unit.

Foothill charges additional fees for Campus Center use, on-campus parking, lab courses, student-body activities (voluntary) and health services. International F-1 Visa students are required to purchase comprehensive health insurance for $480 each quarter.

All fees, which are posted online at **www.foothill.edu**, are subject to change. Tuition and fees may be refunded under certain circumstances; the specific refund policy is posted online. Direct questions about tuition and fees to the Admissions & Records Office in Building 8100 or call (650) 949-7325.

Instructional Materials Fees

In some courses, there may be an instructional materials fee. These fees, detailed in the online class schedule, reflect the actual cost for materials, meaning that the cost is usually lower than if you were to purchase the same items separately. Unless there's an issue of health or safety, you can either pay the fees to the college or provide your own materials of equal quality. Your instructor will provide a list of required materials.

Estimated Annual Cost of Attending Foothill College

It's important for you to financially plan your education. The following cost estimates are calculated for a student attending Foothill College full time (enrolled in 15 units) for nine months.

2014–2015 Cost of Attendance

California Resident (9 months)	Reside At Home No Dependents	All Others
Fees	$1,500[§]	$1,500[§]
Books / Supplies	$1,746	$1,746
Room / Board	$4,644	$11,646
Transportation	$1,278	$1,278
Misc. / Personal	$3,132	$3,132
Total	**$12,300***	**$19,302***

[§] *Based on institutional average*

**Excludes cost of textbooks.*

Additional Fees

- Materials Fee: amount varies.
- Non-Resident Student Tuition Fee: $149 per unit per quarter, in addition to the $31-per-unit enrollment fee.

Examples of Additional Costs

For students enrolled in allied health programs (primary care associate, dental hygiene, etc.), special fees, lab fees, tooling, and other related costs may be added to the normal cost of attendance. Expenses for dependent care, disability-related costs and campus abroad costs may also be considered with documentation.

Refunds & Repayments

Refunds

The college maintains a refund policy for tuition and fees at the Admissions & Records Office and book purchases at the bookstore. A community college district shall not refund any enrollment fee paid by a student for program changes made after the first two weeks of instruction for a primary term-length course, or after the 10-percent point of length of the course for a short-term course, unless the program changes are a results of action by the district to cancel or reschedule a course or to drop a student pursuant to Section 58106(g) where the student fails to meet a prerequisite. A student can request a refund for quarter-length class(es) that are dropped by the deadline. In most cases, the deadline is the second Friday of the quarter or the first Friday of Summer Session. However, this date varies by course and term. Exact drop deadline dates for each course are posted in MyPortal.fhda.edu. The student is responsible for reviewing exact drop dates. The Admissions & Records Office and Bookstore can provide the most current policies for obtaining a refund.

Repayment

The student who withdraws from the college on or before 60 percent of the quarter is completed, may be required to repay Title IV funds. The funds are repaid to the Cashier's Office and must be returned within 30 days after the college's determination that the student has withdrawn.

1 *Fees are subject to change by California legislative action.*

Financial Aid

Are You Eligible?

Financial aid eligibility is based on need—the difference between what you and your family can provide and the cost of attendance.

Your financial need is determined by the information you and your family provide through the *Free Application for Federal Student Aid* (FAFSA) or the *California Dream Application* and any Foothill College additional paperwork. Regardless as to whether the application shows unmet need or not, we may be able to help. The total amount offered cannot exceed your documented financial need, and the monies must be used solely to meet cost of attendance at Foothill (refer to chart at left).

If you are in default on a loan, or owe an overpayment on a grant or loan, you will not be eligible for financial aid until the situation is satisfactorily resolved.

Eligibility requirements are generally established once you've shown, through a completed application, that you:

- have applied for admission
- have enrolled in a financial aid-eligible academic program that requires 24 units or more to complete
- maintain satisfactory academic progress
- demonstrate verifiable financial need. Some exceptions may apply. Consult the Financial Aid Office for details
- show academic major/goals and units of enrollment that can be applied to an educational plan
- have a high school diploma, GED or the equivalent. If you do not have one of these, see the Financial Aid Office
- are a U.S. citizen, permanent resident or other eligible non-citizen (for federal aid)
- have a valid Social Security Number (for federal aid)
- register with Selective Service if required

Federal Pell Grant

Federal Pell Grants are awarded to undergraduates based on financial need. This is free grant aid that ranges up to $5,730. Maximum and minimum amounts are subject to change by federal legislative action.

Federal Supplemental Educational Opportunity Grant (FSEOG)

This federal program may be an option if you have exceptional financial need and would be unable to continue your education without a Pell Grant. The FSEOG Award is up to $600 per academic year at Foothill College.

Federal Work Study (FWS)

If you have financial need and want to earn a part of your educational expenses through employment, Federal Work Study (FWS) may be an option. You can work up to 19 hours per week while classes are in session. However you must be enrolled in a minimum of six units to be eligible for FWS. If you receive an FWS award offer, it is your responsibility to schedule an interview with the Financial Aid Office for FWS placement assistance.

Federal Direct Subsidized & Unsubsidized Student Loan

Federal Direct Loans are made by the U.S. Department of Education. As a first-year undergraduate, you may be able to borrow up to $3,500 subsidized per year. As a second-year undergraduate, up to $4,500 subsidized per year. Additional Unsubsidized Direct Loans may also be available annually. For details, visit the Financial Aid Office (Room 8103).

Federal Direct Loan totals may not exceed $31,000 for dependent undergraduates and $57,500 for independent undergraduates (no more than $23,000 can be subsidized). You begin repayment six months after you graduate or drop below half-time enrollment. During the repayment period, and upon receipt of funds for unsubsidized loans, you will be charged a fixed interest rate that will not exceed 8.5 percent on the unpaid balance and adjusted for new loans each July 1. As of July 1, 2014, the interest rate will be 3.86 percent.

Federal Direct PLUS Loan for Parents

Federal Direct PLUS Loans are made by the U.S. Department of Education. Parents of dependent undergraduate students may borrow up to the maximum of the amount determined to be unmet educational expenses.

A determination of need must be made through the FAFSA application, but Federal Direct PLUS eligibility is based on unmet educational expenses. Interest charges begin upon receipt of the loan.

State Aid

CAL Grants

To be eligible, in addition to federal aid requirements, a student must:

- be a California resident or classified as AB540, and
- not have a bachelor's or professional degree (except extended Cal Grant A or B awards for a teaching program or other five-year program), and
- file a completed FAFSA or *California Dream Application* and Cal Grant GPA Verification Form by the annual **March 2 deadline**.

Cal Grant A: Covers fees at the UCs, CSUs, and private institutions in California. This award may not be used to pay for community college fees. Funding for students who are enrolled at community colleges may be held in reserve for up to three years.

Cal Grant B: Is for high-potential students from disadvantaged or low-income families who otherwise would not be able to pursue a higher education. California community college awards are up to $1,473 per year.

Entitlement Award: Every graduating high school senior who has a grade-point average of at least 2.0, meets the Cal Grant financial and eligibility requirements and applies by March 2 within one year of graduation is guaranteed this award.

Competitive Award: The student who will enroll at a California community college and file a FAFSA, although strongly encouraged to apply by March 2, has a second **annual deadline of Sept. 2.** Other students who meet the basic Cal Grant eligibility requirements and who have at least a 2.0 grade-point average may compete for this award.

Cal Grant C: Helps vocationally oriented students acquire marketable job skills within a short time. Full- or half-time training must be for at least four months and lead to a recognized occupational goal—diploma, associate degree, license qualification or certificate. Funding is available for up to two years, depending on the length of the program, as long as academic progress is acceptable. Awards for California community college students are limited to up to $547 in training related costs.

California Chafee Grant

This federal program, administered by the California Student Aid Commission, offers college and vocational school financial aid to youth aging out of a foster care program. For up to $5,000, the student must demonstrate financial need, meet basic eligibility requirements, complete the FAFSA and the *Chafee Grant Application* available at **www.csac.ca.gov.**

Board of Governors Fee Waiver (BOGW)

While state law requires that students attending California community colleges pay an enrollment fee, the California Community Colleges offer the BOGW. This grant program waives enrollment fees for the academic year.

If you are a California resident or are classified as AB540, you qualify for a BOGW if any one of the following statements applies to your current status:

- You have qualified for financial aid and your calculated unmet need exceeds $1,103;
- You or your family are receiving TANF/CalWORKS, Supplemental Security Income (SSI) or General Assistance/General Relief;
- You have received certification from the California Department of Veterans Affairs or the California National Guard Adjutant General that you are eligible for a dependent's fee waiver; or
- You meet year-specific income standards;
- You have documentation that you are a recipient or the child of a recipient of the Congressional Medal of Honor.
- You have documentation that you are a surviving dependent of any individual killed in the Sept. 11, 2001 terrorist attack.
- You have documentation that you are a dependent of a deceased law enforcement/fire suppression personnel killed in the line of duty.

Applying for BOGW

- You are required to apply for a BOGW each academic year.
- The majority of BOGW recipients obtain eligibility by completing the FAFSA each academic year at **www.fafsa.ed.gov.**
- Some AB540 recipients obtain eligibility by completing a *California Dream Application* each academic year at **www.caldreamact.org.**
- Alternatively, some recipients obtain eligibility by downloading the BOGW form online at **www.foothill.edu/aid** or picking up the form in the Foothill Financial Aid Office (Room 8103).
- Only one application is required per year (July 1–June 30).
- You do not have to be enrolled in a specific number of units to be eligible for the BOGW.

Extended Opportunity Program & Services (EOPS)

After applying for federal and state aid, you should visit the EOPS Department.

If you are a BOGW recipient, you may qualify for EOPS services. This state-funded program has been established to encourage the enrollment, retention and graduation/university transfer of students affected by language, social, economic and educational

disadvantages who otherwise might not attend college. Full-time enrollment is required. Foothill's EOPS Department offers textbook assistance, counseling, tutoring, campus tours of four-year universities, computer lab, and transfer assistance to facilitate the successful completion of academic, career and/or personal goals. The EOPS Department faculty and staff assist participant-students as they work to achieve their goals. Program office located in Room 8202.

Cooperative Agencies Resources for Education

An EOPS supplemental program, Cooperative Agencies Resources for Education (CARE) assists EOPS participants who are single , heads of household, and Temporary Aid to Needy Family (TANF) recipients with young children. In addition to EOPS-provided services, CARE students receive additional support and services.

For program entry requirements or more information, call (650) 949-7207 or access **www.foothill.edu/services/eops.**

Other Aid

Emergency Loans

If you face an unexpected educational emergency, Foothill offers short-term loans up to $300. To qualify, you must be enrolled full time (12 units), purchase a Foothill College OwlCard and meet satisfactory academic progress requirements. These 30-day loans are interest-free. An overdue loan may be subject to additional late fees, registration holds, and assignment to collection services. Emergency loans are administered through the Financial Aid Office. For information, call (650) 949-7245.

Employment

If you're interested in working to help defray the cost of attending college, consider a part-time, on-campus position. Most of these jobs pay from $8 to $14/hour. Jobs that are not based on financial need are called "district" employment, and you must be enrolled in a minimum of 12 units to be eligible for these jobs. For information, call (650) 949-7245.

Scholarships

More than $200,000 in campus and local scholarships are awarded annually to Foothill students. Scholarships, which vary in amount, are considered academic gifts and need not be repaid. They're generally based on academic standing, financial need, potential progress in major fields of study, and college or community activities. Scholarships are computed as resources for students receiving financial assistance.

A listing of current scholarships is available at **www.foothill.edu/aid.**

Textbook Assistance

If you're eligible for Extended Opportunity Program & Services (EOPS), you may also qualify for the Textbook Assistance Program. For more information, call the EOPS Office at (650) 949-7207.

Financial Aid Answers

The goal of the Foothill Financial Aid Office is to make college accessible to all students. We feel no one should be denied an educational experience due to lack of funds. If you have questions or want more information about financial aid options, contact:

Financial Aid Office (in Room 8103 of Building 8100)
Foothill College
12345 El Monte Road
Los Altos Hills, CA 94022-4599
(650) 949-7245
e-mail: **fhfinancialaidoffice@foothill.edu**
website: **www.foothill.edu/aid**

Textbooks & Supplies

You are responsible for purchasing textbooks and supplies, including course syllabi, bibliographies and other printed materials in excess of five pages. Some courses require that you purchase additional supplies. The Foothill Bookstore sells all course texts and other items.

Textbook Accessibility

Foothill College recognizes that textbook affordability directly impacts student access and successful learning. Textbook information, including price and the International Standard Book Number (ISBN) is included on the website for the college's bookstore at **books.foothill.edu**. Foothill College makes every reasonable effort to determine that the textbook information listed online is accurate. However, textbook editions and ISBNs are subject to change without notice by either the instructor or publisher. The Foothill College Bookstore is not responsible for subsequent textbook changes if the student purchases them from another source.

Textbook Options

As a student and consumer, be aware that the college offers you several options that can reduce the cost of textbooks, including the following choices. As with any consumer purchase, you are responsible for understanding the vendor's refund/return policies. For more information call (650) 949-7058 or e-mail **fhbooks@foothill.edu.**

Purchase Used Textbooks: The Foothill College Bookstore continues to provide a large selection of used textbooks at up to 25-percent off the new textbook price. Look for used textbooks both online and in store. Review available titles as well as policies and restrictions at **books.foothill.edu**. Used textbooks may also be available at other retail bookstores;

Buy E-Books: With a valid OwlCard, you can rent textbooks from the Foothill College Bookstore. Review available rental titles as well as policies and restrictions at **books.foothill.edu**;

Swap Books: Buy and sell your used books directly with other students. Listings for the student-run book exchange are free to review. Review available titles, instructions and policies at **www.foothill.edu/books;**

Use Textbooks Placed on Reserve in the Foothill College Library: Be aware that some books on reserve cannot be checked out. Review more library reserve instructions and policies at **www.foothill.edu/library;** and

Sell Your Books During Book Buyback: The Foothill College Bookstore buys back titles that instructors have requested for the following quarter at up to 50 percent of the new price. Thousands of other titles may be bought back each quarter for wholesale value, up to 40-percent cash back. Buyback operates on a first-come, first-served basis. The quantity being bought back by the Foothill College Bookstore is limited and may be reached at any time. The price paid during buyback is subject to the condition of the book and may change without notice. Review more buyback information, dates and policies at **books.foothill.edu**.

Additional Textbook Resources

Textbooks and course materials are now eligible for a tax credit under the American Recovery & Reinvestment Act's (ARRA) newly created American Opportunity Tax Credit. To learn more about this option as well as how to claim the tax credit, review the IRS instructions posted online at **www.textbookaid.org.**

Academic Divisions

Biological & Health Sciences
(650) 949-7249

Business & Social Sciences
(650) 949-7322

Counseling & Student Services
(650) 949-7423

Fine Arts & Communication
(650) 949-7262

Instructional Services & Libraries
(650) 949-7086

Kinesiology & Athletics
(650) 949-7742

Language Arts
(650) 949-7250

Physical Sciences,
Mathematics & Engineering
(650) 949-7259

Programs of Study

Academic Divisions

Foothill College General Education Pattern

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Programs of Study

Foothill College General Education Pattern

The Foothill College general education (GE) pattern is designed to ensure that students meet the four institutional/General Education Learning Outcomes. Also known as the college's 4-Cs, these are:

1. **Communication:** Demonstrate analytical reading and writing skills, including evaluation, synthesis and research; deliver focused and coherent presentations; and demonstrate active, discerning listening and speaking skills in lectures and discussions; and
2. **Computation:** Demonstrate complex problem-solving skills, technology skills, computer proficiency and decision analysis (synthesis and evaluation); apply mathematical concepts and reasoning; and demonstrate the ability to analyze and use numerical data; and
3. **Creative, Critical & Analytical Thinking:** Judgment and decision making, intellectual curosity, problem solving through analysis, synthesis and evaluation, creativity, aesthetic awareness, research method, identifying and responding to a variety of learning styles and strategies; and
4. **Community/Global Consciousness & Responsibility:** Social perceptiveness, including rspect, empathy, cultural awareness, and sensitivity, citizenship, ethics, interpersonal skills and personal integrity, community service, self-esteem, interest in and pursuit of lifelong learning.

Completion of the Foothill College GE pattern requires that students successfully earn a minimum of 30–35 units from the courses listed on pages 74–75 with at least one course in English, humanities, natural sciences (with lab), social and behavioral sciences, communication and analytical thinking, United States cultures and communities, and two courses in lifelong learning from two different academic departments.

It is imperative to note that this pattern is only appropriate for students who are pursuing a Foothill College associate in arts or associate in science degree. Students who plan to earn the A.A.-T or A.S.-T degree (pages 29–30) must complete either the Intersegmental General Education Transfer Curriculum (IGETC) (page 76) or CSU General Education Breadth (page 77) patterns.

Students are strongly advised to meet early and often with a Foothill counselor to determine which pattern will best meet their goals.

Select a Major

Selecting a college major is an important step—one that establishes your career goals and determines where you should direct your academic efforts.

Majors within career and transfer programs are described within the following pages. The chart on pages 31–34 summarizes degrees and certificates available as of Summer Session 2014. Consult curriculum sheets located on the website and available in the Counseling Center, Room 8301, for the most current degree and certificate information. You can also consult with a Foothill counselor to develop a strategy for selecting your college major. To schedule a consultation, call **(650) 949-7423**.

Certificate Programs

Foothill offers the following types of certificate programs:

- Certificate of Achievement
- Certificate of Completion (non-credit)
- Other Division Certificates
  - Career Certificate (non-transcriptable)
  - Certificate of Proficiency (non-transcriptable)
  - Certificate of Specialization (non-transcriptable)
  - Skill Certificate (non-transcriptable)

For information about certificates, contact the division office for unit requirements, course sequences and major requirements. Foothill awards these certificates when you satisfactorily complete certain specialized programs requiring fewer than two years of full-time study. Certificate programs comprise (1) a complete curriculum pattern or (2) major and related courses selected from an Associate in Arts or Associate in Science degree curriculum at the recommendation of an advisory committee.

The following state requirements apply to Certificate of Achievement programs:

- A minimum of 18 quarter units that follow a prescribed course pattern;
- A minimum GPA of 2.0 for these units; and
- Minimum proficiency in math as evidenced by successful completion of MATH 57, 105, 108 or equivalent.
- Minimum proficiency in English as evidenced by successful completion of ENGL 1A, 1AH, 1S & 1T, ESLL 26 or the equivalent.
- Fifty percent of the program courses must be completed in residence for most certificates. For more information, schedule an appointment with a counselor.

Other Foothill College divisions also offer certificates of completion, proficiency, specialization, career and skills. These certificates will not appear on the student's transcript. General requirements include the prescribed coursework and a GPA of at least 2.0 in these courses. More information on specific requirements is available in the division office offering the certificate or from a Foothill counselor.

Types of Associate Degrees Offered at Foothill College

While many students complete an associate degree in preparation for immediate entry into the job market, earning an associate degree may also serve as excellent preparation for transfer to a four-year college or university. By earning an associate degree, you indicate to potential employers, transfer institutions and society that you not only have specialized knowledge in a particular area of study. Rather, degree completion also signals that you have gained critical and analytical thinking ability, written and oral communication skills, and are able to consider issues with ethical and global perspective.

You are strongly advised to meet with a Foothill counselor early to decide which degree best suits your academic needs and for assistance in planning your course of study. Requirements for all Foothill College associate degrees include completion of (1) a minimum of 90 quarter units in a defined set of courses; (2) a minimum of 18 units successfully completed at Foothill College; (3) a grade point average of 2.0 or better in all college courses including Foothill courses; (4) a major or area of emphasis of at least 27 units in a curriculum approved by the Foothill College Curriculum Committee; and (5) general education coursework. There are significant differences in the general education requirements depending upon the degree you are pursuing; consequently, you are again urged to meet with a Foothill counselor to determine which general education pattern is most appropriate.

The four types of associate degrees offered are:

Associate in Science Degree (A.S. Degree)

The A.S. degree is awarded to students who complete all of the requirements in a major or area of emphasis in the areas of science, technology, engineering or mathematics. This degree also requires completion of the Foothill College General Education requirements **or** IGETC **or** CSU GE Breadth. Students who plan to complete this degree and who also intend to transfer to a four-year college or university are advised to meet early and often with a Foothill counselor for assistance in developing an educational plan that satisfies both sets of requirements.

Associate in Art Degree (A.A. Degree)

The A.A. degree is awarded to students who complete all of the requirements in a major or area of emphasis in the liberal arts, social sciences and fields other than science, technology, engineering or mathematics. This degree also requires completion of the Foothill College General Education requirements **or** IGETC **or** CSU GE Breadth. Students who plan to complete this degree and who also intend to transfer to a four-year college or university are advised to meet early and often with a Foothill counselor for assistance in developing an educational plan that satisfies both sets of requirements.

Transfer Associate Degrees

The Student Transfer Achievement Reform Act (*Senate Bill 1440*, now codified in California Education Code sections 66746-66749) guarantees admission to a California State University (CSU) campus for any community college student who completes an "associate degree for transfer", a newly established variation of the associate degrees traditionally offered at a California community college. The Associate in Arts for Transfer (A.A.-T) or the Associate in Science for Transfer (A.S.-T) is intended for students who plan to complete a bachelor's degree in a similar major at a CSU campus. Students completing these degrees (A.A.-T or A.S.-T) are guaranteed admission to the CSU system, but not to a particular campus or major. In order to earn an A.A.-T orA.S.-T degree, students must complete a minimum of 90 required quarter units or 60 required semester units of CSU-transferable coursework with a minimum GPA of 2.0. While a minimum GPA of 2.0 is required for admission, some majors may require a higher GPA. Students transferring to a CSU campus that does accept the A.A.-T or A.S.-T will be required to complete no more than 90 required quarter units or 60 units after transfer to earn a bachelor's degree (unless the major is a designated high-unit major). This degree may not be the best option for the student who intends to transfer to a particular CSU campus or to a university or college that is not part of the CSU system. The student should consult with a counselor when planning to complete the degree for more information on university admission and transfer requirements.

Associate in Science-Transfer (A.S.-T Degree)

Similar to the A.S. degree, the A.S.-T degree is awarded to students who complete all of the lower-division major preparation requirements for a related major in the areas of science, technology, engineering or mathematics for one or more local CSU campuses. This degree also requires completion of either the CSU General Education/ Breadth Requirements or the Intersegmental General Education Breadth Requirements (IGETC). Students who plan to complete this degree and who intend to transfer to a non-local CSU, UC or other college or university are advised to meet early and often with a Foothill counselor for assistance in developing their educational plan.

Associate in Arts-Transfer (A.A.-T Degree)

Similar to the A.A. degree, the A.A.-T degree is awarded to students who complete all of the lower-division major preparation requirements for a related major in academic areas such as the liberal arts, social sciences and related fields other than science, technology, engineering or mathematics for one or more local CSU campuses. This degree also requires completion of either the CSU General Education/ Breadth Requirements or the Intersegmental General Education Breadth Requirements (IGETC) Students who plan to complete this degree and who intend to transfer to a non-local CSU, UC or other college or university are advised to meet early and often with a Foothill counselor for assistance in developing their educational plan.

Curriculum Advisory Committees

At Foothill, we strive to ensure that our career education curriculum meets the needs of business, industry and government. This is why we invite a number of occupational leaders to advise us on:

- new courses and course content;
- facilities and equipment;
- nature and extent of employment needs;
- how to evaluate the appropriateness of contents of existing courses; and
- how to evaluate student performance.

We continually implement the recommendations of more than 30 occupational advisory committees. A campus advisory committee for vocational education also meets periodically to review and make recommendations for career education. For information on specific courses, consult your counselor or review the program's curriculum sheet online at **www.foothill.edu.**

Grade Requirements for Specified Career Program Courses

A grade of **C** or better in certain career courses is required before you can enroll in the next program course:

- Computer Science
- Dental Assisting
- Dental Hygiene
- Diagnostic Medical Sonography
- Paramedic
- Pharmacy Technician
- Primary Care Associate
- Radiologic Technology
- Respiratory Therapy
- Veterinary Technology

Professional & Technical Programs Leading to a Career Upon Completion

- Accounting
- Adaptive Fitness Therapy
- Child Development
- Computer Science
- Dental Assisting
- Dental Hygiene
- Diagnostic Medical Sonography
- Enterprise Networking
- Environmental Horticulture & Design
- Geographic Information Systems
- Graphic & Interactive Design
- Music Technology
- Nanotechnology
- Paramedic
- Pharmacy Technician
- Photography (Applied)
- Primary Care Associate
- Radiologic Technology
- Respiratory Therapy
- Theatre Technology
- Veterinary Technology

Apprenticeship Programs

Call the numbers listed for more information about apprenticeship programs.

- **Electrician/Residential Electrician:** San Jose, (408) 453-1022; San Francisco, (415) 587-2500
- **Ironworkers:** Fresno, (559) 497-1295
- **Plumbing/Pipefitting:** Monterey, (831) 633-6312; Sacramento, (916) 383-1102; San Jose, (408) 453-6330; San Mateo, (650) 692-0442
- **Refrigeration/Heating & Air Conditioning:** San Jose, (408) 453-6330; Sacramento, (916) 383-1102
- **Sheet Metal:** Castroville, (831) 633-6151; Petaluma, (707) 762-0181; San Jose, (408) 263-1712; San Leandro, (510) 483-9035
- **Sound & Communication**: Northern California/Bay Area, (408) 453-3101.

Degrees & Certificates Offered at Foothill College

Curriculum sheets describing general education and career training courses required for these programs are available in the respective division office, Counseling Center (Room 8301) and online at **www.foothill.edu/programs/.** The quarterly class schedule lists each program alphabetically, courses offered each quarter, division office URLs and contact phone numbers.

Program	Completion Award
Accounting	AA, CA
Certified Public Accountant Examination Preparation	CA
Bookkeeping Specialist	CP
Enrolled Agent Preparation	CP
Financial Accounting	CCC
Payroll Preparation	CP
Tax Accounting	CCC
Tax Specialist	CP
Adaptive Fitness Therapy	AA, CA
Anthropology	AA, AA-T
Applied Anthropology	CP
Cultural Resource Management	CP
Medical Anthropology	CP
Forensic Anthropology	CP
Apprenticeship	CA, CCC
Field Ironworker	CA
Plumbing/Pipe Trades	CA, CCC
Sheetmetal	AS, CA, CCC
Sound & Communication	CCC
Art	AA, CA
Art History	AA, CA

Legend

AA Complete this program in approximately two years and earn the Associate in Arts Degree. *See a counselor and refer to pages 74–75 for requirements.*

AA-T Complete this program in approximately two years and earn the Associate in Arts-Transfer Degree. *See a counselor and refer to pages 29–30 for requirements.*

AS Complete this program in approximately two years and earn the Associate in Science Degree. *See a counselor and refer to pages 74–75 for requirements.*

AS-T Complete this program in approximately two years and earn the Associate in Science-Transfer Degree. *See a counselor and refer to pages 29–30 for requirements.*

CA Complete this program and earn the Certificate of Achievement. *See division office for requirements.*

CC Complete this program and earn the Certificate of Completion. Non-transcriptable. *See division office for requirements.*

CCC Complete this program and earn the Career Certificate. Non-transcriptable. *See division office for requirements.*

CP Complete this program and earn the Certificate of Proficiency. Non-transcriptable. *See division office for requirements.*

CS Complete this program and earn the Certificate of Specialization. Non-transcriptable. *See division office for requirements.*

SC Complete this program and earn the Skills Certificate. Non-transcriptable. *See division office for requirements.*

Review official curriculum sheets for career opportunities and course listings. Curriculum sheets are available in the division office, Counseling Center (Room 8301) and online at **www.foothill.edu/programs/.**

Degrees & Certificates Offered at Foothill College–continued

Program	Completion Award
Athletic Injury Care	AS
Biological Sciences	AS
Business Administration	AA
Business Management	CCC
E-Commerce & Electronic Business	CCC
Entrepreneurship	CCC
Marketing	CCC
Business International Studies	AA, CA
Chemistry	AS
Child Development	AA
Child Development Teacher	CA
Early Childhood Education	CS
Inclusion & Children with Special Needs	CS
Infant Toddler Development	CS
Program Supervision & Mentoring	CA
School-Age Child Care	CS
Communication Studies	AA, CP, CS
Computer Science	AS, AS-T
Dental Assisting	AS, CA
Dental Hygiene	AS
Diagnostic Medical Sonography	AS, CA
Economics	AA
Engineering	AS
Biomedical Devices	CP
Rapid Prototyping	CP
English	AA, AA-T
Enterprise Networking	AS
Cisco Academy CCNA	CP
Cisco Academy CCNP	CP
Microsoft Windows MCSA	CP
VMWare	CP

Legend

AA Complete this program in approximately two years and earn the Associate in Arts Degree. *See a counselor and refer to pages 74–75 for requirements.*

AA-T Complete this program in approximately two years and earn the Associate in Arts-Transfer Degree. *See a counselor and refer to pages 29–30 for requirements.*

AS Complete this program in approximately two years and earn the Associate in Science Degree. *See a counselor and refer to pages 74–75 for requirements.*

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Review official curriculum sheets for career opportunities and course listings. Curriculum sheets are available in the division office, Counseling Center (Room 8301) and online at **www.foothill.edu/programs/.**

Degrees & Certificates Offered at Foothill College—continued

Program	Completion Award
Environmental Horticulture & Design	AS, CA
General Electrician	AS, CA, CCC
General Studies: Science	AS
General Studies: Social Science	AA
Geography	AS, AA-T
Geographic Information Systems	CA
Graphic & Interactive Design	AA, CA
Book Arts	SC
Garment Printing	SC
Graphic Design	SC
Illustration	SC
Motion Graphics	SC
Printmaking	SC
Printmaking Studio	SC
Video Design	SC
Web Design & Development	CCC
History	AA, AA-T
Humanities	AA
Japanese	AA
Leadership & Service	CP
Mathematics	AS, AS-T
Music General	AA
Music History & Literature	CP
Music Technology	AA, CA, SC
Game Audio	CP
Pro Tools	CP
Song Writing	CP
Nanoscience	AS, CA
Nanocharacterization	CP
Nanofabrication	CP
Nanostructures	CP
Non-Credit Geriatric Home Aide	CC
Non-Credit Job Readiness	CC
Non-Credit Mathematical Foundations	CC

Legend

AA Complete this program in approximately two years and earn the Associate in Arts Degree. *See a counselor and refer to pages 74–75 for requirements.*

AA-T Complete this program in approximately two years and earn the Associate in Arts-Transfer Degree. *See a counselor and refer to pages 29–30 for requirements.*

AS Complete this program in approximately two years and earn the Associate in Science Degree. *See a counselor and refer to pages 74–75 for requirements.*

AS-T Complete this program in approximately two years and earn the Associate in Science-Transfer Degree. *See a counselor and refer to pages 29–30 for requirements.*

CA Complete this program and earn the Certificate of Achievement. *See division office for requirements.*

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Review official curriculum sheets for career opportunities and course listings. Curriculum sheets are available in the division office, Counseling Center (Room 8301) and online at **www.foothill.edu/programs/.**

Degrees & Certificates Offered at Foothill College—continued

Program	Completion Award
Paramedic	AS, CA
Pharmacy Technician	AS, CA
Philosophy	AA, AA-T
Photography	AA, CA
Digital Photography	CA
Photo Criticism	SC
Photographic Laboratory Technician	SC
Traditional Photography	CA
Physical Education	AA
Physics	AS, AS-T
Political Science	AA
Popular Culture	CP
Primary Care Associate	AS, CA
Psychology	AA, AA-T
Radiologic Technology	AS
Respiratory Therapy	AS
Sociology	AA, AA-T
Spanish	AA
Studio Arts	AA-T
Theatre Arts	AA, CC
Theatre Technology	AA, CA, CCC
Transfer Studies-CSU GE	CA
Transfer Studies-IGETC	CA
Veterinary Technology	AS
Online Veterinary Assisting	CCC
Women's Studies	AA

Legend

AA Complete this program in approximately two years and earn the Associate in Arts Degree. *See a counselor and refer to pages 74–75 for requirements.*

AA-T Complete this program in approximately two years and earn the Associate in Arts-Transfer Degree. *See a counselor and refer to pages 29–30 for requirements.*

AS Complete this program in approximately two years and earn the Associate in Science Degree. *See a counselor and refer to pages 74–75 for requirements.*

AS-T Complete this program in approximately two years and earn the Associate in Science-Transfer Degree. *See a counselor and refer to pages 29–30 for requirements.*

CA Complete this program and earn the Certificate of Achievement. *See division office for requirements.*

CC Complete this program and earn the Certificate of Completion. Non-transcriptable. *See division office for requirements.*

CCC Complete this program and earn the Career Certificate. Non-transcriptable. *See division office for requirements.*

CP Complete this program and earn the Certificate of Proficiency. Non-transcriptable. *See division office for requirements.*

CS Complete this program and earn the Certificate of Specialization. Non-transcriptable. *See division office for requirements.*

SC Complete this program and earn the Skills Certificate. Non-transcriptable. *See division office for requirements.*

Review official curriculum sheets for career opportunities and course listings. Curriculum sheets are available in the division office, Counseling Center (Room 8301) and online at **www.foothill.edu/programs/.**

Academic Policies

Revision of College Policies

Admission & Enrollment Policies

General Program Requirements

General Registration Information

Residency Requirements

Unit Limitation

Academic Disqualification,
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College Credit for Advanced Placement Exams

College & District Policies

Code of Conduct for etudes™ Internet-Based Courses

Student Right-to-Know Summary Report

Use of Photography

Crime Awareness & Campus Security Summary Report

Academic Policies

Revision of College Policies

Any policy adopted by the college administration shall supersede any ruling on the same subject that appears in this catalog or in other official publications once the revised regulation is posted on a campus bulletin board or printed in the *online class schedule*.

Academic Freedom

Academic freedom encompasses the freedom to study, teach and express ideas and viewpoints, including unpopular and controversial ones, without censorship, political restraint or retribution. Academic freedom allows for the free exchange of ideas in the conscientious pursuit of truth. This freedom exists in all service areas, including but not limited to teaching, librarianship, counseling, coordinating and all faculty-student interactions. Academic freedom is the bedrock principle of all institutions of learning and must be extended to all faculty regardless of their status as full time, part time or probationary.

Faculty members have the principal right and responsibility to determine the content, pedagogy, methods of instruction, the selection, planning and presentation of course materials, and the fair and equitable methods of assessment in their assignment in accordance with the approved curriculum and course outline and the educational mission of the Foothill-De Anza Community College District, and in accordance with state laws and regulations. These rights and responsibilities include, but are not limited to, the faculty member's choice of textbooks and other course materials, assignments and assessment methods, teaching practices, grading and evaluation of student work, and teaching methods and practices.

Source: Foothill-De Anza Community College District Board Policy 4190 **(www.fhda.edu).** Approved April 20, 1960; amended Nov. 18, 1996; approved by Foothill College Academic Senate June 1, 2009; approved by De Anza College Academic Senate June 8, 2009; approved by Foothill-De Anza Community College District Board of Trustees Jan. 5, 2010

For more information on Foothill-De Anza policies, access **www.fhda.edu/about_us/board/policy.**

Admission & Enrollment Policies

Academic Prerequisites, Credit & Placement

Many courses require that you complete prerequisites in order to enroll. These prerequisites are listed under each course description in this catalog and the *online class schedule*.

All courses listed with a prerequisite have a registration block. If you have completed a course to fulfill the prerequisite requirement at another college, you must first provide a transcript and a course description. To clear a prerequisite, download the *Prerequisite Clearance Form* at **www.foothill.edu/reg/forms.php.** Submit the completed form and required documentation either by fax, mail or in person to the Counseling Office. Allow approximately three business days for processing.

The college has the authority to drop you from any course if you have not met the necessary prerequisites. For refund policies, contact the Admissions & Records Office in Room 8101.

If you submit written or performance evidence showing you have sufficient competence in the area of study due to previous training or experience, you may be able to enroll in a course without completing the listed prerequisites. You can only do this, however, if your counselor, instructor or division dean provides authorization.

Admission Guidelines

Foothill has an open-door admission policy for all high-school graduates and non-graduates who are 18 years of age or older. Students enrolled in their junior and senior year of high school may attend Foothill College with written parental and school permission. Forms for parental and school permission are available in the Admissions & Records Office (Room 8101), Middlefield Campus and at **www.foothill.edu.**

Special admission procedures such as additional testing, application forms and counseling sessions are required for admission to a number of career programs. Some of these programs begin only in the Fall Quarter. You must complete all special admission requirements in the preceding Spring Quarter. Programs in this category include dental assisting, dental hygiene, primary care associate, radiation science, diagnostic medical sonography (ultrasound), radiologic technology, respiratory therapy and veterinary technology.

Prequisites, Corequisites & Advisories

Prerequisites, corequisites and advisories are intended to guide the student into courses in which he/she will have the greatest chance for academic success.

- ***Prerequisite*** means a condition of enrollment that a student is required to meet in order to demonstrate current readiness for enrollment in a course or educational program.
- *Corequisite* means a condition of enrollment consisting of a course that a student is required to simultaneously take in order to enroll in a course or educational program.

- *Advisory* of recommended preparation means a condition of enrollment that a student is advised, but not required, to meet before or in conjunction with enrollment in a course or educational program.

Challenging Prerequisites

You may challenge prerequisites and corequisites if you can demonstrate that:

- You have the knowledge or ability to succeed in the course without the prerequisite or corequisite.
- You will be subject to undue delay in attaining your educational goal because the prerequisite or corequisite has not been made reasonably available.
- The prerequisite or corequisite is unlawfully discriminatory or is being applied in an unlawfully discriminatory manner.
- The prerequisite or corequisite has been established in an arbitrary manner.

The student may clear a prerequisite or corequisite by providing any of the following:

- Proof of coursework taken at another U.S. college or institution,
- AP test score of 3 or higher,
- Assessment/Placement Exam score (Math, English, ESLL, Chemistry),
- Proof of coursework taken at a college outside the U.S.,
- Other/Challenge: if you do not meet any of the above, a prerequisite clearance requires dean or director approval.

To challenge a prerequisite or corequisite, complete the *Academic Release of Hold(s) Agreement Form,* available online at **www.foothill.edu/reg/forms/hold_release_agreement.pdf.** Complete the form and attach the required documentation as stated on the form. Fax, mail, e-mail or drop off the complete form and documentation to the Counseling Office prior to the first day of the quarter. Allow three days for the form to be processed before attempting to register. You will only be notified by e-mail if the petition is denied.

Counseling Division (Bldg. 8300)
Foothill College
12345 El Monte Road
Los Altos Hills, CA 94022-4599
(650) 949-7245
fax: (650) 949-6125
e-mail: **prereqclearfh@fhda.edu**

Open Course Policy

It is the policy of the Foothill-De Anza Community College District that, unless specifically exempted by statute or regulation, every course, course section or class reported for state aid, wherever offered and maintained by the district, shall be fully 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 regulations contained in California Code of Regulations Title 5 commencing with Section 55000.

Enrolled Student Classifications

You are a matriculated student if you have filed an *Application for Admission*, enrolled at Foothill and have done **one** of the following:

- Submitted high school and other transcripts;
- Met with a Foothill College counselor, counseling associate or career advisor to examine educational opportunities;
- Announced an intention to study for a degree or certificate;
- Begun a series of introductory, general education or special courses; or
- Begun a series of special courses leading to a certificate or degree.

Exceptions to Admissions & Registration Policies

To request an exception to a published policy, you must file an exception petition. Forms are available in the Admissions & Records Office in Room 8101, at the Middlefield Campus Administration Building and online at **www.foothill.edu.**

General Program Requirements

All beginning freshmen must enroll in the *CNSL 5: Introduction to College* course, or demonstrate proof that they have completed an equivalent course. If you are eligible for *ENGL 1A*, you should complete this course by the end of the third quarter of enrollment; you may take a communication course first. If you are eligible for *ENGL 110* or *209*, you should complete these courses during the first or second quarter.

You may receive up to 10 quarter units of credit for each score of 5, 4 or 3 on College Entrance Board Advanced Placement Tests. Your Foothill transcript will show units but will not indicate grades. The Evaluation Office, located in the Counseling Center, Room 8301, provides information on how the advanced placement scores are marked on transcripts and the equivalencies for the University of California and California State University.

Foothill College will accept a score of 60 or better on the college algebra CLEP examination as equivalent to *MATH 105*. The college is currently reviewing additional CLEP examinations to determine if they, too, may be used for course credit for other Foothill College courses.

If you want to transfer credit from an armed services school or other special institution, you may apply through a counselor. It's possible these credits will be accepted toward the associate in arts or associate in science degree once you have successfully completed a minimum of 15 units at Foothill.

General Registration Information

If you are a new or former student, you must submit the *Application for Admission* by the quarterly deadline posted at **www.foothill.edu.** We encourage you to complete the application, complete the placement testing process and submit necessary transcripts as early as possible.

Students planning to transfer to Foothill are advised to submit transcripts from high schools and colleges previously attended.

If you plan to receive veterans benefits, apply for financial aid or earn a degree or certificate, you must submit transcripts. Request previous institutions to send your transcripts directly to the Foothill College Admissions & Records Office, 12345 El Monte Road, Los Altos Hills, CA, 94022-4599.

International students on F-1 visas must follow specific admissions requirements. For more information, review **www.foothill.edu/international.**

To register for Foothill College classes, follow the online registration instructions published in the *online class schedule* and on the college website at **www.foothill.edu.** The class schedule for the current academic term is posted online. Online information is subject to change. We encourage you to review the website frequently. For more information, call the Admissions & Records Office at **(650) 949-7325**.

Residency Requirements

Foothill College generally serves the communities of Palo Alto, Mountain View, Los Altos and Los Altos Hills, and our sister school, De Anza College, generally serves the cities of Cupertino and Sunnyvale. Both colleges, however, accept students from outside these cities.

If you are an out-of-state student, you are considered a non-resident until you have satisfied current California residency requirements. This rule applies to visa-holding, non-citizens eligible to establish residency. Non-resident tuition is required of all students in this category. The student who has had a change in residency, and was initially charged out-of-state fees in error, may request a refund within the academic year (prior to June 30) of the documented residency change.

If you are an international student with an F-1 visa, you are not eligible for California residency.

Unit Limitation

An average class load is 15 units per quarter. The maximum number of allowable units per quarter without a counselor's approval is 21.5 units. If you intend to enroll in more than 21.5 units, you must obtain a counselor's approval and submit a petition to the Academic Council. The maximum number of allowable units for Summer Session is 12 units. To complete the petition process, schedule a consultation with a Foothill counselor by calling **(650) 949-7423.**

Academic Disqualification, Course Substitutions & Graduation Requirements

Make an appointment with your counselor to resolve problems such as disqualification and readmission, course substitutions, and exceptions to graduation requirements. To schedule an appointment, visit Counseling Appointments in the Counseling Center, Room 8301, or call **(650) 949-7423.**

Disqualification

You may be dismissed from Foothill College if you are on probation for three consecutive quarters. If you are disqualified, you will receive notice of dismissal by mail the following quarter. Dismissal will be reviewed by the Academic Council at your request. You may be readmitted after a one-quarter absence (excluding Summer Session). Consult with a Foothill counselor for readmission policies and procedures.

Academic In-Class Issues

If you have academic complaints, including treatment in a course or program, you should seek to resolve the problem by speaking with these people, in this order:

1. Course instructor;
2. Division dean (make an appointment through the division administrative assistant);
3. Division dean's supervisor;
4. Vice president, Student Services; Room 8104; **(650) 949-7524**.

Academic Regulations

The Academic Council is responsible for academic regulation evaluation, enforcement, interpretation and exceptions. You can obtain petitions in the Admissions Office (Room 8101), Counseling Center (Room 8302) or access **www.foothill.edu/reg/forms.php.**

Academic Renewal

The academic renewal process permits students the opportunity to request the exclusion of entire quarters of coursework from the Foothill College grade-point average up to a maximum of 45 units. Eligibility for academic renewal requires that you meet specific criteria. Consult your counselor for more information.

Add/Drop Date

You are responsible for initiating the drop process and for notifying both the instructor and Admissions & Records Office.

The last day to add classes without petitioning is the end of the second week of instruction. The deadline to drop a class without a **W**-mark is at the 20-percent mark of the course. Exact drop dates vary per course. To determine drop dates for your courses, consult MyPortal.fhda.edu. The maximum number of withdrawals (**W**-marks) from the same course is two, which are counted toward the overall enrollment limit of three. If you have questions or concerns about **W**-marks, schedule a meeting with a Foothill counselor at (650) 949-7423 or **www.foothill.edu/counseling/.** You cannot drop after the eighth week. You may receive no more than two **W**-marks in any one course. For Summer Session class drop dates, consult the current class schedule or online college calendar at **www.foothill.edu.**

Probation

There are two types of probation: academic and progress probation:

- Academic probation occurs when your grade-point average is below 2.0.
- Progress probation occurs when after attempting 12 units, at least half of the units received are **W** (withdrawal), **I** (incomplete) or **NP** (no pass).

Correcting these situations will result in removal from probation. If you're placed on probation, you must consult a counselor for academic and procedural advice. You will be notified of probation by mail the following quarter.

Assignments & Examinations Regulations

As a Foothill student, you're expected to do your own work on examinations and course assignments. Each instructor will enforce certain regulations to ensure honesty. If you violate these regulations, you will be dropped from the class, and the circumstances may be entered in your permanent record. Further difficulty in this respect may result in disqualification from Foothill College. See page 50 of this catalog and/or obtain the *Honor Code Booklet,* available from the Student Affairs & Activities Office, Room 2002.

Attendance

Regular and punctual attendance is an integral part of the learning process. As a Foothill student, you are expected to attend all scheduled classes in which you are enrolled. An instructor has the authority to drop a student who violates written attendance policies. Instructors are not obligated to hold seats for students who are enrolled but do not attend the first class meeting.

Audit Request Procedures

A number of Foothill classes are available for audit. To be eligible, you must have already taken and completed the class at Foothill the number of times permitted, and received a grade of **C** or better. Audit requests must have the signature of the instructor before you submit the request to the Admissions & Records Office. Auditors are admitted on a space-available basis.

The audit fee is $10 per unit. If you're currently enrolled in 15 or more units, fees for the first five audit units are waived. Approved audit requests will be accepted beginning the second week of class.

Cancellation of Classes

Classes may be canceled when enrollments are lower than planned. Foothill College has the authority to change or cancel courses and programs as circumstances require.

Class Preparation/Progress

After prior notification, an instructor may drop students who demonstrate insufficient preparation/prerequisites. In addition, any instructor may drop students who persistently neglect class assignments or demonstrate inadequate progress.

Class Size & Frequency

Minimum class-size guidelines apply to all lecture, lecture/lab and laboratory classes at Foothill. While a minimum class size is generally required, special circumstances may necessitate continuing a class that does not meet these guidelines.

Exceptions are based on program needs such as second-quarter, third-quarter or second-year sequential courses; courses required for an identified major or career; combined courses meeting at the same hour with the same instructor; and one-of-a-kind offerings needed for graduation or transfer. Exceptions may also be based on the following:

- Limited classroom or laboratory facilities; or
- Statutory and state regulations mandating class size, independent study, special projects and cooperative education.

Other circumstances that warrant exception are made by the Educational Resources & Instruction Office.

Course Repetition

Unless exceptions are specifically indicated in course descriptions in this catalog, you cannot repeat a course that you completed with a grade of **C** or better. State law allows you to repeat a class no more than twice to remove a substandard grade (D, F, NP or W). There is no limit on the number of times you may enroll in courses designed to meet a legally mandated training requirement as a condition of continued paid or volunteer employment.

If you successfully repeat and pass a course at Foothill or De Anza colleges in which a substandard grade had previously been recorded, the substandard grade(s) will be excluded for the purposes of calculating GPA and for all considerations associated with the awarding of certificates and degrees. It is important to note that all grade notations (including withdrawals) remain on your academic transcript, and that some transfer institutions may require recalculation of the GPA to include both the substandard grade and the subsequent grade. You may petition to replace a substandard grade earned at Foothill College with a passing grade subsequently earned at another accredited college or university. See "Petition to Replace Substandard Grade for Foothill College GPA Calculation" on page 47.

Active Participation Course Limitation (Course Families)

Pursuant to the California Community College Board of Governors, a student may not have more than six enrollments in any active participatory courses that are related in content. This limitation also applies to the student who receives a substandard grade (D, F, NP or NC) or withdrew from a course with a W-mark for one or more of the enrollments (CCR § 55000).

Active participatory courses included in this restriction are courses in physical education, visual arts and performing arts offered within the Foothill-De Anza Community College District.

Foothill College and De Anza College have created "Course Families" within the district to address this limitation. These families include courses from Foothill and De Anza that contain related or similar content, and therefore, can only be taken in any combination for no more that six enrollments.

Prior to Fall 2013, the student was able to repeat active participatory courses. However, as of Fall 2013, all active participatory courses are non-repeatable and can only be taken one time subject to the limitation set forth in Title 5 [CCR §55040(c)].

This limitation does not contain a grandfather clause. Therefore, if the student has reached the maximum times of enrollment within a family, then he/she cannot enroll in any course within the family again within the Foothill-De Anza Community College District.

Additionally, if the student enrolls in a Foothill course that is equivalent to a De Anza course, within a course family, he/she may not take the De Anza course at any time and vice versa.

For example: ART 4B at Foothill is equivalent to ARTS 4B at De Anza. If you have completed or plan to enroll in ART 4B at Foothill, then you cannot have completed or plan to enroll in ARTS 4B at De Anza.

Credit by Examination (Challenge)

As an enrolled Foothill student, you may be able to obtain credit by examination in subject matters or fields for which you are especially qualified through training or experience, but for which you have not already received college course credit or advanced placement credit.

The *Petition for Credit by Examination* form is available online at **www.foothill.edu/reg/forms.php.** You may also obtain petitions from the division office of the course that you want to challenge during the first week of classes. The list below identifies those courses for which credit by examination is currently available. You may not challenge other courses. Prior to submitting a *Petition for Credit by Examination*, you are required to obtain approval from either the appropriate academic division dean or course instructor to verify your eligibility.

Examinations will normally be completed by the end of the second week. Units earned through credit by examination will be identified on your transcript. No course may be challenged during a term after which the class has met for two weeks. Credit by examination is not available during the summer term. If you have previously failed a course, you are not eligible to petition for credit by examination in that course. Units of credit received through this procedure may not apply toward the minimum of 18 resident units required at Foothill College for the associate degree. A maximum of 30 units may be earned via credit by examination in the Foothill-De Anza Community College District. Units earned through credit by exam are not considered for financial aid, scholarship or veteran services eligibility and payments.

There are special limitations for challenging foreign language courses, courses that depend on laboratory or activity experiences, or sequential courses. You may not challenge a course at a lower level than one you have successfully completed in the same department.

The examination may include written, oral or skill tests, or a combination of all three. This examination will determine whether you have demonstrated essentially the same knowledge and skills as students who successfully complete the traditional course. To obtain credit by examination, you are required to be enrolled in the course. The instructor will inform you about the requirements for successful completion. The examination grade will be entered as the course grade on your permanent record.

Although the University of California and California State University systems accept, within certain limitations, appropriate credits obtained by examination, Foothill College cannot guarantee that other institutions will do so. If you are pursuing credit by examination, you are encouraged to discuss the transfer and graduation implications with a counselor.

The following courses are available for credit by examination: *GEOG 12, 58, 101A, 101B, 101C* and *101D*.

College Credit for Advanced Placement (AP) Exams

- The student may earn credit for AP tests with scores of 3, 4 or 5. AP credit can be used to meet IGETC, CSU GE and Foothill A.A. or A.S. general education (GE) and/or major requirements.
- The student is responsible for formally requesting that the College Board send AP exam results to the Foothill College Evaluations Office (12345 El Monte Road, Los Altos Hills, CA 94022-4599) for use on the A.A., A.S. or GE patterns.
- Course credit and units granted at Foothill College may differ from course credit and units granted by a transfer institution.
- Programs noted with an asterisk (*) are not offered at Foothill College.

College Credit for Advanced Placement (AP) Exams					
Exam	**Foothill A.A./ A.S. (Major and/ or GE)**	**CSU GE**	**CSU Units Earned toward Transfer**	**IGETC**	**UC Units Earned toward Transfer**
Art History	Score of 3, 4 or 5 is acceptable for *ART 2A* credit	Area C1 or C2 3 semester units	6 semester units	Area 3A or 3B 3 semester units	8 quarter/5.3 semester units
Art (Studio)	No credit awarded	N/A	3 semester units	N/A	8 quarter/5.3 semester units
Biology	No credit awarded	Areas B2 and B3 4 semester units	6 semester units	Area 5B (with lab) 4 semester units	8 quarter/5.3 semester units
Calculus AB	Score of 3: *MATH 48C* Score of 4 or 5: *MATH 1A* 5 quarter units	Area B4 3 semester units	3 semester units	Area 2A 3 semester units	4 quarter/2.7 semester units
Calculus BC	Score of 3 or 4: *MATH 1A* Score of 5: *MATH 1A* and *1B* with Math Department approval. 10 quarter units	Area B4 3 semester units	6 semester units	Area 2A 3 semester units	8 quarter/5.3 semester units
AP Calculus Exam Limitations			Maximum one exam toward transfer		Maximum credit 8 quarter/5.3 semester units for both
Chemistry	Score of 3: Student must take placement test Score of 4: Student may be placed into *CHEM 1A*. Score of 5: Student may be placed into *CHEM 1B* without taking *CHEM 1A* if Chemistry Department approves. Sufficient lab experience required. For placement use only, no units awarded.	Areas B1 and B3 4 semester units	6 semester units	Area 5A (with lab) 4 semester units	8 quarter/5.3 semester units

College Credit for Advanced Placement (AP) Exams–continued					
Exam	**Foothill A.A./ A.S. (Major and/ or GE)**	**CSU GE**	**CSU Units Earned toward Transfer**	**IGETC**	**UC Units Earned toward Transfer**
Chinese Language & Culture	No credit awarded	Area C2 3 semester units	6 semester units	Areas 3B and 6A 3 semester units	8 quarter/5.3 semester units
Computer Science A	No credit awarded	N/A	3 semester units	N/A	2 quarter/1.3 semester units
Computer Science AB	No credit awarded	N/A	6 semester units	N/A	4 quarter/2.7 semester units
AP Computer Science Exam Limitations	Maximum 6 semester units for both		Maximum one exam toward transfer		Maximum 4 quarter/2.7 semester units for both
Economics: Macroeconomics	No credit awarded	Area D2 3 semester units	3 semester units	Area 4B 3 semester units	4 quarter/2.7 semester units
Economics: Microeconomics	No credit awarded	Area D2 3 semester units	3 semester units	Area 4B 3 semester units	4 quarter/2.7 semester units
English: Language & Composition	Score of 3, 4 or 5: *ENGL 1A* 5 quarter units	Area A2 3 semester units	6 semester units	Area 1A 3 semester units	8 quarter/
5.3 semester units					
English: Literature & Composition	Score of 3, 4 or 5: *ENGL 1A* 5 quarter units	Areas A2 and C2 6 semester units	6 semester units	Area 1A or 3B 3 semester units	8 quarter units/5.3 semester units
AP English Exam Limitations					8 quarter/5.3 semester units maximum for both
*Environmental Science	No credit awarded	Areas B2 and B3 (if completed prior to Fall 2009) **OR** Areas B1 and B3 (regardless of when completed) 4 semester units	4 semester units	Area 5A (with lab) 3 semester units	4 quarter/2.7 semester units
*French Language	No credit awarded	Area C2 3 semester units	6 semester units	Areas 3B and 6A 3 semester units	8 quarter/5.3 semester units
*French Literature	No credit awarded	Area C2 (if completed prior to Fall 2009) 3 semester units	6 semester units	Areas 3B and 6A 3 semester units	8 quarter/5.3 semester units
*German Language	No credit awarded	Area C2 3 semester units	6 semester units	Areas 3B and 6A 3 semester units	8 quarter/5.3 semester units
Government & Politics: Comparative	No credit awarded	Area D8 3 semester units	3 semester units	Area 4H 3 semester units	4 quarter/2.7 semester units
Government & Politics: U.S.	No credit awarded	Areas D8 and US 2 3 semester units	3 semester units	Area 4H 3 semester units	4 quarter/2.7 semester units

College Credit for Advanced Placement (AP) Exams–continued					
Exam	**Foothill A.A./ A.S. (Major and/ or GE)**	**CSU GE**	**CSU Units Earned toward Transfer**	**IGETC**	**UC Units Earned toward Transfer**
AP Government & Politics Exam Limitations		Does not fulfill U.S. History, Constitution & American Ideals requirement	Student can satisfy the U.S. History, Constitution & American Ideals requirement after transfer		
History: European	*HIST 4A* 4 quarter units	Area C2 or D6 3 semester units	6 semester units	Area 3B or 4F 3 semester units	8 quarter/5.3 semester units
History: U.S.	*HIST 17A* 4 quarter units	Area C2 or D6 3 semester units	6 semester units	Area 3B or 4F 3 semester units	8 quarter/5.3 semester units
History: World	No credit awarded	Area C2 or D6 3 semester units	6 semester units	Area 3B or 4F 3 semester units	8 quarter/5.3 semester units
Human Geography	Score of 4 or 5: *GEOG 2* 4 quarter units	Area D5 3 semester units	3 semester units	Area 4E 3 semester units	4 quarter/2.7 semester units
*Italian Language & Culture	No credit awarded	Area C2 3 semester units	6 semester units	Areas 3B and 6A 3 semester units	8 quarter/5.3 semester units
Japanese Language & Culture	Score of 3 or 4: *JAPN 4* Score of 5: JAPN 5 5 quarter units	Area C2 3 semester units	6 semester units	Areas 3B and 6A 3 semester units	8 quarter/5.3 semester units
*Latin: Virgil	No credit awarded	Area C2 3 semester units	3 semester units	Areas 3B and 6A 3 semester units	4 quarter/2.7 semester units
*Latin: Literature	No credit awarded	Area C2 (if completed prior to Fall 2009) 3 semester units	6 semester units	Areas 3B and 6A 3 semester units	4 quarter/2.7 semester units
Music Theory	Score of 3 or 4: *MUS 3A* Score of 5: *MUS 3B* 4 quarter units	Area C1 (if completed prior to Fall 2009) 3 semester units	6 semester units	N/A	8 quarter/5.3 semester units
Physics B	Score of 3 or 4: *PHYS 6* (proof of lab required) 5 quarter units				
Score of 5: *PHYS 2A* and *2B* with Physics Department approval (proof of lab required) 10 quarter units	Areas B1 and B3 4 semester units	6 semester units	Area 5A (with lab) 4 semester units	8 quarter/5.3 semester units	
Physics C: Mechanics	Score of 3 or 4: *PHYS 2A* with Physics Department approval (proof of lab required) 5 quarter units				

College Credit for Advanced Placement (AP) Exams–continued					
Exam	**Foothill A.A./ A.S. (Major and/ or GE)**	**CSU GE**	**CSU Units Earned toward Transfer**	**IGETC**	**UC Units Earned toward Transfer**
Score of 5: *PHYS 4A* with Physics Department approval (proof of lab required) 6 quarter units	Areas B1 and B3 4 semester units	4 semester units	Area 5A (with lab) 3 semester units	4 quarter/2.7 semester units	
Physics C: Magnetism	Score of 3 or 4: *PHYS 2A* with Physics Department approval (proof of lab required) 5 quarter units				
Score of 5: *PHYS 4A* with Physics Department approval (proof of lab required) 6 quarter units	Areas B1 and B3 4 semester units	4 semester units	Area 5A (with lab) 3 semester units	4 quarter/2.7 semester units	
AP Physics Exam Limitations			Maximum 4 semester units toward GE and 6 semester units toward transfer		Maximum 8 quarter/5.3 semester units for both
Psychology	Score of 5: *PSYC 1* 5 quarter units	Area D9 3 semester units	3 semester units	Area 4I 3 semester units	4 quarter/2.7 semester units
Spanish Language	Score 3 or 4: *SPAN 4* Score 5: *SPAN 5* 5 quarter units	Area C2 3 semester units	6 semester units	Areas 3B and 6A 3 semester units	8 quarter/5.3 semester units
Spanish Literature	Score 3 or 4: *SPAN 4* Score 5: *SPAN 5* 5 quarter units	Area C2 3 semester units	6 semester units	Areas 3B and 6A 3 semester units	8 quarter/5.3 semester units
Statistics	Score 3, 4 or 5: *MATH 10* 5 quarter units	Area B4 3 semester units	3 semester units	Area 2 3 semester units	4 quarter/2.7 semester units

A.A./A.S. Degrees: Be aware that if an AP exam credit is evaluated as being equivalent to a Foothill course, e.g. *HIST 4A*, the student who receives AP credit and then completes the equivalent Foothill course will have the unit credit for such duplication deducted prior to being awarded the A.A./A.S. degree. Credit by AP exam is noted and listed first on the student's transcript, with units assigned and no grade.

CSU GE: AP exams may be incorporated into the certification of CSU General Education–Breath requirements by any certifying institution. All CSU campuses will accept the minimum units shown and apply them toward fulfillment of the designated General Education–Breath area if the exam is included as part of a full or subject-area certification. Be aware that individual CSU campuses may choose to grant more units than those specified toward completion of General Education–Breath requirements.

IGETC: AP exams must be used in the IGETC area indicated regardless of where the certifying California Community College's discipline is located.

International Baccalaureate Exam Policy

A student may earn credit for successful completion of International Baccalaureate (IB) higher-level subject exams with scores of 5, 6 or 7. IB credit can be used to meet IGETC, CSU GE and Foothill College A.A. or A.S. general education (GE) and/or major requirements as specified in the tables below. The student is responsible for formally requesting that the international baccalaureate organization send exam results to the Foothill College Evaluations Office (12345 El Monte Road, Los Altos Hills, CA 94022-4599 USA). Course units and credits granted at Foothill College may differ from course credit and units granted by a transfer institution.

General Education IB Exam Score Equivalency List		
IB Subject Area	**Foothill College General Education Area**	**Minimum Quarter Units**
To earn credit for Foothill GE, the student must earn a score of 5, 6 or 7 on a higher-level IB exam:		
Anthropology HL	Social/Behavioral Sciences	4
Biology HL*	Natural Science	4
Chemistry HL*	Natural Science	4
Geography HL	Social/Behavioral Sciences	4
History (any region) HL	Social/Behavioral Sciences	4
Language A1 (any language) HL	Humanities	4
Language A2 (any language) HL	Humanities	4
Mathematics HL	Communication & Analytical Thinking	4
Theatre HL	Humanities	4
*In addition to a score of 5, 6 or 7 on the higher-level IB exam, the student must have completed the IB diploma program to earn Foothill GE credit in these areas.		
In addition, a score of 5, 6 or 7 on a higher-level IB exam will result in credit for the following Foothill courses:		
Chemistry HL	CHEM 25 or CHEM 30A	4
Physics HL	PHYS 6	4

Transfer Credit from Another Institution

Foothill College accepts credit for lower-division coursework previously completed at a college accredited by one of the six regional accrediting associations. Students must have official transcripts sent to the Foothill College Admissions & Records Office. To be official, transcripts must be sent from college to college or hand-delivered in a sealed, unopened college envelope.

Foreign Colleges: Students who want to use coursework completed at foreign institution must have their transcripts evaluated by a foreign evaluation service. Students should meet with their counselors to petition to use any of this coursework toward an associate degree. Coursework from a foreign institution cannot be used for certification to a four-year institution. Students should contact the school to which they want to transfer to determine if any credit will be awarded from the foreign institution.

Non-Regionally Accredited Colleges: Students may petition for individual courses taken at a non-regionally accredited college to be accepted for major requirements. The credit is non-transferable toward a bachelor's degree. Students must have official transcripts sent to the Foothill College Admissions & Records Office. To be official, transcripts must be sent from college to college or hand-delivered in a sealed, unopened college envelope.

Final Examinations

Foothill gives final examinations in all courses. Final examinations will not normally be given in advance of the scheduled time.

At Foothill, we strive to minimize student activities during the week before final examinations. However, classes and instruction continue as usual. During this period, instructors may assign coursework or have students complete part of the final examination.

Course Grading Categories

Foothill offers course grades in these five categories:

1. Courses in which all students are graded on a 4.0 scale of **A, B, C, D, F.**
2. Courses in which all students are graded on a Pass/No Pass (**P/NP**) basis.
3. If you enroll in a class with a Pass/No Pass option instead of a letter grade must submit a *Pass/No Pass Card* signed by the student within the first four weeks of the quarter. The form must be submitted to the Admissions Office.
   a. You may choose to apply to the associate degree no more than 16 units of **P**-graded courses from this category. Students transferring to a four-year school should consult with a counselor.
   b. Courses in your major must be taken for a letter grade.
4. No grades are recorded for non-credit courses with course numbers ranging from 400–499.
5. In calculating the student's degree-applicable grade-point average, grades earned in non-degree-applicable courses shall not be included. Courses that are non-degree-applicable are noted in the class schedule and *Course Catalog*.

Grading Scale

Grade definitions are as follows:

Evaluative Symbols	Grade Points
A+*	Excellent 4.0; see note below
A	Excellent 4.0
A-	Excellent 3.7
B+	Good 3.3
B	Good 3.0
B-	Good 2.7
C+	Satisfactory 2.3
C	Satisfactory 2.0
C-**	See note below
D+	Passing, less than satisfactory 1.3
D	Passing, less then satisfactory 1.0
D-	Passing, less than satisfactory 0.7
F	Failing 0.0
P	Pass (at least satisfactory; units awarded not counted in GPA).
NP	No Pass (less than satisfactory, or failing; units not counted in GPA). Not attaining course objectives.

P and **NP** are assigned to those courses in which student achievement is evaluated on a pass/no pass basis rather than a letter grade (**A**, **B**, **C**, etc.). Pass/No Pass courses are so designated in the announcement of courses section of the catalog.

*In the plus/minus grading system, the **A+** grade is calculated the same as the **A** grade.

In the plus/minus grading system, the **C- grade is not permitted under Title 5 law.

Incomplete

For a justifiable, approved reason (serious illness, emergency, etc.), you may ask your instructor for more time to complete coursework. After the end of the eighth week and before the end of the quarter, you must request that the instructor assign a grade of Incomplete (**I**). The instructor files an *Incomplete Contract* that explains the reason and precisely outlines the work due, procedure required, and due date for you to complete the work. You should sign and keep a copy of the contract.

The college does not assign an incomplete because a student is slow or negligent in submitting required work. If you meet the course requirements within one calendar year, the **I** grade may be changed; otherwise it may be listed as **F**.

Withdraw from College

To withdraw from college after the eighth week, you must consult with a counselor and petition the Academic Council to obtain an approved dismissal. This is for your protection, since you may receive an **F** in all classes after the eighth week if you do not follow these guidelines. The petition must have the instructor's approval signature for each class.

Transcripts

The Admissions & Records Office forwards transcripts at your request. Transcripts to educational institutions will be sent directly to those institutions. Transcripts given directly to you may be classified as unofficial.

Transcript costs and procedures for requesting transcripts are published at **www.foothill.edu.**

Foothill reserves the right to withhold transcripts from students under certain circumstances, such as defaulting on a loan, outstanding balance due on an account or until all obligations to the college are cleared.

Transcript/Grade Changes

Section 76224 of the California State Education Code states, "The determination of the student's grade by the instructor shall be final in the absence of mistake, fraud, bad faith or incompetency." By law, instructors are the only people who can change grades.

If you believe corrections should be made within the above restriction, you should first talk to your instructor. Corrections must be initiated within two years after the grade was earned. If an error has been made, and a correction is necessary prior to the two-year period, you may request a review of the records at the Admissions & Records Office.

Grades received prior to 1983 may not be changed. Exceptions to this policy include a bona fide error in grading, and a course in which an unsatisfactory grade was given is repeated for a satisfactory grade.

Petition to Replace Substandard Grade for Foothill College GPA Calculation

When a substandard grade (**D+**, **D**, **D-**, **F**, **NC** or **NP**) was recorded at Foothill, an equivalent course may subsequently be completed at another accredited college or university. The student's academic transcript shall then be annotated to reflect exclusion of the previously recorded coursework with the substandard grade for purposes of grade-point calculation and for all considerations associated with the awarding of certificates and degrees. Replacement with a grade of **Pass/No Pass** is **not** permitted, as it does not improve the student's grade-point average (GPA). It is important to note that all grades remain

on the academic transcript, and that some transfer institutions may require recalculation of the GPA to include both the substandard grade and the subsequent grade.

When submitting this petition, the student must attach:

- a copy of his/her transcript and
- either the course outline of record or the course catalog description to confirm course equivalency.[1]

Be aware that official (sealed) transcripts from the other regionally accredited institution must be submitted to Foothill College Records Office before submitting this petition.

The complete petition form must include student's identification number (SID), name, date, Foothill College course identifier, the date that the Foothill course was completed and initial grade, equivalent course identifier, date repeated and grade earned upon repetition, as well as the valid signatures of the student, discipline faculty member and division dean.

High School Credits at Foothill

Although Foothill College cannot grant a high school diploma, many local high schools recommend that students who are age 19 or older complete high school requirements by taking college courses. If you choose to earn a high school diploma this way, you should obtain a statement from your high school principal or counselor indicating:

- The subjects necessary to complete graduation requirements, and the number of quarter credits in each;
- Suggestions for Foothill courses to satisfy these requirements;
- The total number of quarter credits required, including electives; and
- Acceptance of credit for courses taken at Foothill.

When you complete the college courses, request that the Foothill College registrar send a college transcript to your high school. The diploma will be issued in accordance with your school's procedures.

All credit courses taken at Foothill count as college credit, whether or not they count toward high school requirements.

Honors Institute

For more than 30 years, Foothill College has provided an honors program that offers an enriched academic, cultural and social experience to intellectually inquisitive and motivated students. The Honors Institute offers students an academic environment that promotes critical thinking, analytical writing, and research skills with an innovative and challenging curriculum. Opportunities for participation at cultural events, conferences and unique honors seminars provide students an intellectual community that encourages and supports them in achieving their goals. The Honors Institute offers stimulating academic opportunities to a previously underserved population, prepares talented and ambitious students for the challenges of higher education, and supports successful transfer to either baccalaureate-granting colleges and universities or expanded career opportunities.

A fundamental goal of the program is to promote self-confidence and increase self-esteem in students who need the encouragement to excel, as well as the courage to continue their education and fulfill their goals. Rather than presenting itself as a selective entity, the Honors Institute welcomes all students and especially encourages students remediating through basic skills courses to strive toward participation in the honors program.

Foothill College is one of a handful of community colleges in Northern California that is approved for the UCLA Transfer Alliance Program (TAP), which offers students preferred admission to the UCLA College of Letters & Science (80-percent or higher admission rate). To be eligible, students are required to complete the honors scholar program, which consists of completing a minimum of seven honors courses/minimum of 23 honors units. Regardless of their interest in transferring to UCLA, all honors students are encouraged to complete the honors scholar program, which awards students with the permanent transcript notation of "honors scholar" and offers additional transfer admission and scholarship opportunities.

Foothill College honors students are typically leaders at the annual Bay Area Community College Honors Research Symposium (held at Stanford University and UC Berkeley). Foothill honors faculty work closely with honors students to mentor students in their research. Here, honors students present their research to hundreds of other honors students. Other honors program benefits include specialized honors counseling, early registration, specialized workshops, free tickets to attend local lectures with internationally renowned writers, scientists, artists and politicians, transfer admission guarantees (TAGs), and more.

Minimum requirements for participation include completion of *ENGL 1A* with a grade of B or better, 10 quarter units, and a 3.3+ GPA. Students without any college experience may apply if they have a high school GPA of 3.5 and have completed *ENGL 1A*.

1 It is strongly recommended that the student consult with the appropriate Foothill division dean to confirm equivalency with discipline faculty before repeating the course.

Students who are placed in Foothill's *ENGL 1AH: Honors English Composition* course via Foothill College placement tests are also eligible.

Students who are not yet eligible for the program based upon the GPA requirements are welcome to participate in the Try an Honors Course Program, which offers students who have completed *ENGL 1A* or *ESLL 26* with a grade of B or better an opportunity to enroll in an honors course (pending space availability).

For more information, access **www/foothill.edu/hon** or call (650) 949-7638.

Off-Campus Trips & Activities

Some programs require off-campus field trips and activities. Transportation is usually the responsibility of the individual student or a travel agency. The district is not liable for occurrences when participants are not under a faculty or staff member's direct, scheduled supervision.

Open-Entry/Open-Exit Classes

Foothill offers several open-entry/open-exit courses, allowing you to work at your own pace. You may generally enroll in these courses at any time, through the end of the seventh week of the quarter. Many of these courses are offered in the off-campus centers, ISC, Fine Arts and Language Arts laboratories and PSME Center. Lists of courses with unusual start times are available in these facilities and in the *online class schedule*.

Independent/flexible study classes and cooperative work study classes are not open-entry/open-exit classes. You must enroll in these classes by the end of the second week of instruction.

Scholastic Honors

Foothill commends students who earn the associate degree, complete a minimum of 24 Foothill units and meet the following criteria by awarding:

- **Highest Honors:** 4.0 GPA in all Foothill College coursework.
- **High Honors:** at least 3.5 GPA in all Foothill College coursework.
- **Honors:** at least 3.3 GPA in all Foothill College coursework.

Additional scholastic honors are awarded to eligible students on the following basis:

- **Dean's List:** Awarded on a quarterly basis to full-time students completing 12 or more Foothill units in one quarter with at least a 3.5 GPA; and part-time students completing a minimum of 12 cumulative units at Foothill College with an overall and quarter Foothill GPA of at least 3.5.
- **President's Medal:** Awarded at the annual commencement ceremony to first-time degree recipients with a 4.0 GPA in all college coursework, including 60 resident units at Foothill College. To qualify for this award students must petition for graduation by May 1.

Student Access to Education Records

The Family Education Rights & Privacy Act, also called FERPA (Section 438, Public Law 93380), requires educational institutions to provide student access to official education records directly related to the student. The act also says you have the right to challenge such records on the grounds that they are inaccurate, misleading or otherwise inappropriate.

Your written consent is required before the college will release personal information from your records to other than a specified list of persons and agencies. These rights extend to present and former Foothill students.

- Education records generally include documents related to admissions, enrollment in classes, grades and related academic information. These records are filed in the Admissions & Records Office.
- The registrar is the college's designated records officer.
- Personal education records will be made available for inspection and review during normal business hours to currently and formerly enrolled students, within 45 days following completion and filing of a written request with the records officer.
- The college may release certain types of directory information unless you notify the records officer that certain or all information cannot be released without personal consent. Directory information may include (1) student name and city of residence, (2) date and place of birth, (3) participation in recognized activities and sports, (4) dates of attendance, (5) degrees and awards received, and (6) the most recent previous educational agency or institution attended, and (7) height and weight of members of athletic teams, which may be released only by the appropriate athletic staff member or athletic director. Objection to the release of this information must be made in writing to the Admissions & Records Office prior to the first day of instruction of any quarter or Summer Session.

College & District Policies

Academic Honor Code

As a student at Foothill College, you join a community of scholars who are committed to excellence in the teaching and learning process.

We expect that students will pursue their studies with integrity and honesty; however, all students should know that incidents of academic dishonesty are taken very seriously.

When students are caught cheating or plagiarizing, a process is begun that may result in severe consequences.

It is vitally important to your academic success that you know what constitutes academic dishonesty at Foothill College.

What Is Academic Dishonesty?

The two most common kinds of academic dishonesty are *cheating* and *plagiarism*.

- Cheating is the act of obtaining or attempting to obtain credit for academic work through the use of dishonest, deceptive or fraudulent means.
- Plagiarism is representing the work of someone else as your own and submitting it for any purpose.

It is your responsibility to know what constitutes academic dishonesty. Interpretations of academic dishonesty may differ among individuals and groups. However, as a student at Foothill, you are expected to refrain from the behavior outlined herein. If you are unclear about a specific situation, speak to your instructor.

The following list exemplifies some of the activities defined as academic dishonesty:

Cheating

1. Copying, in part or in whole, from someone else's test;
2. Submitting work presented previously in another course, if contrary to the rules of either course;
3. Altering or interfering with grading;
4. Using or consulting, during an examination, any sources, consulting others, use of electronic equipment, including cell phones and PDAs, or use of materials not authorized by the instructor; or
5. Committing other acts that defraud or misrepresent.

Plagiarism

1. Incorporating the ideas, words, sentences, paragraphs or parts of another person's writings, without giving appropriate credit, and representing the product as your own;
2. Representing another's artistic or scholarly works such as musical compositions, computer programs, photographs, paintings, drawings or sculptures as your own;
3. Submitting a paper purchased from a research or term paper service, including the Internet; or
4. Undocumented Web source usage.

Other Specific Examples of Academic Dishonesty

1. Purposely allowing another student to copy from your paper during a test;
2. Giving your homework, term paper or other academic work to another student to plagiarize;
3. Having another person submit any work in your name;
4. Lying to an instructor or college official to improve your grade;
5. Altering a graded work after it has been returned, then submitting the work for re-grading;
6. Stealing tests;
7. Forging signatures on drop/add cards or other college documents; or
8. Collaboration without permission of instructor.

Consequences of Academic Dishonesty

Academic and/or administrative sanctions may be applied in cases of academic dishonesty.

Academic consequences may include:

1. Receive a failing grade on the test, paper or exam;
2. Have your course grade lowered;
3. Receive a grade of **F** in the course;

Administrative consequences may include:

1. Be placed on disciplinary probation;
2. Be placed on disciplinary suspension; or
3. Be expelled.

The Student Affairs & Activities Office maintains a record of students who have engaged in academic dishonesty. This information is used to identify and discipline students reported for academic dishonesty more than once. A copy of the *Foothill College Student Conduct, Discipline & Due Process Procedure* is printed in the handbook for each of these groups, and copies are available in the Student Affairs & Activities Office in Room 2002. Foothill College thanks the San Jose State University Student Affairs Vice President's Office for many of the statements in this section. The Foothill College Academic Honor Code was developed and approved by the college's Academic Senate in 2004 and updated in 2013.

Americans With Disabilities Act (ADA)

The Foothill-De Anza Community College District Board of Trustees uphold that, for persons with disabilities, improving the access to educational and employment opportunities must be a priority. The board directs the Foothill College administration to take the necessary actions to implement the requirements of the Americans with Disabilities Act (ADA) and Section 504 of the Rehabilitation Act.

The Foothill-De Anza Community College District shall not discriminate against a qualified individual with a disability because of the disability with regard to employment or with regard to the provision of district programs, services and activities.

A person who is otherwise qualified may request accommodation related to his/her disability, provided that accommodation does not impose an undue hardship on the district.

To receive a copy of Foothill College disability access information and procedures for requesting accommodations, call Foothill College Disability Resource Center (DRC) Supervisor Margo Dobbins at (650) 949-7017 or e-mail **adaptivelearningdrc@fhda.edu.** Disability access information is also available in the DRC (Room 5997).

To appeal a DRC accommodation decision, schedule a meeting with Student Affairs & Activities Dean Patricia Hyland, who is the institution's designated ADA/504 coordinator, by visiting Room 2002 or by calling (650) 949-7241. If you experience any difficulties with accommodations or receiving accommodations, call or e-mail Margo Dobbins or Teresa Ong at (650) 949-7017, **dobbinsmargo@fhda.edu** or **ongteresa@foothill.edu.** For more DRC information, access **www.foothill.edu/al.**

Nondiscrimination Policy

Foothill does not discriminate against any person in the provision of any program or service based on age, ancestry, color, gender, gender identity, marital status, medical condition, mental disability, national origin, physical disability, race, religious creed, sexual orientation or veteran status.

Complaints of discrimination filed by an employee of the district against another employee or student, or a student against an employee of the district shall be referred and handled pursuant to the district *Administrative Procedures: Resolve Complaints-Harassment & Discrimination (AP 4640)*. Such complaints should be directed to Foothill's dean of Student Affairs & Activities, located in Room 2002; or call **(650) 949-7241** to schedule an appointment.

Complaints of discrimination filed by a student against another student, or student against the criteria of a program, shall also be referred and handled pursuant to the district *Administrative Procedures: Resolve Complaints-Harassment & Discrimination (AP 4640)*. Such complaints should be directed to Foothill's dean of Student Affairs & Activities, located in Room 2002; or call **(650) 949-7241** to schedule an appointment.

To report discrimination on the basis of disability, schedule a meeting with Student Affairs & Activities Dean Patricia Hyland, the institution's ADA/504 coordinator, by visiting Room 2002 or calling **(650) 949-7241**.

Limited English Skills Policy

Prospective students are advised that a lack of English language skills will not be a barrier to admission to, or participation in vocational education programs at Foothill College as long as other, if any, program admission standards are met.

This notice is a requirement of the *Guidelines for Eliminating Discrimination & Denial of Services on the Basis of Race, Color, National Origin, Sex & Handicap (Federal Register; Vol. 44, No 56).*

Reglamento sobre Limitaciones en el Idioma Inglés

Se les aconseja a posibles estudiantes que la carencia del idioma Inglés no será una berrera para la admisión, o participación en programas de educación vocacional en Foothill College, siempre y cuando todos los otros, si existieran, criterios de admisión del programa sean completados.

Esta nota es un requisito de la *Guía para la Eliminación de la Descriminación y Rechazo de Servicios en Base a la Raza, Color, Nacionalidad de Origen, Sexo e Impedimento (Registro Federal; Vol. 44, No. 56).*

Reglamento de la No-Descriminación

Foothill College no descrimina en contra de ninguna persona en la prohibición de algun programa o servicio basado en la raza, color, nacionalidad u origen ético, edad, sexo, religión, orientación sexual, estado civil, o impedimento físico or mental.

Sexual Harassment Protection Policy

Members of a college community—students, faculty, staff and visitors—must be able to study and work in an atmosphere of mutual respect and trust. It is the policy of the Foothill-De Anza Community College District to provide an educational, employment and business environment free of unwelcome sexual advances, requests for sexual favors, and other verbal

or physical conduct or communications constituting sexual harassment, as defined and otherwise prohibited by federal and state law.

Sexual harassment may include, but is not limited to:

- Conduct of a sexual nature that is explicitly or implicitly made a term or condition of an individual's employment or education;
- A decision based on the submission to or rejection of a sexual advance; or
- Verbal or physical conduct of a sexual nature that interferes with an individual's performance or creates an intimidating work or educational environment.

Immediate action shall be taken against individuals determined to be in violation of this policy. Any individual who believes that he or she has been a victim of sexual harassment may file a complaint within one year of the date on which the complainant knew or should have known of the facts of the sexual harassment incident.

Complaints of sexual harassment filed by an employee of the district against another employee or student, or a student against an employee of the district, shall be referred and handled pursuant to the district's *Administrative Procedures: Resolve Complaints-Harassment & Discrimination (AP 4640)*. Such complaints should be directed to Student Affairs & Activities Dean Patricia Hyland in Room 2002 or call (650) 949-7241.

Complaints of sexual harassment filed by a student against another student, or student against the criteria of a program, shall be referred and handled pursuant to the district's *Procedures to Resolve Student Complaints of Sexual Harassment & Discrimination*. Such complaints should be directed to Student Affairs & Activities Dean Patricia Hyland in Room 2002 or call (650) 949-7241.

Title IX Procedural Requirements

Title IX is a comprehensive federal law that prohibits discrimination on the basis of sex in any federally funded education program or activity. In addition to traditional educational institutions, Title IX also applies to any education or training program operated by a recipient of federal financial assistance. Many of these education programs became subject to Title IX regulations in 2000. Foothill College has responsibilities to ensure that students and employees comply with the non-discrimination mandate of Title IX and its procedural requirements. Foothill College has established a method for receiving and resolving sex-based discrimination complaints. At Foothill College, the dean of Student Affairs & Activities is the institution's designated Title IX coordinator. For information, call Student Affairs & Activities Dean Patricia Hyland at **(650) 949-7241** or visit Room 2002.

Mutual Respect Policy

Foothill College takes all steps necessary to provide a positive educational and employment environment that encourages equal educational opportunities. The college actively seeks to educate staff and students on the deleterious effects of expressions of hatred or contempt based on age, ancestry, color, gender, gender identity, marital status, medical condition, mental disability, national origin, physical disability, race, religious creed, sexual orientation or veteran status; and promotes equality and mutual respect among all groups and individuals. Standards of conduct for students and the applicable sanctions for violating the standards of student conduct are contained in the Academic Policies section in the *Course Catalog* and online at **www.foothill.edu.**

Decisions regarding discipline of employees will be made in accordance with applicable legal and contractual provisions and procedures, and may range from reprimand to dismissal.

Drug-Free Campus Policy

The unlawful manufacture, distribution, dispensing, possession or use of any illicit drug or alcohol by students on district property or at district activities or events is prohibited.

The use of drugs and alcohol may pose significant health risks. The Psychological Services and Health Services offices at Foothill College offer additional information on the risks associated with the use of drugs and alcohol. You can also receive referral information for drug or alcohol counseling, treatment and rehabilitation programs. For more information, call **(650) 949-7910**.

Employees and students may be suspended or expelled for the unlawful possession, use or distribution of illicit drugs or alcohol. Appropriate disciplinary action may also include requiring the completion of a rehabilitation program. The standards of conduct for students and the applicable sanctions for violating the standards are published in *Administrative Procedures 5510 and 5520.*

No-Smoking Areas & Enforcement

In order to provide a safe learning and working environment for students and employees, smoking is prohibited in all indoor and outdoor campus locations, with the exception of designated smoking areas as defined by each campus. Smoking is prohibited in district vehicles. "No Smoking" placards are conspicuously posted on campus. In addition,

designated smoking areas are clearly marked. No tobacco-related advertising or marketing shall be permitted at FHDA or in publications produced by FHDA. The sale of tobacco products on campus is prohibited. This policy relies on the consideration and cooperation of smokers and nonsmokers. It is the responsibility of all employees, students and visitors to observe and follow the guidelines. This policy shall be communicated and published in the colleges' catalogs, handbooks, websites and other appropriate locations. Smoking violations shall be subject to issuance of citations by the District Police Department as provided for by state law. See Administrative Procedures 3217, 5510, 5520 at **www.fhda.edu/about_us/stories/storyReader$234.**

Government Code, 7596-7598; Health & Safety Code, 118875-118915; Labor Code, 6404.5; FHDA, Approved 1/8/96; CAC, Approved 2/24/12; FHDA Amended 8/16/99, 12/2/02, 6/20/05, 7/12/10, 3/12/12.

Enforcement: Smoking violations shall be subject to issuance of citations by the FHDA District Police Department as provided for by state law. An appeal process will ensure the due process of any person cited in accordance with district policy. California Government Code Sections, 7597-7598; Health & Safety Code Sections, 118875-118915; Labor Code, 6404.5; FHDA, Approved 4/13/12.

Middlefield Campus: The district rents its Middlefield Campus location from the City of Palo Alto. The public facility falls under the city's Smoking Ordinance 9.14.020, which states, "Smoking is not allowed in areas within 25 feet of the entrance or exit to an enclosed public place."

Parking Citations & Traffic Violations

Parking tickets and traffic violations issued at Foothill College by district police are legal citations that cannot be canceled by the college administration. To make a payment or contest a parking citation, write to Parking Violations, P.O. Box 1113, San Jose, CA 95108-1113; or call **(800) 818-1832**. To make a payment or contest a citation for a traffic violation, write to the Palo Alto Superior Court, 270 Grant Avenue, Palo Alto, CA 94306-1911; or call **(650) 462-3800**.

Police Conduct

Direct concerns about an individual officer first to the officer and then to the chief of police, located in Room 2103; or call **(650) 949-7313**.

Complaints & Grievance Process

Foothill College has an established procedure for grievances and complaints in order to provide a means for resolving alleged unfair or improper action by any member of the academic community. Procedures and forms are available on campus in the Student Affairs & Activities Office, located in Room 2002. A copy of the *Foothill-De Anza Community College District (FHDA) Board Policy & Administrative Procedures* is available for review from the FHDA District Human Resources Office as well as online at **www.fhda.edu/about_us/board/policy.** For more information, visit the Student Affairs & Activities Office or call **(650) 949-7241**.

Student Conduct & Due Process

I. Overview & Definitions

In developing responsible student conduct, disciplinary proceedings play a role substantially secondary to example, counseling, guidance and admonition. At the same time, educational institutions have a duty and the corollary disciplinary powers to protect their educational purpose through the settings of standards of scholarship and conduct for the students who attend them and through the regulation of the use of institutional facilities. The purpose of these procedures is to provide a prompt and equitable means to address violations of the *Student Code of Conduct*, as set forth in FHDA *Administrative Procedures (AP) 5510* and *5520*, which guarantees the student or students involved the due process rights entitled to them by state and federal constitutional protections. These procedures will be used in a fair and equitable manner, and not for purposes of retaliation. They are not intended to substitute for criminal or civil proceeds that may be initiated by other agencies.

Foothill and De Anza colleges consider the following principles essential to their educational missions and community life:

1. Mutual respect between students, faculty and staff;
2. Pursuit of studies with honesty and integrity;
3. Respect for college and personal property; and
4. Compliance with all rules and regulations.

These standards are intended to promote responsible student conduct and fair play.

II. Definitions

College: Foothill College and its respective programs.

District: The Foothill-De Anza (FHDA) Community College District.

Instructor: Any academic employee of the district in whose class a student subject to discipline is enrolled, or counselor who is providing or has provided services to the student, or other academic employee who has responsibility for the student's educational program.

President: The college president or a designated representative of the college president.

Student: Any person currently enrolled as a student at any college or in any program offered by the district.

Student Discipline Officer: The official designated by the college to be responsible for reviewing and processing student discipline matters.

III. Student Code of Conduct & Grounds for Disciplinary Action

Students shall be subject to college discipline as outlined in *AP 5520* for any of the following misconduct that occurs at any time on campus or at any off-campus facility, including Internet-based courses held on the World Wide Web, or college-approved or college-sponsored functions:

1. Academic dishonesty, such as cheating, plagiarism (including plagiarism included in student publications), or knowingly furnishing false information to the colleges, or district;
2. Unauthorized preparation, giving, selling, transfer, distribution or publication, for any commercial purpose, of any contemporaneous recording of an academic presentation in a classroom or equivalent site of instruction, including but not limited to handwritten or typewritten class notes, except as permitted by any district policy or administrative procedure;
3. Dishonesty, forgery, alteration or misuse of college or district documents, records or identification;
4. Obstruction or disruption of teaching, research, administration, disciplinary procedures, or other college or district activities, including its public service functions, or of other authorized activities;
5. Physical or verbal abuse of any person or conduct which threatens or endangers the health or safety of any such person;
6. Committing or attempting to commit robbery or extortion;
7. Causing or attempting to cause damage to college or district property or to private property on campus;
8. Stealing or attempting to steal college or district property or private property on campus, or knowingly receiving stolen college or district property or private property on campus;
9. Willful misconduct that results in injury or death to a student or to college or district personnel or which results in cutting, defacing, or other injury to any real or personal property owned by the college or district or on the campus;
10. Unauthorized entry to or use of college or district facilities;
11. Violation of college or district policies or of campus regulations, including those concerning registration of student organizations, use of college or district facilities, or the time, place and manner of public expression;
12. Unlawful possession, use, sale, offer to sell, or furnishing or being under the influence of, any controlled substance as listed in *California Health & Safety Code Section 11053* et seq., an alcoholic beverage, or an intoxicant of any kind; or unlawful possession of, or offering, arranging or negotiating the sale of any drug paraphernalia, as defined in *California Health & Safety Code Section 11014.5*;
13. Use, possession, or sale of any firearm, knife, explosive, or other object that could be classified as a weapon (unless the student has specific authorization from a college or district official);
14. Disruptive behavior, willful disobedience, habitual profanity or vulgarity, or the open and persistent defiance of authority, or persistent abuse of college or district personnel;
15. Gambling on college or district property;
16. Hazing or any act that injures, degrades, or disgraces or tends to injure, degrade, or disgrace any fellow student or other persons;
17. Disorderly conduct or lewd, indecent or obscene behavior, conduct or expression on district-owned or district-controlled property, or at district-sponsored or district-supervised functions;
18. Willful or persistent smoking in any area where smoking has been prohibited by law or by regulation of the college or district;
19. Theft or abuse of computer time, including but not limited to:
    a. unauthorized entry into a file, to use, read or change the contents or for any other purpose;
    b. unauthorized transfer of a file;
    c. unauthorized use of another person's identification and password;
    d. use of computing facilities to interfere with the work of another student, faculty member or college official;
    e. use of computing facilities to send obscene or abusive messages, or to defame or intentionally harm other persons;
    f. use of computing facilities to interfere with normal operation of the college computing system;
    g. use of computing facilities for student's personal benefit;
20. Committing sexual harassment as defined by law or as set forth in *Board Policy (BP) 4640*;

21. Engaging in harassing or discriminatory behavior based on race, gender, religion, age, national origin, disability, or any other status protected by law;
22. Engaging in expression which is obscene, libelous or slanderous, or which so incites students as to create a clear and present danger of the commission of unlawful acts on college or district premises, or the violation of lawful college or district regulations, or the substantial disruption of the orderly operation of the college or district;
23. Persistent, serious misconduct where other means of correction have failed to bring about proper conduct.

IV. Types of Disciplinary Action

The following are the usual types of discipline the college imposes for violations of its rule or California laws. The following topics are listed in alphabetical order.

Admonition: An administrative, verbal warning to the student to cease and desist from conduct determined to violate the Student Code of Conduct.

Day: Day(s) during which the district is in session and regular classes are held, excluding Saturdays and Sundays.

Disciplinary Probation: Exclusion from participation in privileges or extracurricular activities set forth in the notice of disciplinary probation for a specified period of time.

Expulsion: Exclusion of the student by action of the FHDA Community College District Board of Trustees from all colleges in the district for one or more terms, or permanently.

Removal from Class: Exclusion of the student by an instructor for the day of the removal and the next class meeting.

Restitution: Financial liability for damage to or misappropriation of property. Restitution may take the form of appropriate service to repair or otherwise compensate for damages.

Summary Suspension: Any student who has willfully disrupted the orderly operation of the campus may be promptly suspended pending a hearing, where such immediate suspension is required in order to protect lives or property and to ensure the maintenance of order, provided, however, that a reasonable opportunity must be afforded the suspended person for hearing within 10 days. In all other cases, where disciplinary action is to be taken in response to willful disruption of the orderly operation of the campus, discipline shall be imposed only after a prompt hearing by a campus body resulting in a finding that the student willfully disrupted the orderly operation of the campus.

Suspension: Exclusion of the student for good cause from one or more classes for a period of up to 10 days of instruction, or the remainder of the school term, or from all classes and activities for one or more terms. The suspended student is prohibited from being enrolled in any other college in the district for the period of suspension.

Withdrawal of Consent to Remain on Campus: Withdrawal of consent by the student discipline officer for any person to remain on campus in accordance with California Penal Code Section 626.4 where the student discipline officer has reasonable cause to believe that such person has willfully disrupted the orderly operation of the campus.

Written Warning: Written notice to the student that continuation or repetition of specific conduct found wrongful within a period of time stated in the warning, may be cause for more severe disciplinary action. Written reprimands may become part of a student's permanent record at the college.

V. Discipline & Due Process Procedures at Foothill College

Except in cases where immediate discipline pending a hearing is authorized, the following procedures will apply before disciplinary action is taken to suspend or expel a student. The student discipline officer will determine if there are sufficient grounds to warrant discipline. If the student discipline officer determines sufficient grounds exist to warrant discipline, the student will be provided with written notice of that determination. The written notice will include the following:

1. The specific section of the Student Code of Conduct that the student is charged with violating;
2. A short statement of the facts supporting the accusation; and
3. The nature of the discipline that is being considered.

The following topics are listed in chronological order.

Time Limits: The notice must be provided to the student within 10 days of the date on which the conduct took place; in the case of continuous, repeated or ongoing conduct, the notice must be provided within 10 days of the date on which conduct occurred which led to the decision to take disciplinary action.

Pre-Hearing Meeting: If the student chooses to meet with the student discipline officer, the meeting must occur no sooner than 10 days after the notice is provided. At the meeting, the student must again be told the facts leading to the accusation, and must be given an opportunity to respond verbally or in writing to the accusation.

Schedule of Hearing: The formal hearing shall be scheduled within 10 days after the pre-hearing meeting with the student discipline officer.

Campus Disciplinary Hearing Board: This board shall be comprised of members of the faculty and administration. The student discipline officer and the president of the Academic Senate shall each, at the beginning of the academic year, establish a list of persons who will serve on student disciplinary hearing panels. The student discipline officer shall appoint the hearing panel from the names on these lists. The administrator on the hearing panel shall serve as chair. However, no administrator or faculty member who has any personal involvement in the matter to be decided, who is a necessary witness, or who could not otherwise act in a neutral manner shall serve on a hearing panel.

Conduct of the Hearing: The members of the hearing panel shall be provided with a copy of the accusation against the student and any written response provided by the student before the hearing begins. The student discipline officer shall present the facts supporting the accusation. The student discipline officer and the student may call witnesses and introduce oral and written testimony relevant to the issues of the matter. Formal rules of evidence shall not apply. Any relevant evidence shall be admitted. Unless the hearing panel determines to proceed otherwise, the student discipline officer and the student shall each be permitted to make an opening statement. Thereafter, the student discipline officer shall make the first presentation, followed by the student. The student discipline officer may present rebuttal evidence after the student completes his or her evidence. The burden shall be on the student discipline officer to prove by substantial evidence that the facts alleged are true. The student may represent him or herself, and may also have the right to be represented by a person of his or her choice. An attorney shall not represent the student unless, in the judgment of the hearing panel, complex legal issues are involved. If the student wishes to be represented by an attorney, a request must be presented not less than five days prior to the date of the hearing. If the student is permitted to be represented by an attorney, the student discipline officer may request legal assistance. The hearing panel may also request legal assistance; any legal advisor provided to the panel may sit with it in an advisory capacity to provide legal counsel but shall not be a member of the panel nor vote with it. Hearings shall be closed and confidential unless the student requests that it be open to the public. Any such request must be made no less than five days prior to the date of the hearing. In a closed hearing, witnesses shall not be present when not testifying, unless all parties and the panel agree to the contrary. The district shall record the hearing either by tape recording or stenographic recording, and shall be the only recording made. No witness who refuses to be recorded may be permitted to give testimony. In the event the recording is by tape recording, the hearing panel chair shall, at the beginning of the hearing, ask people present to identify themselves by name, and thereafter shall ask witnesses to identify themselves by name. Tape recordings shall remain in the custody of the district at all times, unless released to a professional transcribing service. The student may request a copy of the tape recording. All testimony shall be taken under oath; the hearing panel chair shall administer the oath. Written statements of witnesses under penalty of perjury shall not be used unless the witness is unavailable to testify. A witness who refuses to be tape-recorded is considered "unavailable". Within 10 days following the close of the hearing, the hearing panel shall prepare and forward to the student discipline officer a written recommendation. The recommendation shall include specific factual findings regarding the accusation, and shall include specific conclusions regarding whether any specific section of the standards of student conduct were violated. The decision shall also include a specific recommendation regarding the disciplinary action to be imposed, if any. The decision shall be based only on the record of the hearing, and not on matter outside of that record. The record consists of the original accusation, the written response, if any, of the student, and the oral and written evidence produced at the hearing. The student discipline officer will forward the recommendation to the president.

Immediate Summary Suspension: The president may order immediate interim suspension pending a hearing of a student where he/she concludes that immediate suspension is required to protect lives or property and to ensure the maintenance of order, provided that a reasonable opportunity is afforded the suspended person for a hearing within 10 days. This procedure complies with *Education Code Section 66017.*

Removal from Class: Any instructor may order a student removed from his/her class for the day of the removal and the next class meeting. The instructor shall immediately report the removal to the student discipline officer. The student discipline officer shall arrange for a conference between the student and the instructor regarding the removal. If the instructor or the student requests, the student discipline officer shall attend the conference. The student shall not be returned to the class during the period of the removal without the concurrence of the instructor. Nothing herein will prevent the student discipline officer from recommending further disciplinary procedures in accordance with these procedures based on the facts that led to the removal. This procedure complies with *Education Code Section 76032*.

Withdrawal of Consent to Remain on Campus: Also review *Penal Code Section 626.4*. The student discipline officer may notify any person for whom there is a reasonable belief that the person has willfully disrupted the orderly operation of the campus that consent to remain on campus has been withdrawn. If the person is on campus at the time, he/she must promptly leave or be escorted off campus. If the student discipline officer withdraws consent, a written report must be promptly made to the college president and the district police. The person from whom consent has been withdrawn may submit a written request for a hearing on the withdrawal within the period of the withdrawal. The request shall be granted not later than 10 days from the date of receipt of the request. The hearing will be conducted in accordance with the provisions of this procedure relating to interim suspensions. In no case shall consent be withdrawn for longer than 10 days from the date upon which consent was initially withdrawn. Any person as to whom consent to remain on campus has been withdrawn who knowingly re-enters the campus during the period in which consent has been withdrawn, except to come for a meeting or hearing, is subject to arrest.

President's Decision for Suspension: Within 10 days following receipt of the hearing panel's recommended decision, the college president shall render a written decision. The college president may accept, modify or reject the findings, decisions and recommendations of the hearing panel. If the president modifies or rejects the hearing panel's decision, the college president shall review the record of the hearing, and shall prepare a new written decision that contains specific factual findings and conclusions. Written notice of the college president's decision shall be provided to the student. The notice will include the right of the student to request an appeal of the decision within 30 days of receipt of the decision. The college president will review the appeal and any additional information provided by the student, and render a decision on the appeal. The decision of the college president shall be final. The college president shall notify the district chancellor of the decision to suspend a student.

President's Decision for Expulsion: Within 10 days following receipt of the hearing panel's recommended decision, the college president shall render a written recommended decision to the FHDA board of trustees. The college president may accept, modify or reject the findings, decisions and recommendations of the hearing panel. If the college president modifies or rejects the hearing panel's decision, the college president shall review the record of the hearing, and shall prepare a new written decision that contains specific factual findings and conclusions. The college president's recommendation shall be forwarded to the FHDA board of trustees.

Board of Trustees Decision: Once received, the college president's recommendation will be placed on the agenda of the next regularly scheduled district board meeting. The district board of trustees shall determine whether to expel a student for cause following hearing before the board. The board shall consider an expulsion recommendation in closed session, unless the student has requested that the matter be considered in a public meeting in accordance with these procedures (*Education Code Section 72122*). The student shall be notified in writing, by registered or certified mail or by personal service, at least three days prior to the meeting, of the date, time and place of the board's meeting. The student may, within 48 hours after receipt of the notice, request that the hearing be held as a public meeting. Even if a student has requested that the board consider an expulsion recommendation in a public meeting, the board will hold any discussion that might be in conflict with the right to privacy of any student other than the student requesting the public meeting in closed session. The board may accept, modify or reject the findings, decisions and recommendations of the college president and/or the hearing panel. If the board modifies or rejects the decision, the board shall review the record of the hearing, and shall prepare a new written decision that contains specific factual findings and conclusions. The decision of the board shall be final. The final action of the board on the expulsion shall be taken at a public meeting, and the result of the action shall be a public record of the district.

For More Information

The Foothill College Judicial Affairs Office manages liability issues that arise on the Foothill College campus. Patricia Hyland, dean of Student Affairs & Activities, is the Foothill College grievance officer who oversees discipline and due process. To schedule an appointment with Patricia Hyland, get answers to your questions, obtain reference material or discuss an issue, call (650) 949-7241.

Various policies and college groups work to assure students' due process. Such groups and policies include:

- **Multicultural Relations Office:** For more information, e-mail or call Foothill Student Affairs & Activities Dean Patricia Hyland at **HylandPat@foothill.edu** or (650) 949-7389;
- **ASFC Student Rights Advocate:** For more information, e-mail or call the Associated Students of Foothill College President at **asfcpresident@foothill.edu** or (650) 949-7062.
- **Obtaining Copies of Policies:** All board and administrative policies are available for review during business hours in the Foothill-De Anza Community College District Chancellor's Office located on the Foothill College campus. These policies are also available online at **www.fhda.edu.**
- In addition, reference resources are available online at **www.foothill.edu/services/studentright.php** under *Student's Right to Know*; in print in the *Foothill College Student Grievance Procedures* brochure that is available at the Student Affairs & Activities Office (Room 2002), or call (650) 949-7241.

For Further Reference

- *Foothill-De Anza Community College District Board of Trustees Administrative Procedure 5510—Student Code of Conduct;*
- *Foothill-De Anza Community College District Board of Trustees Administrative Procedure 5520—Student Due Process & Discipline;*
- *Foothill-De Anza Community College District Board of Trustees Administrative Procedure 5530—Student Grievances;*
- *Foothill-De Anza Community College District*
- *Board of Trustees Policy and Administrative Procedure 5500—Student Rights & Responsibilities; and*
- *14th Amendment of the U.S. Constitution as interpreted by Tinker v. Des Moines Independent School District, U. S. Supreme Court, 1969, 21 LIED 2d 731.*

Student Grievance Procedures

So that you are fully aware of student rights and responsibilities, you should also review the *Foothill College Student Conduct & Due Process Booklet*. The administrative and board policies referred to in this section are also available online at **www.fhda.edu.** Printed versions of both booklets are available in the Student Affairs & Activities Office in Room 2002 and the Foothill-De Anza Community College District Chancellor's Office located on the Foothill College campus.

Purpose

The purpose of this procedure is to provide a prompt and equitable means of resolving student grievances. This procedure is for student grievances only. Faculty and staff with complaints regarding students should refer to *Administrative Procedure 5510: Student Code of Conduct* and *Administrative Procedure 5520: Student Due Process & Discipline*. The student grievance procedures shall be available to any student who reasonably believes a college decision or action has adversely affected his or her status, rights or privileges as a student. The procedures shall include grievances regarding:

- Course grades, to the extent permitted by Education Code Section 76224(a), which provides: "When grades are given for any course of instruction taught in a community college district, the grade given to each student shall be the grade determined by the instructor of the course and the determination of the student's grade by the instructor, in the absence of mistake, fraud, bad faith, or incompetence, shall be final."
- Act or threat of intimidation or harassment. These procedures do not apply to sexual harassment or illegal discrimination. Sexual harassment or complaints on the basis of race, color, national or ethnic origin, age, gender, sexual orientation, marital status, or physical or mental disability should be directed to the dean of Student Affairs & Activities at Foothill College, the dean of Student Development & EOPS at De Anza College or the Foothill-De Anza Community College District Human Resources Office.
- Act or threat of physical aggression.
- Arbitrary action or imposition of sanctions without proper regard to academic due process specified in the college procedures, unrelated to disciplinary actions.
- The exercise of rights of free expression protected by state and federal constitutions and Education Code Section 76120.

This procedure does not apply to:

- Student disciplinary actions, which are covered under separate board policies and administrative procedures. (See *Administrative Procedure 5520: Student Due Process & Discipline*.)
- Police citations (i.e. "tickets"). Complaints about citations must be directed to the Santa Clara County Superior Court Parking Violations Office in the same way as any traffic violation.
- Sexual harassment. Complaints of sexual harassment should be directed to the dean of Student Affairs & Activities at Foothill College or the dean of Student Development & EOPS at De Anza College.
- Illegal discrimination. Complaints of discrimination on the basis of race, color, national or ethnic origin, age, gender, sexual orientation, marital status, or physical or mental disability filed against an employee of the district should be directed to the dean of Student Affairs & Activities at Foothill College or the dean of Student Development & EOPS at De Anza College.
- Residence determination. Student should contact the associate registrar at Foothill College or the director of Admissions & Records at De Anza College.
- Dismissal from college for academic reasons. Student should consult a Foothill counselor. If there are extenuating circumstances, the student may appeal the dismissal to the Academic Council after consulting a Foothill counselor.

Definitions

Grievant: A student alleging that a college decision or action has adversely affected his or her status, rights or privileges as a student, or alleges that another student has violated the student's rights.

Party: The student, or any persons claimed to have been responsible for the student's alleged grievance, together with their representatives. "Party" shall not include the grievance hearing committee or the college grievance officer.

President: The college president or a designated representative of the college president.

Student: A currently enrolled student, a person who has filed an application for admission to the college, or a former student. A grievance by an applicant shall be limited to a complaint regarding denial of admission.

Respondent: Any person claimed by a grievant to be responsible for the alleged grievance.

Work Day: A work day shall mean days during which the district is in session and regular classes are held, excluding Saturdays and Sundays. All time deadlines shall be measured by work day, unless otherwise specified as calendar days.

Informal Resolution of Grievances

Each student who has a grievance shall make a reasonable effort to resolve the matter on an informal basis prior to requesting a grievance hearing, and shall attempt to solve the problem with the person with whom the student has the grievance, that person's immediate supervisor, or the vice president who oversees that division.

- The college president has appointed an employee who shall assist students in seeking resolution by informal means. This person shall be called the grievance officer.
- Informal meetings and discussion between persons directly involved in a grievance are essential at the outset of a dispute and should be encouraged at all stages. An equitable solution should be sought before persons directly involved in the case have stated official or public positions that might tend to polarize the dispute and render a solution more difficult. At no time shall any of the persons directly or indirectly involved in the case use the fact of such informal discussion, the fact that a grievance has been filed, or the character of the informal discussion for the purpose of strengthening the case for or against persons directly involved in the dispute or for any purpose other than the settlement of the grievance.
- Any student who believes he or she has a grievance shall file a *Statement of Grievance Form* with the grievance officer within 30 calendar days of the incident on which the grievance is based, or 30 calendar days after the student could have reasonably discovered the basis for the grievance, whichever is later. The *Statement of Grievance Form* must be filed within the above time frame whether or not the student has already initiated efforts at informal resolution, if the student wishes the grievance to become official. Within two work days following receipt of the *Statement of Grievance Form*, the grievance officer shall advise the student of his or her rights and responsibilities under these procedures, and assist the student, if necessary, in the final preparation of the *Statement of Grievance Form*.

- If at the end of 10 work days following the student's first meeting with the grievance officer, there is no informal resolution of the complaint which is satisfactory to the student, the student shall have the right to request a grievance hearing.

Steps in the Informal Process Involving College Employees

1. The student shall confer with the faculty member, administrator or classified staff person directly involved in the facts giving rise to the grievance.
2. If unresolved after Step 1, the student shall confer with the faculty member's division dean, or the supervisor of the administrator or classified staff person.
3. If unresolved after Step 2, the student shall confer with the vice president of that dean's or supervisor's division.
4. Within the 30-calendar-day time limit as previously outlined, if the student does not feel that the matter can be resolved after completing Steps 1, 2 and 3, an official *Statement of Grievance Form* may be filed with the grievance officer. The grievance officer will advise the student of his/her rights and assist the student, if necessary, in the final preparation of the *Statement of Grievance Form*.
5. If after 10 work days from the first meeting with the grievance officer there is no informal resolution, the student may request a grievance hearing.

If the complaint involves a grievance against another student, grievant shall confer directly with the grievance officer, who will advise the grievant of his/her rights and assist the grievant in preparing the *Statement of Grievance Form*.

Formal Grievance Process

Grievance Hearing Committee

- The college president or his/her designee shall at the beginning of each quarter, including any summer session, establish a standing panel of members of the college community, including faculty members and administrators, from which one or more grievance hearing committees may be appointed. The panel will be established with the advice and assistance of the Academic Senate, who shall submit names to the president or his/her designee for inclusion on the panel. A grievance hearing committee shall include three members from the panel described above. The administrator on the hearing panel shall serve as chair.
- No person shall serve as a member of a grievance hearing committee if that person has been personally involved in any matter giving rise to the grievance, has made any statement on the matters at issue, or could otherwise not act in a neutral manner.
- The grievance officer shall sit with the grievance hearing committee but shall not serve as a member nor vote. The grievance officer shall coordinate all scheduling of hearings, shall serve to assist all parties and the hearing committee to facilitate a full, fair and efficient resolution of the grievance, and shall avoid an adversary role.

Request for Grievance Hearing

Any request for a grievance hearing shall be filed on a *Request for a Grievance Hearing Form* in writing within 30 calendar days after discovery of the grievable action and after completing steps 1–3 of the informal process previously outlined.

- Within 10 work days following receipt of the *Request for Grievance Hearing Form,* the grievance officer shall convene a grievance hearing committee as described above, and the grievance hearing committee shall meet in private and without the parties present to determine on the basis of the Statement of Grievance whether it presents sufficient grounds for a hearing.
- The determination that the Statement of Grievance presents sufficient grounds for a hearing shall be made if the following are found to be true:
  1. The statement contains facts, which, if true, would constitute a grievance under these procedures;
  2. The grievant is a student as defined in these procedures, which include applicants and former students;
  3. The grievant is personally and directly affected by the alleged grievance;
  4. The grievance was filed in a timely manner
  5. The grievance is not clearly frivolous, clearly without foundation, or clearly filed for purposes of harassment.

If the grievance does not meet each of the requirements, the hearing committee chair shall notify the student in writing of the rejection of the Request for a Grievance Hearing, together with the specific reasons for the rejection and the procedures for appeal. This notice will be provided within seven work days of the date the decision is made by the grievance hearing committee.

- If the *Request for Grievance Hearing* satisfies each of the requirements, the college grievance officer shall schedule a grievance hearing. The hearing will begin within 30 calendar days following the decision to grant a grievance hearing. All parties

to the grievance shall be given not less than 10 work days notice of the date, time and place of the hearing.

Hearing Procedure

The grievance hearing committee chair is responsible for making sure that administrative procedures are followed and for maintaining decorum at the hearing.

- The members of the grievance hearing committee shall be provided with a copy of the grievance and any written response provided by the respondent before the hearing begins.
- Each party to the grievance may call witnesses and introduce oral and written testimony relevant to the issues of the matter.
- Formal rules of evidence shall not apply. Any relevant evidence shall be admitted.
- Unless the grievance hearing committee determines to proceed otherwise, each party to the grievance shall be permitted to make an opening statement. Thereafter, the grievant or grievants shall make the first presentation, followed by the respondent or respondents. The grievant(s) may present rebuttal evidence after the respondent(s)' evidence. The burden shall be on the grievant or grievants to prove by substantial evidence that the facts alleged are true and that a grievance has been established as specified above.
- Each party to the grievance may represent himself or herself, and may also have the right to be represented by a person of his or her choice; except that a party shall not be represented by an attorney unless, in the judgment of the grievance hearing committee, complex legal issues are involved. If a party wishes to be represented by an attorney, a request must be presented not less than 10 work days prior to the date of the hearing. If one party is permitted to be represented by an attorney, any other party shall have the right to be represented by an attorney. The hearing committee may also request legal assistance; any legal advisor provided to the hearing committee may sit with it in an advisory capacity to provide legal counsel but shall not be a member of the panel nor vote with it.
- Hearings shall be closed and confidential unless all parties request that it be open to the public. Any such request must be made no less than five work days prior to the date of the hearing. In a closed hearing, witnesses shall not be present at the hearing when not testifying, unless all parties and the committee agree to the contrary.
- The hearing shall be recorded by the grievance officer either by tape recording or stenographic recording, and shall be the only recording made. No witness who refuses to be recorded may be permitted to give testimony. In the event the recording is by tape recording, the grievance hearing committee chair shall, at the beginning of the hearing, ask each person present to identify themselves by name, and thereafter shall ask witnesses to identify themselves by name. The tape recording shall remain in the custody of the district, either at the college or the district office, at all times, unless released to a professional transcribing service. Any party may request a copy of the tape recording.
- All testimony shall be taken under oath; the oath shall be administered by the grievance hearing committee chair. Written statements of witnesses under penalty of perjury shall not be used unless the witness is unavailable to testify. A witness who refuses to be tape-recorded shall be considered to be unavailable.
- The grievance hearing committee shall prepare and send a decision to the grievance officer. The decision will be forwarded by the grievance officer to the grievant within 14 work days. The decision shall include specific factual findings regarding the grievance, and shall include specific conclusions regarding whether a grievance has been established as defined above. The decision shall also include a specific recommendation regarding the relief to be afforded the grievant, if any. The decision shall be based only on the record of the hearing, and not on matter outside of that record. The record consists of the original grievance, any written response, and the oral and written evidence produced at the hearing.

Appeal & President's Decision

A student prejudiced by a decision of the grievance hearing committee shall be entitled to appeal that decision to the college president. The appeal shall be made in writing to the college president within 30 calendar days of receipt of the grievance hearing committee's decision. The college president shall review the appeal and the grievance hearing committee's findings and conclusions, and will render a decision. Within seven work days following the receipt of the request for appeal, the college president shall prepare and send a decision to the grievant. The decision of the college president shall be final.

Time Limits
Any times specified in these procedures may be shortened or lengthened if there is mutual concurrence by all parties.

Illegal Distribution of Copyrighted Materials

Foothill College students are prohibited from using the Foothill-De Anza (FHDA) Community College District information network to illegally download or share music, video and all other copyrighted intellectual property. Foothill College supports the Higher Education Opportunity Act and Digital Millennium Copyright Act, including efforts to eliminate the illegal distribution of copyrighted material. Under the law, college administrators may be obligated to provide copyright holders with information about users of the FHDA information network who have violated the law.

Be aware that illegal forms of downloading and file sharing as well as the unauthorized distribution of copyrighted materials are violations of the law and may subject you to academic sanctions from the college as well as criminal and civil penalties, including a lawsuit against you by the Recording Industry Association of America (RIAA). Learn more at **www.campusdownloading.com.**

In addition to being illegal, file sharing drains the FHDA network's bandwidth, which slows computer connections for students and employees who are using the network for legitimate academic purposes and ultimately costs the college money.

The college has developed policies and consequences to ensure that students respect music and other forms of intellectual property as well as conduct responsible use of the Internet. Review these policies at **www.foothill.edu/services/studentright.php#misuse.**

There are plenty of easy, affordable ways to get music online legally. To protect their intellectual property, companies have licensed hundreds of digital partners that offer a range of legal downloading options, including download and subscription services, legitimate peer-to-peer services, video-on-demand, podcasts and CD kiosks. For a list of sources that offer legal downloading sites, access **www.riaa.com.**

Summary of Civil & Criminal Penalties for Violation of Federal Copyright Laws

Copyright infringement is the act of exercising, without permission or legal authority, one or more of the exclusive rights granted to the copyright owner under the Copyright Act. These rights include the right to reproduce or distribute a copyrighted work. In the file-sharing context, downloading and/or uploading substantial parts of a copyrighted work without authority constitutes an infringement. For details, review *U.S. Code Title 17; Section 106*.

Civil and criminal penalties are applicable for copyright infringement. In general, anyone found liable for civil copyright infringement may be ordered to pay either actual damages or statutory damages affixed at not less than $750 and not more than $30,000 per work infringed. For willful infringement, a court may award up to $150,000 per work infringed. A court can also assess related costs and attorneys' fees. Willful copyright infringement can also result in criminal penalties, including imprisonment of up to five years and fines of up to $250,000 per offense. For details, review *U.S. Code Title 17; Sections 504–505*.

For more information, review the U.S. Copyright Office website at **www.copyright.gov,** especially the FAQ at **www.copyright.gov/help/faq.**

Misuse of Computer Information & Resources Policy

This administrative procedure implements *FHDA Board Policy 3250: Procedures Regarding Misuse of Computer Information.*

Abuse of computing, networking or information resources contained in or part of the district network may result in the loss of computing privileges. Additionally, abuse can be prosecuted under applicable statues. Users may be held accountable for their conduct under any applicable district or college policies, procedures, or collective bargaining agreements. Complaints alleging abuse of the district network will be directed to those responsible for taking appropriate disciplinary action. Illegal reproduction of material protected by U.S. Copyright Law is subject to civil damages and criminal penalties, including fines and imprisonment.

Examples of behaviors constituting abuse which violate *District Board Policy 3250* include, but are not limited to, the following activities:

System Abuse

- Using a computer account that one is not authorized to use.
- Obtaining a password for a computer account that one is not authorized to have.
- Using the district network to gain unauthorized access to any computer systems.
- Knowingly performing an act which will interfere with the normal operation of computers, terminals, peripherals or networks.
- Knowingly running or installing on any computer system or network, or giving to another user, a program intended to damage or to place excessive

load on a computer system or network. This includes but is not limited to programs known as computer viruses, Trojan horses and worms.
- Knowingly or carelessly allowing someone else to use your account who engages in any misuse in violation of District Board Policy 3250.
- Forging e-mail messages.
- Attempting to circumvent data-protection schemes or uncover or exploit security loopholes.
- Masking the identity of an account or machine.
- Deliberately wasting computing resources.
- Downloading, displaying uploading or transmitting obscenity or pornography, as legally defined.
- Attempting without district authorization to monitor or tamper with another user's electronic communications, or changing, or deleting another user's files or software without the explicit agreement of the owner, or any activity which is illegal under California computer crime laws.
- Personal use which is excessive or interferes with the user's or others' performance of job duties, or otherwise burdens the intended use of the district network.
- Illegal downloading and/or distribution of copyright-protected materials, including but not limited to music and videos.

Harassment

- Using the telephone, e-mail or voice mail to harass or threaten others.
- Knowingly downloading, displaying or transmitting by use of the district network, communications, pictures, drawings or depictions that contain ethnic slurs, racial epithets, or anything that may be construed as harassment or disparagement of others based on their race, national origin, gender, sexual orientation, age, disability, or religious or political belief.
- Knowingly downloading, displaying or transmitting by use of the district network sexually explicit images, messages, pictures, or cartoons when done to harass or for the purposes of harassment.
- Knowingly downloading, displaying or transmitting by use of the district network sexually harassing images or text in a public computer facility, or location that can potentially be in view of other individuals.
- Posting on electronic bulletin boards material that violates existing laws or the colleges' codes of conduct.
- Using the district network to publish false or defamatory information about another person.

Commercial Use

- Using the district network for any commercial activity without written authorization from the district. "Commercial activity" means for financial remuneration or designed to lead to financial remuneration.

Copyright

- Violating terms of applicable software licensing agreements or copyright laws.
- Publishing copyrighted material without the consent of the owner on district websites in violation of copyright laws.

Exceptions

Activities by technical staff, as authorized by appropriate district or college officials, to take action for security, enforcement, technical support, troubleshooting or performance testing purposes will not be considered abuse of the network.

Although personal use is not an intended use, the district recognizes that the network will be used for incidental personal activities and will take no disciplinary action provided that such use is within reason and provided that such usage is ordinarily on an employee's own time; is occasional; and does not interfere with or burden the district's operation. Likewise, the district will not purposefully monitor or punish reasonable use of the network for union business-related communication between employees and their unions. Administrative Procedure 3250. Approved 11/17/97; Reviewed by FHDA Board 8/16/99, 7/7/03; revised 10/28/05, 2/6/09.

Code of Conduct for *etudes*™ Internet-Based Courses

As a student at Foothill College, your conduct in the classroom and online (Internet classes) will be expected to conform to those acceptable standards for all students as described in this publication. Unacceptable behavior includes, but is not limited to the following:

- Use of threatening, harassing, sexually explicit language or discriminatory language or conduct that violates state and federal law and the Foothill-De Anza Community College District policy on sexual harassment or discrimination;
- Unauthorized posting or transmitting sexually explicit images or other content that is deemed by *etudes*™, the licensee, or any administrator, supervisor or instructor of a course published utilizing *etudes*™ or other online software to be offensive;

- Conduct that constitutes fraudulent behavior as enumerated in state and federal statutes;
- Disruptive behavior online or off-line;
- Vandalism, or any other violation of FHDA Community College District Board Policy. Particular attention should be given to college policy on academic dishonesty, which includes plagiarism or otherwise representing others' work as your own.

All Foothill College students are subject to the same consequences for violations of college policy. These include sanctions and consequences for infractions that are outlined in *Course Catalog* and at **www.foothill.edu** under Student Rights & Responsibilities.

All Foothill College students are hereby notified that these documents, available online and in print, serve to alert them to their rights and responsibilities, and the college's obligations.

Students can obtain a copy of *Student Conduct & Due Process* from the Student Affairs & Activities Office, Room 2002; **(650) 949-7241.**

Student Right-to-Know Summary Report

In compliance with the federal government, Foothill College provides the following summary of first-time, full-time, degree-seeking students entering Foothill College in Fall Quarter 2009 (the most recent reporting period for which data are available from the California Community Colleges Chancellor's Office):[2]

Students completing A.A./A.S./Certificate:	55.61 percent
Students who transferred out:[3]	13.22 percent
Total completers/transfers:[4]	68.83 percent

Use of Photography

Foothill College, a public California community college, reserves the right to use photographs, motion pictures and electronic images of students and visitors, age 18 and older, taken on college property and at college-sponsored events for marketing and promotional purposes.

Occasionally, the college will conduct media production activities for marketing purposes. The results of such photography and recording may be broadcast throughout the world. If you do not want to be identified, photographed or recorded, avoid areas where camera technicians and photographers are working.

Objection to the use of an individual's photograph may be made in writing to the Marketing Office, Room 1944.

2 *The cohort is made up of students entering college for the first time in the fall term, who in the fall term declared a goal of transfer, associate degree or certificate and completed one or more college-level credit courses in the fall term.*

3 *The term "transferred out" is defined as the student who transferred to a University of California campus, or California State University campus, or another California community college campus.*

4 *Completers are students who within a degree-year period completed the requirements for an associate degree, certificate, or transferred out of the college, or were prepared to transfer which is defined as successfully completing 84 or more transferable units and achieving a grade-point average equal to or greater than 2.0 (out of a possible 4.0).*

Crime Awareness & Campus Security Summary Report

In compliance with Section 201 Public Law 101-542 as amended by Public Law 102-26, Foothill College provides the following 2013 Crime Awareness & Campus Security Act Summary Report (the most recent reporting period for which data are available from the Foothill-De Anza Community College District Police Department):

Foothill College–Los Altos Hills, CA

Criminal Offenses	On Campus			Public Property			Non-Campus Property		
	2010	2011	2012	2010	2011	2012	2010	2011	2012
Criminal Homicide	0	0	0	0	0	0	0	0	0
Sexual Offenses Forcible	0	0	0	0	0	0	0	0	0
Sexual Offenses Non-Forcible	0	0	0	0	0	0	0	0	0
Robbery	0	0	1	0	0	0	0	0	0
Burglary	11	1	11	0	0	0	0	0	0
Aggravated Assault	0	0	0	0	0	0	0	0	0
Motor Vehicle Theft	0	0	2	0	0	0	0	0	0
Arson	0	0	0	0	0	0	0	0	0
Hate Crimes	0	0	0	0	0	0	0	0	0
Special Category Arrests	**On Campus**			**Public Property**			**Non-Campus Property**		
	2010	2011	2012	2010	2011	2012	2010	2011	2012
Liquor Laws	0	0	0	0	0	0	0	0	0
Drug Violations	1	0	0	0	0	0	0	0	0
Weapons Violations	0	0	0	0	0	0	0	0	0

Middlefield Campus–Palo Alto, CA

Criminal Offenses	On Campus			Public Property			Non-Campus Property		
	2010	2011	2012	2010	2011	2012	2010	2011	2012
Criminal Homicide	0	0	0	0	0	0	0	0	0
Sexual Offenses Forcible	0	0	0	0	0	0	0	0	1
Sexual Offenses Non-Forcible	0	0	0	0	0	0	0	0	0
Robbery	0	0	0	0	0	0	0	0	0
Burglary	0	0	0	0	0	0	1	0	1
Aggravated Assault	0	0	0	0	0	0	0	0	0
Motor Vehicle Theft	0	0	0	0	0	0	0	0	0
Arson	0	0	0	0	0	0	0	0	1
Hate Crimes	0	0	0	0	0	0	0	0	0
Special Category Arrests	**On Campus**			**Public Property**			**Non-Campus Property**		
	2010	2011	2012	2010	2011	2012	2010	2011	2012
Liquor Laws	0	0	0	0	0	0	0	0	3
Drug Violations	0	0	0	0	0	0	0	0	0
Weapons Violations	0	0	0	0	0	0	0	0	0

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Major & Certificate Requirements

Requirements

Associate in Arts & Associate in Science Degree Graduation Requirements

Requirements for the Associate in Arts (A.A.) and Associate in Science (A.S.) degrees are listed on pages 74–75 and include completion of all the following:

- A minimum of 90 units in prescribed courses;
- A minimum of 18 units completed at Foothill College;
- A GPA of 2.0 or better in all college courses including Foothill courses;
- A major of at least 27 units in a curriculum approved by the Foothill College Curriculum Committee;
- The general education requirements are listed on pages 74–75 If you plan to transfer to a four-year college or university, you should also review the specific requirements of those institutions;
- English Proficiency: *ENGL 1A or 1AH or 1S and 1T* or *ESLL 26*;
- Math Proficiency: *MATH 57, 105* or *108*; and
- The student may apply only one English or ESLL course below transferable freshman composition toward the associate degree.

One course is required from Area I through Area VI. Two courses (a minimum of four units from two disciplines) are required in Area VII. Courses may only be used in one area.

Note that completion of the IGETC or CSU-Breadth pattern may also be used satisfy the general education requirements for the Foothill AA/AS degree. Because there are significant differences between the three patterns, you are strongly advised to meet early and often with a counselor to determine which pattern will best meet your goals.

General Education Reciprocity

The Foothill-De Anza Community College District has entered into a mutual General Education (GE) Reciprocity Agreement with other community colleges to accept the general education courses of these colleges "as completed." In addition to Foothill, participating institutions include Chabot, De Anza, Evergreen Valley, Gavilan, Las Positas, Mission, Ohlone, San Jose City and West Valley colleges.

The reciprocity agreement allows students who obtain a certification of completion of associate degree GE requirements at one of the participating colleges to transfer both the GE coursework and graduation proficiencies to any of the other participating colleges.

Additional GE coursework will not be required if the official certification is presented. Students will still be required to complete all courses or prerequisites needed for a major. The agreement also means that the other participating colleges will accept the Foothill GE pattern when presented with official certification.

In addition to the General Education Reciprocity Agreement, Foothill College will exempt students who have already earned an associate degree from another California Community College or who submit general education certification from another California Community College (other than the nine colleges previously identified) from having to complete any additional general education or additional English/mathematics proficiency coursework to earn the Foothill A.A/A.S. Local general education requirements may also be met by completion of the IGETC or CSU General Education Breadth Requirements. For more information, schedule an appointment with a counselor.

Students seeking an official general education certification for use by a reciprocity institution are encouraged to review their records with a counselor prior to submitting the *General Education Certification Request*. Students who have completed courses at other colleges and universities must have official transcripts on file prior to submitting the request. Requests for A.A./A.S. general education certification may be submitted to the Evaluations Office in Room 8301.

Petition for Graduation

Upon completion of required coursework, you may request to receive an associate degree (A.A./A.A.-T/ A.S./A.S.-T) from Foothill College. You must complete a 30-minute petition for graduation consultation with a Foothill counselor and all transcripts of your college coursework at Foothill and/or other schools must be on file at Foothill College. The petition should be filed no later than the beginning of the quarter during which you plan to complete graduation requirements. Foothill confers degrees every quarter, and the annual commencement ceremony is presented in June. For more information, schedule a consultation with a counselor by accessing **www.foothill.edu/counseling.**

Catalog Rights/Requirements for Graduation

The *Course Catalog* serves as an agreement between the student and the college to identify courses that the student must complete in order to qualify for a degree or certificate. The student has the right to select the course requirements for a degree or certificate from any catalog as long as continuous enrollment has been maintained.

Allied health programs reserve the right to change catalog rights by modifying program requirements based upon state and federal accreditation standards.

Continuous Enrollment

Continuous enrollment is important in deciding which catalog a student may select to determine degree or certificate requirements. A continuously enrolled student is defined as one who attended Foothill or De Anza colleges at least two quarters each academic year, excluding Summer Session. A single **W**-mark in a term qualifies as an attended term.

Currency of Major/Certificate Requirements

In certain Foothill College programs, currency of course content is essential. The Foothill College Curriculum Committee reserves the right to determine an acceptable level of currency of any course in any major or certificate. This means that a course may only be used toward fulfilling a certificate or degree for a prescribed number of years. Students should check certificate and major requirements for courses that are noted as having currency levels.

Online Degrees

The Foothill Global Access (FGA) Program offers online educational opportunities and services comparable to those available to on-site students. FGA offers students a variety of online learning courses that meet the same high academic standards as traditional classes.

The program also offers several associate degree programs entirely online, including accounting, American studies, anthropology, economics, general studies/social science, geography, graphic and interactive design, history, music: general, music technology, psychology and sociology as well as general education requirements. These degrees are fully transferable and can be completed online. A few courses, such as communication, English and math, may require occasional meetings or proctored exams.

Foothill College may be required to receive state authorization to enroll students who do not reside in California. Many states have either given the college this authorization or do not require authorization. However, some states require significant fees to receive state authorization. Due to the significant and/or recurring fees for state authorization, Foothill College no longer permits a student to enroll if he/she resides in any of the following states: Arkansas, Maryland, Minnesota, Utah or Wisconsin.

For more information, access **www.foothill.edu/fga.**

Discontinued Degrees

A discontinued degree is one that was once offered by Foothill College but which is no longer offered. To be considered for an associate degree in a discontinued program, the student who has maintained continuous enrollment may file to graduate from Foothill College within seven years of the time that a program is discontinued.

Non-Transcriptable Certificates

Per Title 5 regulations, certificates of achievement are noted on the student's transcript. However, certificates of completion, proficiency, specialization, skills, and career are not reflected on the student's transcript.

Course Numbering System

Most Foothill courses are baccalaureate in level and can be transferred to four-year institutions.

In general, courses at Foothill College are numbered using the following guidelines:

Number	Institution
1–49	Transferable to the University of California.
1–99	Transferable to the California State University.
1–199	Foothill A.A./A.S. degree-applicable.
200–299	Prerequisites for required courses that lead to the A.A./A.S. degree* and non-degree applicable credit courses.
300–399	Workshops, review and other courses offered to meet special collegiate needs of a community nature.
400–499	Non-credit courses in consumer education, senior education, adaptive learning or other areas that do not apply to the A.A./A.S. degree.

All courses numbered 200 and above are non-degree applicable. Grades earned in these courses shall not be included in the student's degree-applicable grade-point average.

Individual course descriptions identify course transferability to UC and CSU campuses; however, since transferability is subject to change, students should verify transferability at **www.assist.org.**

There are exceptions to this numbering system. Consult the course listings in this catalog to determine which courses between 1–199 are non-degree applicable. Students should consult a counselor to determine course transferability. A list of transferable courses may be viewed at **www.assist.org.**

Note: Courses considered transferable may not necessarily satisfy specific requirements at all four-year institutions. While students are strongly encouraged to develop an educational plan with a counselor, the final responsibility for proper course selection rests with the individual student.

Enrollment in basic skills courses is limited to no more than 45 quarter units at Foothill College. ESLL and learning disabled students are exempt from this limitation. Waivers may be available for other students who show significant progress, but these waivers are only for a specified period of time or number of units.

Visit the Counseling Office for copies of the Foothill Associate Degree/Graduation Requirements; CSU GE/Breadth Requirements; and IGETC listings; or access them online at www.foothill.edu.

For help deciding which general education plan to follow, consult a Foothill counselor.

Certification of General Education for Transfer

Foothill College will certify completion of up to 58 units of the 72-unit general education requirement for graduation from the CSU (page 77). IGETC Certification for CSU or UC requires full certification of Areas 1 through 5 (page 76). You may request certification by completing the official certification form or transcript request form available from the Admissions & Records Office in Room 8101 or Evaluations Office in Room 8301.

You are encouraged to consult with a counselor for help in selecting courses. We encourage all students to consult with a counselor each quarter for new course requirements.

Four-Year Institution Requirements

Articulation Agreements

Articulation is the process of negotiating and approving Foothill courses with other institutions. Foothill has course-to-course and major-preparation articulation agreements with every UC and most CSU campuses, as well as many four-year colleges and universities. This information is available to you through your counselor or via the Internet. To review online information, access these websites:

- **www.foothill.edu**
- **www.assist.org**
- Website of the specific college of interest

Assist Web Page

As the official statewide repository for articulation information, Assist (**www.assist.org**) is the primary site for students to find specific Foothill College courses that fulfill general education and/or major preparation requirements at UC and CSU campuses. Listings of course equivalencies assist students in selecting appropriate courses to prepare for transfer. Information about exploring majors, selection criteria for impacted and selective programs/majors, transfer credit limitations and important links to UC and CSU websites are also available at **www.assist.org.** Although, Assist is an excellent tool, it is recommended that students apply Assist information to their education plan in conjunction with a Foothill counselor.

Transfer Admission Guarantees

If you complete a Transfer Admission Guarantee (TAG), you'll be given first consideration for admission to selected colleges and universities. You must complete agreed-upon general education courses, as well as major courses, with a specified minimum

grade-point average. Work with a counselor to develop a TAG. The TAG must be prepared before transfer. The TAG ensures acceptance and smooth transfer to the chosen college or university. The Transfer Center, Room 8329, has additional information regarding deadlines for TAGs.

The following institutions offer Transfer Admission Guarantees for Foothill students:

- Cornell University*
- CSU Monterey Bay
- Golden Gate University
- Menlo College
- National Hispanic University
- Notre Dame de Namur University
- Palo Alto University
- Santa Clara University
- UC Davis
- UC Irvine
- UC Merced
- UC Riverside
- UC San Diego
- UC Santa Barbara
- UC Santa Cruz
- University of San Francisco
- University of the Pacific

*Applies to School of Civil & Environmental Engineering.

This list increases each year. Verify current TAG availability in the Transfer Center, Room 8329.

Additional transfer agreements are also available through the Foothill Honors Institute, including the Transfer Alliance Program with the University of California, Los Angeles (UCLA). To verify current honors agreements, visit the Honors Institute (Room 1961).

Course Identification Numbering System

The Course Identification Numbering System (C-ID) is a statewide numbering system independent from the course numbers assigned by local California community colleges. C-ID approval signals that participating California colleges and universities have determined that courses offered by other California community colleges are comparable in content and scope to courses offered on their own campuses, regardless of their unique titles or local course number. Students should always review **www.assist.org** to confirm how each college's course will be accepted at a particular four-year college or university for transfer credit.

The C-ID numbering system is useful for the student who is attending more than one community college and is applied to many of the transferable courses the student will need as preparation for transfer. Because these course requirements may change and because courses may be modified and qualified for or deleted from the C-ID database, the student should always check with a counselor to determine how C-ID-designated courses fit into his/her educational plans for transfer.

The student may consult the Assist database at **www.assist.org** for specific information on C-ID course designations. For assistance interpreting or explaining this information, schedule an appointment with a counselors.

University of California Breadth General Education Requirements

The University of California (UC) has campuses at Berkeley, Davis, Irvine, Los Angeles, Merced, Riverside, San Diego, San Francisco, Santa Barbara and Santa Cruz.

UC campuses have uniform basic eligibility requirements. Each campus is distinctive, however, and not all majors are offered at every campus. Each school and college at a specific UC campus has outlined major requirements that prepare you for the academic discipline.

Foothill's counselors and Career/Transfer Center staff can advise you regarding the courses acceptable for credit at UC campuses as well as those meeting the breadth requirements for specific UC colleges and schools. You can also review this information on the Internet at **www.assist.org.** The Foothill College website at **www.foothill.edu** includes the *Transfer Course Agreement Listing* for all Foothill courses that are transferable to all UC campuses. You should explore all undergraduate colleges, schools and majors to determine which campuses will best satisfy your educational needs. We encourage you to discuss the advantages of each major and campus with a counselor.

Preparation for Transfer to Four-Year Colleges & Universities

Each year, hundreds of Foothill College students transfer to four-year colleges or universities after completing lower-division major preparatory and general education requirements. The secret of our students' success is that they understand which courses are required for the following three transfer elements:

- Minimum admission eligibility/requirements;
- Requirements in preparation for the identified major; and
- Completion of general education/breadth requirements.

Depending upon the transfer institution, the requirements may differ.

Counselors are an excellent resource for transfer information. Understanding the minimum requirements ensures that students can transfer in a timely manner to earn their bachelor's degree without delay.

These requirements are subject to change annually; therefore, the student should meet with a counselor every year. Many of the courses offered at Foothill College are similar to courses offered in the lower division, or first two years, at four-year colleges and universities. Because there is a wide variation between requirements at different universities, it is recommended that you decide on your major and transfer institution as soon as possible. In addition to offering counselors to help you with this decision, Foothill College offers counseling (CNSL) and Career Life Planning (CRLP) courses to help you explore and evaluate options.

Transfer to the California State University (CSU)

For students interested in transfer to one of the 23 campuses of the CSU, admission eligibility is based on transferable units completed. You are considered a transfer student if you complete college units after the summer following graduation from high school. Admission offices at the 23 CSU campuses use a common set of factors to make admission decisions for both classes of transfer students. All campuses have higher standards for out-of-state students and international students. Some campuses have higher standards for particular majors. Finally, some campuses have higher standards for all applicants. Some campuses give preference in admission to students who reside or have completed an identified number of units at institutions in their local area. For detailed information, access **www.calstate.edu/sas/publications/.**

Associate Degrees for Transfer to the CSU System

The Student Transfer Achievement Reform Act (Senate Bill 1440, now codified in California Education Code sections 66746-66749) guarantees admission to a California State University (CSU) campus for any community college student who completes an "associate degree for transfer," which is a newly established variation of the associate degree traditionally awarded by the California community colleges. The Associate in Arts for Transfer (A.A.-T.) and Associate in Science for Transfer (A.S.-T.) degrees are intended for students who plan to complete a bachelor's degree in a similar major at a CSU campus. Students completing the A.A.-T. or A.S.-T. degree program are guaranteed admission to the CSU system, but *not* to a particular campus or major. In order to earn an A.A.-T. or A.S.-T. degree, students must complete a minimum of 90 required quarter units of CSU-transferable coursework with a minimum GPA of 2.0. Students transferring to a CSU campus in a major that that accepts the A.A.-T. or A.S.-T. degree will be required to complete no more than 60 semester/90 quarter units after transfer to earn the bachelor's degree (unless the major is a designated to be a "high-unit" major). Note: The A.A.-T. or A.S.-T. degree may not be the best option for students who intend to transfer to a particular CSU campus or to university or college that is not part of the CSU system. Students who plan to complete the A.A.-T. or A.S.-T. degree are strongly encouraged to meet early and often with a counselor for more information on university admission and transfer requirements. Consult a counselor for more information.

Lower-Division Transfer Admission

Many CSU campuses do not accept lower-division transfers. Be sure to check with the campus if you are considering transfer as a lower-division student. Students who have completed fewer than 60 transferable semester units (90 quarter units) are considered lower-division transfer students. You are eligible for admissions consideration as a lower-division transfer if you:

- Have a college grade-point average of 2.0 or better in all transferable college units completed;
- Are in good standing at the last college or university attended; i.e., you are eligible to re-enroll;
- Meet the admission requirements for a first-time freshman or have successfully completed the necessary courses to make up the deficiencies you had in high school if you did not complete the 15-unit pattern of college preparatory subjects; and
- Meet the eligibility index required of a freshman.

Upper-Division Transfer Admission

Students who have completed 60 or more transferable semester units (90 quarter units) are considered upper-division transfer students. You are eligible for admission if you:

- Have an overall college grade-point average of 2.0 or better (2.4 for California nonresidents) in all transferable college units attempted;
- Are in good standing at the last college or university attended; i.e., you are eligible to re-enroll; and

- Prior to transfer, you complete at least 30 semester units (45 quarter units) of general education coursework with a grade of C or better. The 30 (45) units must include all of the general education requirements in English composition, oral communication, critical thinking and at least one course of 3 semester units (4 quarter units) in college-level mathematics.

Major Requirements

Students are encouraged to complete as many lower-division major preparatory requirements as possible prior to transfer. Many majors, especially in highly selective programs, have supplemental requirements that must be met prior to transfer. Consult with a counselor for additional information. These requirements may also be viewed at **www.assist.org.** Some oversubscribed programs may require supplemental courses or information for admission.

Transfer to the University of California (UC)

The University of California (UC) campuses at Berkeley, Davis, Irvine, Los Angeles, Merced, Riverside, San Diego, Santa Barbara and Santa Cruz all share the same minimum admission requirements; however, each campus is unique. The academic programs offered, the size of the student body and the location are just a few of the factors that contribute to the individual character of each campus. Entrance requirements may vary, as well. Although some campuses are able to admit all eligible transfer applicants, others can accommodate only a limited number of transfer students. Academic preparation and grade-point average (GPA) are used by the competitive campuses and programs in the selection process. Criteria vary from year to year and from campus to campus according to the number and qualifications of applicants to each campus and program. For more information about campuses, consult the university general catalogs available online or in the Foothill College Transfer Center (Room 8329). Complete information on the UC may be found at **www.universityofcalifornia.edu/admissions/.**

The UC will award graduation credit for up to 105 lower-division quarter units of transferable coursework from a community college. Courses in excess of 105 quarter units will receive subject credit and may be used to satisfy university subject requirements. There is no limit, however, on the number of units used to determine a student's GPA, so all UC-transferable units will apply.

Minimum Admission Requirements for Transfer Applicants Who Are California Residents

The UC considers you a transfer applicant if you enrolled in a regular session at a college or university after high school, not including summer session. (You can't disregard your college record and apply as a freshman.) There are three ways to meet the university's minimum admission requirements for transfer students. The path you use depends on the degree to which you satisfied UC's minimum eligibility requirements for freshmen at the time you graduated from high school.

1. If you were eligible for admission to the university when you graduated from high school—meaning you satisfied the subject, scholarship and examination requirements, or were identified by the university during your senior year in high school as eligible in the local context—you are eligible to transfer if you have a 2.0 GPA in your transferable college coursework.
2. If you met the scholarship requirements in high school but did not satisfy the 15-course subject requirement, you must take transferable college courses in the missing subjects, earn a grade of **C** or better in each required course, and maintain a 2.0 GPA in all transferable coursework to be eligible for transfer.
3. If you were not eligible for admission to the university when you graduated from high school because you did not meet the scholarship requirement, you must:
   a. Complete 90 quarter units/60 semester units of transferable college credit with at least a 2.4 GPA (2.8 for nonresidents). No more than 21 quarter/14 semester units may be taken as **Pass/Not Pass**, and
   b. Complete the following seven transferable college courses, earning a grade of **C** or better in each course:
      - Two courses in English composition; and
      - One course in mathematical concepts and quantitative reasoning; and
      - Four courses chosen from at least two of these subject areas: arts and humanities, social and behavioral sciences, and physical and biological sciences.
      - Each course must be worth at least 4-5 quarter/3 semester units.

For a list of UC-transferable courses and those that specifically meet the seven-course pattern described above, access **www.assist.org.**

Eligibility for transfer does not guarantee admission. To present a competitive application, students are encouraged to exceed minimum requirements.

Nonresidents

The minimum admission requirements for nonresidents are very similar to those for residents. If you are not a California resident, consult with the admissions office at the university campus(es) that you're interested in for specific admission requirements. In all cases, however, nonresidents must have a grade-point average of 2.8 or higher in all transferable college coursework.

Be aware that many campuses use criteria that exceed these minimum requirements to select students for admission. For nonresident admission information, you are advised to consult frequently with a counselor and/or read university catalog and university websites or contact the admissions office at the appropriate university.

Priority Application Filing Period

Students are encouraged to apply during the following application periods:

Application Accepted For	CSU	UC
Fall	Oct. 1–Nov. 30	Nov. 1–30
Winter	June 1–30	July 1–31
Spring	Aug. 1–31	Oct. 1–31
Summer	Feb. 1–28	

While all campuses accept students for fall admission, many do not accept for spring or winter. Consult a counselor for details about a specific campus.

2014–2015 Foothill College General Education & Graduation Requirements

The Foothill College general education (GE) pattern is designed to ensure that the student meets the four Institutional/General Education Student Learning Outcomes:

1. **Communication:** Demonstrate analytical reading and writing skills, including evaluation, synthesis and research; deliver focused and coherent presentations; demonstrate active, discerning listening and speaking skills in lectures and discussions.
2. **Computation:** Complex problem-solving skills, technology skills, computer proficiency, decision analysis (synthesis and evaluation), apply mathematical concepts and reasoning, and ability to analyze and use numerical data.
3. **Creative, Critical & Analytical Thinking:** Judgment and decision making, intellectual curiosity, problem solving through analysis, synthesis and evaluation, creativity, aesthetic awareness, research method, identifying and responding to a variety of learning styles and strategies.
4. **Community/Global Consciousness & Responsibility:** Social perceptiveness, including respect, empathy, cultural awareness, and sensitivity, citizenship, ethics, interpersonal skills and personal integrity, community service, self-esteem, interest in and pursuit of lifelong learning.

Completion of the Foothill College general education pattern requires that the student successfully earn a minimum of 30–35 units from the courses listed below with at least one course in Communication & Analytical Thinking, English, Humanities, Natural Sciences (with lab), Social & Behavioral Sciences, United States Cultures & Communities, and two courses in Lifelong Learning from two different academic departments. Courses may only be used in one area.

It is imperative to note that the Foothill College general education pattern is only appropriate for the student who is pursuing a Foothill College associate in arts or associate in science degree, but is not appropriate for the student who is pursuing an AA–T or AS–T degree. The student who intends to earn an AA–T or AS–T degree must complete either the IGETC or CSU Breadth general education pattern. Note that completion of the IGETC or CSU Breadth patterns may also be used to satisfy the general education requirements for the Foothill AA/AS degree. **Because there are significant differences between the three patterns, the student is strongly advised to meet with a counselor to determine which pattern will best meet the student's goals.**

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2014–2015 Foothill College General Education & Graduation Requirements—continued

I. Humanities

Arts: ART 1, 2A, 2AH, 2B, 2BH, 2C, 2CH, 2D, 2E, 2F, 2J, 4A, 5A, 5B, 20B, 36, 45B; DANC 10; GID 1; MDIA 2C, 11; MUS 1, 2A, 2B, 2C, 2D, 2F, 7, 7D, 7E, 8, 8H; PHOT 5, 8, 8H, 10, 10H, 11, 11H; WMN 15.

Letters: ENGL 5, 5H, 7, 7H, 12, 14, 16, 17, 18A, 22, 24, 31, 40, 40H, 41, 46A, 46B, 46C, 48A, 48B, 48C; HUMN 1A, 1B, 3, 3H, 4, 4H; JAPN 14A, 14B; PHIL 2, 20A, 20B, 20C, 24, 25; SPAN 4, 5, 6, 13A, 13B, 14A, 14B; THTR 1, 2A, 2B, 2F, 8, 12A, 26.

II. English

ENGL 1A, 1AH, 1S and 1T; ESLL 26.

III. Natural Sciences (with laboratory)

ANTH 1 w/1L; ASTR 10A w/10L, 10B w/10L, 10BH w/10L; BIOL 9 w/9L, 10, 13, 14, 15, 23, 41; CHEM 1A, 20, 25, 30A; ENGR 39; GEOG 1; HORT 10; PHYS 2A, 4A, 5A.

IV. Social & Behavioral Sciences

ANTH 2A, 2B, 3, 5, 8, 12, 14, 15, 20, 22; BUSI 22, 53; CHLD 1, 2; ECON 1A, 1B, 9, 9H, 25; GEOG 2, 5, 10; HIST 4A, 4B, 4C, 4CH, 8, 9, 9H, 10, 16, 16H, 17A, 17B, 17C, 18, 20; KINS 2; POLI 1, 3, 3H, 9, 9H, 15, 15H; PSYC 1, 4, 10, 14, 21, 22, 25, 30, 33; SOC 1, 10, 11, 15, 19, 20, 21, 23, 30, 40; SPED 62; WMN 5, 21.

V. Communication & Analytical Thinking

COMM 1A, 1AH, 1B, 1BH, 2, 3, 4, 54A, 55; C S 1A, 1B, 1C, 2A, 2B, 2C, 18; ENGL 1B, 1BH, 50C; GEOG 11; GIST 11; MATH 1A, 1B, 1C, 10, 11, 22, 44, 48A, 48B, 48C, 57; MDIA 3; PHIL 1, 7, 30; PSYC 7; SOC 7.

VI. United States Cultures & Communities

CHLD 51A; COMM 10, 12; ENGL 7, 7H, 12, 40, 40H; HIST 10; MDIA 12; MUS 8, 8H; PSYC 22; SOC 8, 23; SPED 61; THTR 8; WMN 5.

VII. Lifelong Learning

The student must successfully complete a total of four units or more in Lifelong Learning from two different academic departments. For the purpose of this area, ATHL, DANC, PHDA and PHED will be considered one academic department.

ATHL 4, 4A, 4B, 4C, 4E, 4F, 11, 11A, 11B, 11C, 11E, 11F, 12, 12A, 12B, 12C, 12E, 12F, 21, 21A, 21B, 21C, 21E, 21F, 22, 22A, 22B, 22C, 22E, 31, 31A, 31B, 31C, 31E, 31F, 32, 32A, 32B, 32C, 32E, 32F, 33, 33A, 33B, 33C, 33E, 33F, 42, 42A, 42B, 42C, 42E, 42F, 44, 44A, 44B, 44C, 44E, 44F, 45, 45A, 45B, 45C, 45E; BIOL 8, 9, 12; CNSL 1, 52, 72, 90; COMM 2, 10, 12, 55; CRLP 55, 70; DANC 1A, 1B, 1C, 2A, 2B, 2C, 3A, 3B, 4, 4A, 4B, 4C, 5, 6, 7, 8, 13A, 13B, 14, 18A, 18B; HLTH 21; KINS 4, 17; LIBR 10; PHDA 16, 17, 18, 19, 20, 21A, 21B, 22; PHED 10A, 10B, 10C, 11A, 11B, 11C, 13, 13A, 13B, 13C, 14, 18, 18B, 18C, 19B, 19C, 19D, 20A, 20B, 20C, 21, 21A, 21B, 21C, 21D, 21E, 22, 22A, 22B, 22C, 22E, 23A, 23B, 23C, 24, 24A, 24B, 24C, 24D, 25A, 25B, 26, 26A, 26C, 26D, 26E, 26F, 27, 27A, 27B. 27C, 28, 31A, 31B, 31C, 31D, 32C, 33, 33A, 33B, 36A, 36B, 36C, 37, 37A, 37B, 38A, 38B, 38C, 38D, 38E, 39, 40, 40A, 40B, 40C, 41, 41A, 41B, 41C, 42, 45, 45A, 45C, 46, 46A, 46B, 47B, 47C, 49A, 49B; SPED 61.

Minimum proficiency: ENGL 1A, ENGL 1AH, ENGL 1S & 1T or ESLL 26 and MATH 57 or MATH 105 or MATH 108* completed with a letter grade of "C" or better.

Effective Summer Session 2014

*Intermediate algebra or equivalent is defined as successful completion of the MATH 105 course or mathematics placement test score indicating eligibility for a mathematics course beyond the level of MATH 105, or completion of a higher-level course with a grade of "C" or better, or completion of a bachelor's degree or higher from an accredited U.S. college or university.

2014–2015 Intersegmental General Education Transfer Curriculum (IGETC)

IGETC is a pattern of Foothill College courses that fulfills lower-division general education requirements for transfer to California State University and University of California. IGETC is an alternative to the CSU and local UC General Education-Breadth Requirements. Many private universities also recognize IGETC for fulfillment of general education requirements.

IGETC is a good option for the student who intends to transfer but is undecided about a major and/or unsure about attending CSU or UC. Some majors require extensive lower-division preparation, therefore, IGETC may not be the best choice for general education. Some universities do not accept IGETC. Always consult a counselor when developing an educational plan.

Course requirements for all areas of IGETC must be completed with a grade of **C** or better and certified by Foothill College for university credit. Submit a request for IGETC certification at the Counseling Center or Admissions Office.

For updated information, consult your counselor or access **www.assist.org.** Completion of IGETC requirements also qualifies students for a Foothill College Certificate of Achievement in Transfer Studies.

Area 1—English Communication

CSU: Three courses required, one from Group A, B and C.
UC: Two courses required, one each Group A & B.

Group A: English Composition, one course: 4–5 quarter units ENGL 1A or 1AH or 1S and 1T (both 1S & 1T must be completed to satisfy this requirement.)

Group B: Critical Thinking-English Composition, one course: 4–5 quarter units ENGL 1B, 1BH, 1C, 1CH, PHIL 1

Group C: Oral Communication (CSU requirement only) one course: 4–5 quarter units COMM 1A, 1AH, 1B, 1BH, 2, 3, 4

Area 2—Mathematical Concepts & Quantitative Reasoning

One course: 4–5 quarter units C S 18; MATH 1A, 1B, 1C, 1D, 2A, 2B, 10, 11, 12, 22, 44, 48C; PSYC 7; SOC 7.

Area 3—Arts & Humanities

At least three courses, with at least one course from Arts and one course from Humanities: 9 semester units; 12–15 quarter units.

Arts: ART 1, 2A, 2AH, 2B, 2BH, 2C, 2CH, 2D, 2E, 2F, 2G, 2J, 3; DANC 10; MDIA 1, 2A, 2B, 2C, 3; MUS 1, 2A, 2B, 2C,2D, 2F, 3A, 3B, 3C, 7, 7D, 7E, 7F, 8, 8H, 9A, 9B, 10, 11A, 11B, 11C; PHIL 11; PHOT 8, 8H, 10, 10H, 11, 11H; THTR 1, 2A, 2B, 2F, 8, 12A, 26; WMN 15

Humanities: ENGL 5, 5H, 7, 7H, 8, 11, 11H, 12, 14, 16, 17, 18A, 22, 24, 31, 40, 40H, 41, 46A, 46B, 46C, 47A, 47B, 48A, 48B, 48C; HIST 4A, 4B, 4C, 4CH; HUMN 1A, 1B, 3, 3H, 4, 4H; JAPN 4, 5, 6, 25A, 25B, 33, 35; MDIA 11, 12; PHIL 2, 4, 8, 20A, 20B, 20C, 24, 25; SPAN 4, 5, 6, 10A, 25A, 25B; THTR 2A, 2B.

Area 4—Social & Behavioral Sciences

***(CSU transfers see note re:** History & Institutions) At least three courses from at least two disciplines or an interdisciplinary sequence: 12–15 quarter units.

ANTH 2A, 2B, 3, 4, 5, 6, 8, 12, 14, 15, 20, 22; ART 2E; CHLD 1, 2; COMM 10, 12; ECON 1A, 1B, 9, 9H, 18, 25; GEOG 2, 5, 9, 10; HIST 4A, 4B, 4C, 4CH, 8, 9, 9H, 10, 16, 16H, 17A, 17B, 17C, 18, 20; KINS 2; PHOT 8, 8H; POLI 1, 2, 2H, 3, 3H, 9, 9H, 15, 15H; PSYC 1, 4, 10, 14, 21, 22, 25, 30, 33, 40, 49, 55; SOC 1, 1H, 8, 10, 11, 14, 15, 20, 21, 23, 28, 30, 40; SOSC 20; WMN 5, 11, 15, 21.

Area 5—Physical & Biological Sciences

At least two courses, one Physical Science course and one Biological Science course; at least one must include a laboratory. Laboratory courses are indicated with an asterisk (*): 9–12 quarter units

Physical Sciences: ASTR 10A, 10*L, 10B, 10BH; CHEM 1A*, 1B*, 1C*, 12A*, 12B*, 12C*, 20*, 25*, 30A*, 30B*; GEOG 1*; PHYS 2A*, 2B*, 2C*, 4A*, 4B*, 4C*,4D*, 5A*, 5B, 5C*, 6, 12, 27.

Biological Sciences: ANTH 1, 1L* 1HL*; BIOL 1A*, 1B*, 1C*, 1D, 9, 9L*, 10*, 12, 13*, 14*, 15*, 23*, 40A*, 40B*, 40C*, 41*, 45; BTEC 10, 51A, 51AL; HORT 10*.

Area 6—Language Other Than English

(UC Requirement Only) Proficiency equivalent to two years of high school study in the same language. Transcripts must be on file with Foothill College.
JAPN 2, 3, 4, 5, 6; SPAN 2, 3, 4, 5, 6, 10A.

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

This CSU requirement is not a part of IGETC. CSU transfer students completing IGETC must complete this requirement prior to graduation from CSU. Courses used to fulfill IGETC may be double-counted toward this requirement.

In order to complete this requirement prior to transfer, students must complete one course from Group One and one course from Group Two:
Group One: POLI 1
Group Two: HIST 17A, 17B or 17C

For updated information, access **www.assist.org.**
Effective Fall Quarter 2014

2014–2015 California State University General Education Breadth Requirements

Foothill College will certify completion of up to 58 quarter units of the 70-unit general education requirement for graduation from the CSU for the student who meets the following course patterns. A minimum of 45 units in GE, including all of Area A and B-4 (Math) must be completed prior to transfer. Courses may not be counted in more than one area. For updated information, consult your counselor or access **www.assist.org.** Completion of the CSU GE requirements also qualifies students for a Foothill College Certificate of Achievement in Transfer Studies.

Area A—English Language & Critical Thinking

12–15 quarter units are required for admission and must be completed with a grade of C or better.

A-1 Oral Communication: (select one course) COMM 1A, 1AH, 1B, 1BH, 2, 3 or 4

A-2 Written Communication: ENGL 1A, 1AH, 1B, 1BH, 1S and 1T (both courses must be combined for credit) or ESLL 26

A-3 Critical Thinking: (select one course) PHIL 1, 7, 30; ENGL 1B, 1BH, 1C, 1CH

AREA B—Scientific Inquiry & Quantitative Reasoning

12–15 quarter units. Choose one course from B-1, B-2 and B-4. One course must include a laboratory. Laboratory courses are indicated with an asterisk (*).

B-1 Physical Science: ASTR 10A, 10B, 10BH, 10L*; CHEM 1A*, 1B*, 1C*, 12A,* 12B*, 12C*, 20*, 25*, 30A*, 30B*; GEOG 1*; PHYS 2A*, 2B*, 2C*, 4A*, 4B*, 4C*, 4D*, 5A*, 5B*, 5C*, 6, 12, 27.

B-2 Life Science (Biological): ANTH 1, 1L*, 1H, 1HL*; BIOL 1A*, 1B*, 1C*, 1D, 9, 9L*, 10*, 12, 13*, 14*, 15*, 17, 23, 40A*, 40B*, 40C*, 41*, 45; HORT 10*.

B-4 Mathematics/Quantitative Reasoning: Course must be completed with grade of C or better; required for admission to CSU) C S 18; MATH 1A, 1B, 1C, 1D, 2A, 2B, 10, 11, 12, 22, 42, 44, 48A, 48B, 48C, 57; PSYC 7; SOC 7. (Note: MATH 57 is approved through Summer 2016)

AREA C—Arts & Humanities

Complete 12–15 quarter units, including a minimum of one course from Area C-1 and one course from Area C-2. Note: If you did not complete ENGL 1B for Area A-3, you must complete ENGL 1B as one of the Area C courses.

C-1 Arts (Art, Dance, Music, Theatre): ART 1, 2A, 2AH, 2B, 2BH, 2C, 2CH, 2D, 2E, 2F, 2G, 2J, 3, 4A, 6; DANC 10; MUS 1, 2A, 2B, 2C, 2D, 3A, 3B, 3C, 7, 7D, 7E, 7F, 8, 8H, 9A, 9B, 10, 11A, 11B, 11C, 11D, 11E; PHIL 11; PHOT 1, 8, 8H, 10, 10H, 11, 11H; THTR 1, 2A, 2B, 2F, 8, 12A, 20A, 26; VART 1, 2C, 3; WMN 15.

C-2 Humanities (Literature, Philosophy, Foreign Languages): COMM 12; CRWR 6, 39A, 39B, 41A, 41B; ENGL 1B, 1BH, 5, 5H, 7, 7H, 8, 11, 11H, 12, 14, 16, 17, 22, 24, 31, 40, 40H, 41, 46A, 46B, 46C, 47A, 47B, 48A, 48B, 48C; HIST 4A, 4B, 4C, 4CH; HUMN 1A, 1B, 3, 3H, 4, 4H; JAPN 1, 2, 3, 4, 5, 6, 25A, 25B, 33, 35; MDIA 2A, 11, 12; PHIL 2, 4, 8, 20A, 20B, 20C, 24, 25; SPAN 1, 2, 3, 4, 5, 6, 10A, 25A, 25B; THTR 2A, 2B; VART 2A, 2B.

AREA D—Social Sciences

Complete 12–15 quarter units from #1 and #2 below:

1. American Institutions Requirement for CSU graduation. Complete one course from each group:
Group One: POLI 1 Group Two: HIST 17A, 17B or 17C.

2. Complete at least one course from D-1 through D-0:

D-1 Anthropology & Archaeology: ANTH 2A, 2B, 3, 4, 5, 6, 8, 8L, 8LX, 8LY, 12, 14, 15, 20, 22, 52.

D-2 Economics: ECON 1A, 1B, 9, 9H, 18, 25; GEOG 5; POLI 9, 9H

D-3 Ethnic Studies: (Some CSU campuses may require additional courses after you transfer to meet this requirement.) ANTH 2B, 4, 6, 20; CHLD 51A; COMM 12; ENGL 12, 31; HIST 10; MUS 8, 8H; PHIL 24, 25; PHOT 8, 8H; PSYC 21, 22; SOC 21, 23; SOSC 20; WMN 21

D-4 Gender Studies: ART 2E; COMM 10; ENGL 22; PSYC 21; SOC 21, 28; WMN 5, 11, 15, 21

D-5 Geography: GEOG 2, 5, 9, 10

D-6 History: HIST 4A, 4B, 4C, 4CH, 8, 9, 9H, 10, 16, 16H, 17A, 17B, 17C, 18, 20

D-7 Interdisciplinary Social or Behavioral Science: CHLD 1, 2, 51A; HIST 18; KINS 2; SOC 8; SOSC 20; SPED 62

D-8 Political Science, Government & Legal Institutions: ECON 9, 9H; POLI 1, 2, 2H, 3, 3H, 9, 9H, 15, 15H; SPED 64

D-9 Psychology: CHLD 50A; PSYC 1, 4, 10, 14, 21, 22, 25, 30, 33, 40, 49, 55; SOC 10, 21, 30; WMN 21

D-0 Sociology & Criminology: PSYC 10, 21, 30; SOC 1, 1H, 8, 10, 11, 14, 15, 20, 21, 23, 28, 30, 40, 57; WMN 21

AREA E—Lifelong Understanding & Self-Development

A minimum of four quarter units from the following:
1. BIOL 8
2. CNSL 52, 72
3. CRLP 70
4. HLTH 21
5. KINS 4, 9
6. PSYC 50
7. SOC 19, 40
8. SPED 52, 62
9. Physical education activity courses from ATHL, PHDA and PHED (maximum allowed: 2 units) includes DANC 1A, 1B, 1C, 2A, 2B, 3A, 3B, 4A, 4B, 4C, 5, 6, 7, 8, 9, 11A, 11B, 11C, 12A, 12B, 12C, 13A, 13B, 14, 15, 16, 17, 18A, 18B.

For updated information, access **www.assist.org.**
Effective Fall Quarter 2014

Major & Certificate Requirements*

As this catalog goes to press, Foothill College offers 11 state-approved A.A.-T. and A.S.-T. degrees, including anthropology, computer science, English, geography, history, mathematics, philosophy, physics, psychology, sociology and studio arts. Foothill is developing more A.A.-T. and A.S.-T. degrees, which will become active during this catalog rights cycle. For more information, consult a Foothill counselor and review the Foothill College website.

ACCOUNTING

Program Type(s): Associate in Arts Degree; Certificate of Achievement; Career Certificate; Certificate of Proficiency

May be transferrable to a four-year university.

Units required for major: 49, certificate(s): 9–39

Program Learning Outcomes:

- Students will be able to explain accounting terminology, concepts, principles, and frameworks.
- Students will be able to perform accounting-related calculations and demonstrate the ability to use methods and/or procedures to solve accounting problems.

Associate Degree Requirements *

Core Courses: (39 units)
ACTG 1A Financial Accounting I (5 units)
ACTG 1B Financial Accounting II (5 units)
ACTG 1C Managerial Accounting (5 units)
ACTG 64A Computerized Accounting Practice Using QuickBooks (2 units)
ACTG 64B Computerized Accounting Practice Using Excel (2 units)
ACTG 67 Tax Accounting (5 units)
BUSI 18 Business Law I (5 units)
BUSI 22 Principles of Business (4 units)
ECON 1A Principles of Macroeconomics (5 units)
or ECON 1B Principles of Microeconomics (5 units)

Support Courses: (10 units)
ACTG 51A Intermediate Accounting I (4 units)
ACTG 51B Intermediate Accounting II (4 units)
ACTG 51C Intermediate Accounting III (4 units)
ACTG 52 Advanced Accounting (5 units)
ACTG 53 Financial Statement Analysis (5 units)
ACTG 58 Auditing (5 units)
ACGT 59 Fraud Examination (5 units)
ACTG 60 Accounting for Small Business (5 units)[1]
ACTG 65 Payroll & Business Tax Accounting (4 units)
ACTG 66 Cost Accounting (5 units)
ACTG 68A Advanced Tax Accounting I (4 units)
ACTG 68B Advanced Tax Accounting II (4 units)
ACTG 68C Advanced Tax Accounting III (3 units)
ACTG 70R Independent Study in Accounting (1 unit)
ACTG 71R Independent Study in Accounting (2 units)
ACTG 72R Independent Study in Accounting (3 units)
ACTG 73R Independent Study in Accounting (4 units)
ACTG 75 Accounting for Government & Not-for-Profit (5 units)
ACTG 76 Ethics in Accounting (5 units)
BUSI 18 Business Law I (5 units)
BUSI 19 Business Law II (4 units)

1 May be completed only once for credit to satisfy either the Core or Support course requirement.

Accounting Certificate of Achievement (39 units)
This certificate awarded after completion of the core courses. General education courses are not required.

CPA Examination Preparation Certificate of Achievement (37 units)
ACTG 1A Financial Accounting I (5 units)
ACTG 1B Financial Accounting II (5 units)
ACTG 51A Intermediate Accounting I (4 units)
ACTG 51B Intermediate Accounting II (4 units)
ACTG 51C Intermediate Accounting III (4 units)
ACTG 52 Advanced Accounting (5 units)
or ACTG 53 Financial Statement Analysis (5 units)
ACTG 58 Auditing (5 units)
ACTG 75 Accounting for Government & Not-for-Profit (5 units)

Career Certificate in Tax Accounting (23 units)
[Non-Transcriptable]
ACTG 1B Financial Accounting II (5 units)
ACTG 64A Computerized Accounting Practice Using QuickBooks (2 units)
ACTG 67 Tax Accounting (5 units)
ACTG 68A Advanced Tax Accounting I (4 units)
ACTG 68B Advanced Tax Accounting II (4 units)
ACTG 68C Advanced Tax Accounting III (3 units)

Financial Accounting Career Certificate (22 units)
[Non-Transcriptable]
ACTG 1A Financial Accounting I (5 units)
ACTG 1B Financial Accounting II (5 units)
ACTG 51A Intermediate Accounting I (4 units)
ACTG 51B Intermediate Accounting II (4 units)
ACTG 51C Intermediate Accounting III (4 units)

Bookkeeping Specialist Certificate of Proficiency (22 units)
[Non-Transcriptable]
ACTG 60 Accounting for Small Business (5 units)
or ACTG 1A Financial Accounting I (5 units)
ACTG 64A Computerized Accounting Practice Using QuickBooks (4 units)
ACTG 64B Computerized Accounting Practice Using Excel (4 units)
ACTG 65 Payroll & Business Tax Accounting (4 units)

Enrolled Agent Preparation Certificate of Proficiency (16 Units)
[Non-Transcriptable]
ACTG 67 Tax Accounting (5 units)
ACTG 68A Advanced Tax Accounting I (4 units)
ACTG 68B Advanced Tax Accounting II (4 units)
ACTG 68C Advanced Tax Accounting III (3 units)

Payroll Preparation Certificate of Proficiency (14 units)
[Non-Transcriptable]
ACTG 60 Accounting for Small Business (5 units)
or ACTG 1A Financial Accounting I (5 units)
ACTG 65 Payroll & Business Tax Accounting (4 units)

*A minimum of 90 units required for the A.A./A.S. Degree, to include required courses, required electives, and graduation requirements, and these minimum proficiencies: ENGL 1A or 1AH or 1S and 1T or ESLL 26; MATH 57 or 105 or 108.

Tax Specialist Certificate of Proficiency (9 Units)
[Non-Transcriptable]
ACTG 65 Payroll & Business Tax Accounting (4 units)
ACTG 67 Tax Accounting (5 units)
ACTG 68A Advanced Tax Accounting I (4 units)

ADAPTIVE FITNESS THERAPY

Program Type(s): Associate in Arts Degree, Certificate of Achievement

Units required for major: 43, certificate: 43

Program Learning Outcomes:

- The student will be able to demonstrate and explain basic adaptive fitness skills and concepts to older adults and individuals with disabilities.
- The student will be able to recognize basic patho-physiology of chronic conditions seen in adults and provide accommodations appropriate to the disabling conditions.
- The student will be able to lead small and large group classes.

Associate Degree Requirements *

Core Courses: (38 units)
KINS 8A Theory & Concepts of Exercise Physiology I (4 units)
KINS 8B Theory & Concepts of Exercise Physiology II (4 units)
KINS 15 First Aid & CPR/AED (1 unit)
KINS 65A PNF: Introduction to Upper Extremity (3 units)
KINS 65B PNF: Introduction to Lower Extremity (3 units)
KINS 81 Introduction to Adaptive Fitness (4 units)
KINS 82 Principles of Therapeutic Exercise (4 units)
KINS 83 Physical Dimensions of Aging (4 units)
KINS 84 Functional Fitness & Adaptive Movement (3 units)
SPED 61 Introduction to Disabilities (4 units)

Support Courses: (8 units)
BIOL 40A Human Anatomy & Physiology I (5 units)
BIOL 40B Human Anatomy & Physiology II (5 units)
BIOL 40C Human Anatomy & Physiology III (5 units)
COMM 3 Fundamentals of Oral Communication (5 units)
GERN 10 Sociology of Aging (3 units)
GERN 11 Psychology of Aging (3 units)
GERN 15 Issues in Death, Dying & Bereavement Across Cultures (3 units)
GERN 52 Health & Aging (3 units)
GERN 56 Aging & Diversity (3 units)
HLTH 55 Emergency Medical Response (5 units)
KINS 55 Introduction to Aquatic Exercise (3 units)
KINS 85 Principles of Therapeutic Water Exercise (3 units)
PSYC 1 General Psychology (5 units)
SPED 57A Teaching Adult Learners (3 units)
SPED 63 Learning Disabilities (4 units)

Certificate of Achievement in Adaptive Fitness Therapy (43 units)
The certificate of achievement is awarded upon completion of the core and support courses. General education courses are not required.

ANTHROPOLOGY

Program Type(s): Associate in Arts Degree, Certificate of Proficiency

Units required for major: 36, certificate(s): 20–24

Program Learning Outcomes:

- Students will apply an understanding of cross-cultural realities both past and present.
- Students will learn how to critically analyze and interpret anthropological data.
- Students will apply anthropological principles for solving human problems on the local, regional and world scales.

Associate Degree Requirements *

Core Courses: (12 units)
ANTH 1 Introduction to Physical Anthropology (4 units)
or ANTH 1H Honors Introduction to Physical Anthropology (4 units)
ANTH 2A Cultural Anthropology (4 units)
ANTH 8 Introduction to Archaeology (4 units)

Support Courses: (24 units)
Select 12 units from the following:
ANTH 1L Physical Anthropology Laboratory (1 unit)
or ANTH 1HL Honors Physical Anthropology Laboratory (1 unit)
ANTH 2B Patterns of Culture (4 units)
ANTH 3 Prehistory: The Search for Lost Civilizations (4 units)
ANTH 4 First Peoples of North America (4 units)
ANTH 5 Magic, Science & Religion (4 units)
ANTH 6 Peoples of Africa (4 units)
ANTH 8L Archaeology Laboratory (1 unit)
or ANTH 8LX Archaeology Laboratory (2 units)
or ANTH 8LY Archaeology Laboratory (3 units)
ANTH 12 Applied Anthropology (4 units)
ANTH 13 Introduction to Forensic Anthropology (4 units)
ANTH 13L Forensic Anthropology Laboratory (1 unit)
ANTH 14 Linguistic Anthropology (4 units)
ANTH 15 Medical Anthropology: Methods & Practice (4 units)
ANTH 20 Native Peoples of California (4 units)
ANTH 22 The Aztec, Maya & Their Predecessors (4 units)
GEOG 1 Physical Geography (5 units)
or GEOG 2 Human Geography (4 units)
PSYC 10 Research Methods & Designs (5 units)
or SOC 10 Research Methods & Designs (5 units)

And 12 units[2] of the following:
ANTH 51 Archaeology Survey (2 units)
ANTH 52 Archaeological Field Methods (4 units)
ANTH 67A Cultures of the World: Ecuador (4 units)
ANTH 67B Cultures of the World: Belize (4 units)
ANTH 70R Independent Study in Anthropology (1 unit)
ANTH 71R Independent Study in Anthropology (2 units)
ANTH 72R Independent Study in Anthropology (3 units)
ANTH 73R Independent Study in Anthropology (4 units)
BIOL 1C Evolution, Systematics & Ecology (6 units)
BIOL 10 General Biology: Basic Principles (5 units)
HIST 4A History of Western Civilization to 800 AD (4 units)
HIST 8 History of Latin America (4 units)
HIST 9 History of Contemporary Europe (4 units)
or HIST 9H Honors History of Contemporary Europe (4 units)
HIST 18 Introduction to Middle Eastern Civilization (4 units)
HUMN 1A Humanities & the Modern Experience I (4 units)
SOC 30 Social Psychology (4 units)
or PSYC 30 Social Psychology (4 units)

2 Students may also use courses listed in the first section of support courses to fulfill the requirement for the second section of support courses.

SOC 40 Aspects of Marriage & Family (4 units)
SOSC 20 Cross-Cultural Perspectives for a Multicultural Society (4 units)
WMN 5 Introduction to Women's Studies (4 units)

Medical Anthropology Certificate of Proficiency[3] (24 units)
[Non-Transcriptable]
ANTH 1 Introduction to Physical Anthropology (4 units)
ANTH 2A Cultural Anthropology (4 units)
ANTH 15 Medical Anthropology: Methods & Practice (4 units)

And ONE of the following:
ANTH 5 Magic, Science & Religion (4 units)
ANTH 12 Applied Anthropology (4 units)
ANTH 14 Linguistic Anthropology (4 units)

And 8 units from the following:
ANTH 70R Independent Study in Anthropology (1 unit)
ANTH 71R Independent Study in Anthropology (2 units)
ANTH 72R Independent Study in Anthropology (3 units)
ANTH 73R Independent Study in Anthropology (4 units)
BIOL 14 Human Biology (5 units)
BIOL 40A Human Anatomy & Physiology I (5 units)
or BIOL 40B Human Anatomy & Physiology II (5 units)
PSYC 4 Introduction to Biopsychology (4 units)
PSYC 7 Statistics for the Behavioral Sciences (5 units)
or SOC 7 Statistics for the Behavioral Sciences (5 units)
or PSYC 10 Research Methods & Designs (5 units)
PSYC 40 Human Development (5 units)
SOC 19 Alcohol & Drug Abuse (4 units)

Cultural Resource Management Certificate of Proficiency[4] (23 units)
[Non-Transcriptable]
ANTH 3 Prehistory: The Search for Lost Civilizations (4 units)
ANTH 4 First Peoples of North America (4 units)
ANTH 8 Introduction to Archaeology (4 units)
ANTH 8L Archaeology Laboratory (1 unit)
ANTH 51 Archaeology Survey (2 units)
ANTH 52 Archaeological Field Methods (4 units)

And 4 units from the following:
ANTH 12 Applied Anthropology (4 units)
ANTH 13 Introduction to Forensic Anthropology (4 units)
ANTH 13L Forensic Anthropology Laboratory (1 unit)
ANTH 67A Cultures of the World: Ecuador (4 units)
ANTH 70R Independent Study in Anthropology (1 unit)
ANTH 71R Independent Study in Anthropology (2 units)
ANTH 72R Independent Study in Anthropology (3 units)
ANTH 73R Independent Study in Anthropology (4 units)
GEOG 1 Physical Geography (5 units)
GEOG 12 Introduction to Geospatial Technology (4 units)
or GIST 12 Introduction to Geospatial Technology (4 units)
HIST 4A History of Western Civilization to 800 AD (4 units)
HIST 8 History of Latin America (4 units)
HIST 18 Introduction to Middle Eastern Civilization (4 units)

3 There are no English or mathematics proficiency requirements for this certificate.

4 There are no English or mathematics proficiency requirements for this certificate.

Forensic Anthropology Certificate of Proficiency (22 units)
[Non-Transcriptable]
ANTH 1 Introduction to Physical Anthropology (4 units)
or ANTH 1H Honors Introduction to Physical Anthropology (4 units)
ANTH 1L Physical Anthropology Laboratory (1 unit)
or ANTH 1HL Honors Physical Anthropology Laboratory (1 unit)
ANTH 13 Introduction to Forensic Anthropology (4 units)
ANTH 13L Forensic Anthropology Laboratory (1 unit)

And 12 units from the following:
ANTH 2A Cultural Anthropology (4 units)
ANTH 2B Patterns of Culture (4 units)
ANTH 12 Applied Anthropology (4 units)
ANTH 15 Medical Anthropology: Methods & Practice (4 units)
ANTH 8 Introduction to Archaeology (4 units)
or ANTH 8LX Archaeology Laboratory (2 units)
or ANTH 8LY Archaeology Laboratory (3 units)
ANTH 8L Archaeology Laboratory (1 unit)
ANTH 51 Archaeology Survey (2 units)
ANTH 52 Archaeological Field Methods (4 units)
ANTH 70R Independent Study in Anthropology (1 unit)
ANTH 71R Independent Study in Anthropology (2 units)
ANTH 72R Independent Study in Anthropology (3 units)
ANTH 73R Independent Study in Anthropology (4 units)

Applied Anthropology Certificate of Proficiency[5] (20 units)
[Non-Transcriptable]
ANTH 2A Cultural Anthropology (4 units)
ANTH 2B Patterns of Culture (4 units)
ANTH 12 Applied Anthropology (4 units)

And 8 units from the following:
ANTH 13 Introduction to Forensic Anthropology (4 units)
ANTH 14 Linguistic Anthropology (4 units)
ANTH 15 Medical Anthropology: Methods & Practice (4 units)
ANTH 67A Cultures of the World: Ecuador (4 units)
ANTH 70R Independent Study in Anthropology (1 unit)
ANTH 71R Independent Study in Anthropology (2 units)
ANTH 72R Independent Study in Anthropology (3 units)
ANTH 73R Independent Study in Anthropology (4 units)

5 There are no English or mathematics proficiency requirements for this certificate.

*A minimum of 90 units required for the A.A./A.S. Degree, to include required courses, required electives, and graduation requirements, and these minimum proficiencies: ENGL 1A or 1AH or 1S and 1T or ESLL 26; MATH 57 or 105 or 108.

ANTHROPOLOGY FOR TRANSFER

Program Type: Associate in Arts for Transfer
Units required for major: 90

Program Learning Outcomes:
- Students will be able to apply an understanding of cross-cultural realities both past and present.
- Students will know how to critically analyze and interpret anthropological data.
- Students will apply anthropological principles for solving human problems on the local, regional and world scales.

Associate Degree for Transfer Requirements:
The Foothill GE pattern may not be used for this degree. The requirement is full certification of the either the CSU General Education Breadth Requirements or the Intersegmental General Education Transfer Curriculum (IGETC) (49–58 units).

Core Courses: (12 units)
ANTH 2A Cultural Anthropology (4 units)
ANTH 1 Introduction to Physical Anthropology (4 units)
or ANTH 1H Honors Introduction to Physical Anthropology (4 units)
ANTH 8 Introduction to Archaeology (4 units)

Support Courses: (15–16 units)
Complete 5 units from List A:
List A:
ANTH 1L Physical Anthropology Laboratory (1 unit)
or ANTH 1HL Honors Physical Anthropology Laboratory (1 unit)
ANTH 14 Linguistic Anthropology (4 units)
BIOL 9 Environmental Biology (4 units)
BIOL 10 General Biology: Basic Principles (5 units)
BIOL 15 California Ecology: Natural History (5 units)
PSYC 7 Statistics for the Behavioral Sciences (5 units)
or SOC 7 Statistics for the Behavioral Sciences (5 units)

And complete ONE course from List B:
List B:
Any course not used in List A or any of the following:
GEOG 12 Introduction to Geospatial Technology (4 units)
PSYC 10 Research Methods & Designs (5 units)
or SOC 10 Research Methods & Designs (5 units)

And complete 6 units from List C:
List C:
Any course not used in List A or List B or any of the following:
ANTH 2B Patterns of Culture (4 units)
ANTH 3 Prehistory: The Search for Lost Civilizations (4 units)
ANTH 4 First Peoples of North America (4 units)
ANTH 5 Magic, Science & Religion (4 units)
ANTH 6 Peoples of Africa (4 units)
ANTH 8L Archaeology Laboratory (1 unit)
ANTH 8LX Archaeology Laboratory (2 units)
ANTH 12 Applied Anthropology (4 units)
ANTH 13 Introduction to Forensic Anthropology (4units)
ANTH 13L Forensic Anthropology Laboratory (1 unit)
ANTH 15 Medical Anthropology: Methods & Practice (4 units)
ANTH 20 Native Peoples of California (4 units)
ANTH 22 The Aztec, Maya & Their Predecessors (4 units)
ANTH 51 Archaeology Survey (2 units)
ANTH 52 Archaeology Field Methods (4 units)
ANTH 70R Independent Study in Anthropology (1 unit)
COMM 12 Intercultural Communication (5 units)
GEOG 2 Human Geography (4 units)
MUS 2D World Music: Roots to Contemporary Global Fusion (5 units)
PHIL 24 Comparative World Religions: East (4 units)
or PHIL 25 Comparative World Religions: West (4 units)
SOC 1 Introduction to Sociology (5 units)
SOC 23 Race & Ethnic Relations (4 units)

APPRENTICESHIP—FIELD IRONWORKERS

Program Type(s): Certificate of Achievement
Units required for certificate: 36.5

Program Learning Outcomes:
Students gain expertise and hands-on experience as they work on unloading materials, erecting buildings, and connecting fabricated iron beams to form project skeletons. Individuals work primarily on industrial, commercial and large residential buildings. Students learn to build towers, bridges, stadiums, and pre-fabricated metal buildings including erecting pre-cast beams, columns and panels. These specialized skills are acquired through on-the-job training and classroom instruction and lead to employment in the construction industry. After four years of classroom and work experience, students can become a journeyperson in the ironworking industry.

Certificate of Achievement in Field Ironworking (36.5 units)
APIW 100 Introduction to Ironworking (3 units)
APIW 101 Mixed Base (2 units)
APIW 102 Reinforcing Iron I (2 units)
APIW 103 Rigging I (2 units)
APIW 104 Ironworker History & Trade Science (2 units)
APIW 105 Welding I (2 units)
APIW 106 Structural I (2 units)
APIW 107 Welding II (2 units)
APIW 108 Structural II (2 units)
APIW 109 Post-Tensioning I (2 units)
APIW 110 Architectural I (2 units)
APIW 111 Architectural II (2 units)
APIW 112 Lead Hazard Training (2 units)
APIW 113 Small Structure Erection (2 units)
APIW 114 Welding III (2 units)
APIW 115 Cranes (2 units)
APIW 116 Foreman Training (2 units)
APIW 117 General Safety/OSHA 30/COMET (2 units)

APPRENTICESHIP—PIPE TRADES

Program Type(s): Certificate of Achievement, Career Certificate
Units required for certificate(s): 24–42.5

Program Learning Outcomes:
Students gain expertise and hands-on experience as they work on plumbing systems to include drain waste and vent systems, systems for various industrial fluids, public or private water systems and gas piping systems. These specialized skills are acquired through on-the-job training and classroom instruction and lead to employment in the construction and service industry. After five years of classroom and work experience, students are recognized as journeypersons within the pipe trades industry.

Certificate of Achievement in Plumbing/Pipe Fitting (42.5 units)
APPT 161 Safety/Tools/Heritage/Service (4 units)
APPT 162 Mathematics/Science for the Plumbing Trade (4.5 units)
APPT 163 Code/Water Supply Systems (4 units)
APPT 164 Drawing I for the Plumbing Trade (4.5 units)
APPT 165 Drawing II for the Plumbing Trade (4 units)
APPT 166 Welding/Oxy-Acetylene Training (4.5 units)
APPT 167 Steam Systems/Rigging/Pipe Fitting & Service (4 units)
APPT 168 Medical Gas/Hydronics (4.5 units)
APPT 169 Advanced Drawing/Layout for the Plumbing Trades (4 units)
APPT 170 Code II/Junior Mechanics Review & Exam (4.5 units)

Residential Plumbing Career Certificate (24 units)
[Non-Transcriptable]
APPT 121 Introduction to Residential Plumbing, Safety & Tools (2.5 units)
APPT 122 Residential Drainage Systems (2.5 units)
APPT 123 Residential Gas & Water Installations (2.5 units)
APPT 124 Mathematics for Residential Plumbing (2.5 units)
APPT 125 Residential Blueprint Reading (4.5 units)
APPT 126 Residential Piping Layout & Installations; Residential Fixtures (4.5 units)
APPT 127 Residential Plumbing Code (2.5 units)
APPT 128 Residential Gas Installations; Service Work (2.5 units)

APPRENTICESHIP—SHEET METAL

Program Type(s): Associate in Science Degree, Certificate of Achievement, Career Certificate

Units required for major: 55.5, certificate(s): 7.5–55.5

Program Learning Outcomes:

Students are prepared with the skills and expertise to detail, fabricate and install a variety of Sheet Metal products in compliance with applicable standards and codes. These highly demanded skills are acquired through on-the-job training and lead to employment in the construction industry. After 5 years of classroom and work experience students are recognized as Journeypersons within the Sheet Metal industry.

Associate Degree Requirements *

Core Courses: (55.5 units)
APSM 101 SMQ-1 Trade Introduction (1.5 units)
APSM 102 SMQ-2 Certified Safety & Beginning Trade Math (1.5 units)
APSM 103 SMQ-3 Sheet Metal Tools & Shop (1.5 units)
APSM 104 SMQ-4 Soldering & Common Seams (1.5 units)
APSM 105 SMQ-5 Drafting Introduction & Views (1.5 units)
APSM 106 SMQ-6 Beginning Duct Fittings (1.5 units)
APSM 107 SMQ-7 Parallel Line Fittings (1.5 units)
APSM 108 SMQ-8 Triangulation Fittings (1.5 units)
APSM 109 SMQ-9 Radial Line Layout & Ogee Offsets (1.5 units)
APSM 110 SMQ-10 Basics of Architectural Sheet Metal (1.5 units)
APSM 111 SMQ-11 Architectural Sheet Metal (1.5 units)
APSM 112 SMQ-12 Field Installation (1.5 units)
APSM 113 SMQ-13 Welding 1: Process & Safety Overview (1.5 units)
APSM 114 SMQ-14 Welding 2: GMAW (1.5 units)
APSM 115 SMQ-15 Welding 3: GMAW (1.5 units)
APSM 116 SMQ-16 Plans & Specifications (1.5 units)
APSM 117 SMQ-17 Submittals & Shop Drawings (1.5 units)
APSM 118 SMQ-18 Industrial & Stainless Steel Introduction (1.5 units)
APSM 119 SMQ-19 HVAC Air Systems & Duct Design (1.5 units)
APSM 120 SMQ-20 Measuring & Sketching (1.5 units)
APSM 121 SMQ-21 Fabrication & Shortcuts (1.5 units)
APSM 122 SMQ-22 Codes & Standards (1.5 units)
APSM 123 SMQ-23 Residential Sheet Metal (1.5 units)
APSM 124 SMQ-24 Metal Roofing (1.5 units)
APSM 125 SMQ-25 Detailing (1.5 units)
APSM 126 SMQ-26 Foreman Training (1.5 units)
APSM 127 SMQ-27 Basic AutoCAD (1.5 units)
APSM 128 HVAC Energy Conservation & Environmental Technology (1.5 units)
APSM 130 SMQ-30 Advanced Welding (1.5 units)
APSM 131 SMQ-31 CAD Detailing (Beginning CAD Duct) (1.5 units)
APSM 132 SMQ-32 Intermediate CAD Detailing (1.5 units)
APSM 133 SMQ-33 Advanced Architectural (1.5 units)
APSM 134 SMQ-34 Advanced Layout Fabrication (1.5 units)
APSM 135 SMQ-35 Project Management, Takeoffs & Estimates (1.5 units)
APSM 136 SMQ-36 Service Basics (1.5 units)
APSM 137 SMQ-37 Final HVAC Project (1.5 units)
APSM 138 SMQ-38 Final Architectural, Industrial, Ornamental Project (1.5 units)

Certificate of Achievement in Sheet Metal Building Trades (55.5 units)
The certificate of achievement is awarded upon completion of the core courses. General education courses are not required.

Sheet Metal Decking & Siding Career Certificate (18 units)
[Non-Transcriptable]
APRT 155A Safety & Tools for Sheet Metal Siding & Decking Apprentices (4.5 units)
APRT 155B Blueprint Reading for Sheet Metal Siding & Decking Apprentices (4.5 units)
APRT 156A Welding for Sheet Metal Siding & Decking Apprentices (4.5 units)
APRT 156B Measuring, Drawing & Lifting Devices for Sheet Metal Siding & Decking Apprentices (4.5 units)

Sheet Metal Air Conditioning Service Technician Career Certificate (10 units) [Non-Transcriptable]
APRT 140A Electrical Basics for Residential HVAC Service I (2.5 units)
APRT 140B Refrigeration Basics for Residential HVAC Service (2.5 units)
APRT 141A Components of Residential HVAC Service (2.5 units)
APRT 141B Troubleshooting Diagnosis & Repair for Residential HVAC Service (2.5 units)

Sheet Metal Air Conditioning Specialist Career Certificate (10 units)
[Non-Transcriptable]
APPR 188A Orientation; Safety & Beginning Residential Sheet Metal Installation (Specialist 1A) (2.5 units)
APPR 188B Residential Components Identification & Installation (Specialist 1B) (2.5 units)
APPR 189A Residential Systems; Duct & HVAC Systems (Specialist 2A) (2.5 units)
APPR 189B Plans & Architectural Applications for Residential Sheet Metal (Specialist 2B) (2.5 units)

*A minimum of 90 units required for the A.A./A.S. Degree, to include required courses, required electives, and graduation requirements, and these minimum proficiencies: ENGL 1A or 1AH or 1S and 1T or ESLL 26; MATH 57 or 105 or 108.

Sheet Metal Ship Yard Specialist Career Certificate (7.5 units)
[Non-Transcriptable]
APRT 144A Introduction to Marine Sheet Metal Training for Apprentices I (2.5 units)
APRT 144B Introduction to Marine Sheet Metal Training for Apprentices II (2.5 units)
APRT 151A Intermediate Marine Sheet Metal Training for Apprentices I (2.5 units)

APPRENTICESHIP—SOUND & COMMUNICATION

Program Type(s): Career Certificate
Units required for certificate: 21

Program Learning Outcomes:
Students gain expertise and hands-on experience as they work on sound and communication systems to include voice systems, data systems, video systems, fire alarm systems, home alarm systems, data networking systems, cabling and automation systems. These specialized skills are acquired through on-the-job training and classroom instruction and lead to employment in the construction and service industry. After three years of classroom and work experience students are recognized as Journeypersons in the sound and communication trade for the electrical industry.

Sound & Communication Installer Career Certificate (21 units)
[Non-Transcriptable]
APSC 111 Job Information, Safety, Test Instruments, Structured Cabling, Codes & Practices, Connectors & Raceways (3.5 units)
APSC 112 Fiber Optics & Blueprint Reading, DC Theory (3.5 units)
APSC 121 AC Theory, Security, Access Control (3.5 units)
APSC 122 Fire Alarm Systems & Grounding, Telephony & Paging Systems (3.5 units)
APSC 131 VDV Prep, Networking, Nurse Call, Computer Literacy (3.5 units)
APSC 132 CCTV Systems, Audio Visual (3.5 units)

ART

Program Type(s): Associate in Arts Degree, Certificate of Achievement
May be transferrable to a four-year university
Units required for major: 32–34, certificate(s): 32–34

Program Learning Outcomes:
- Students will be able to create two-dimensional and three-dimensional artwork and designs using appropriate tools, materials, methods and techniques.
- Students will be able to analyze and critically evaluate two-dimensional and three-dimensional creative projects using the current principles and language of art and design.

Associate Degree Requirements *

Core Courses: (18 units)
ART 4A Fundamentals in Drawing (4 units)
ART 5A 2-D Foundations (4 units)
ART 5B 3-D Foundations (4 units)
ART 20A Color I (3 units)
ART 20B Color II (3 units)

Support Courses: (14–16 units)

Select ONE option from the following:

Option 1: Ceramics Transfer Portfolio (14 units)
ART 45A Beginning Ceramics Handbuilding (4 units)
ART 45B Beginning Ceramics Potter's Wheel (4 units)

And TWO courses from the following:
ART 44 Ceramic Sculpture (3 units)
ART 45C Advanced Ceramics (3 units)
ART 46B Potter's Wheel II (3 units)
ART 45F Low-Temperature Ceramic Firing & Glazing Techniques (3 units)
ART 72[6] Studio Art Portfolio Preparation (4 units)

Option 2: Illustration Transfer Portfolio (15 units)
Select TWO courses from the following:
ART 4B Intermediate Drawing (4 units)
ART 4C Representational Drawing (4 units)
ART 4D Figure Drawing I (4 units)
ART 4E Heads & Hands Drawing (4 units)

And TWO courses from the following:
ART 4I Figure Drawing II (4 units)
ART 6 Collage & Composition (3 units)
ART 15A Digital Painting I (4 units)
ART 15B Digital Painting II (4 units)
ART 19A Oil Painting I (4 units)
ART 19B Acrylic Painting I (4 units)
ART 47A Watercolor I (4 units)
ART 72[7] Studio Art Portfolio Preparation (4 units)

Option 3: Industrial Design Transfer Portfolio (16 units)
ART 74 Industrial Design Visualization I (4 units)
ART 4C Representational Drawing (4 units)

And TWO courses from the following:
ART 4D Figure Drawing I (4 units)
ART 4I Figure Drawing II (4 units)
ART 45A Beginning Ceramics Handbuilding (4 units)
ART 72[8] Studio Art Portfolio Preparation (4 units)

Option 4: Painting Transfer Portfolio (16 units)
Select TWO courses from the following:
ART 4B Intermediate Drawing (4 units)
ART 19A Oil Painting I (4 units)
ART 19B Acrylic Painting I (4 units)
ART 47A Watercolor I (4 units)

And TWO courses from the following:
ART 19C Oil Painting II (4 units)
ART 19D Acrylic Painting II (4 units)
ART 19E Oil Painting III (4 units)
ART 19F Acrylic Painting III (4 units)
ART 47B Watercolor II (4 units)
ART 72[9] Studio Art Portfolio Preparation (4 units)

Certificate of Achievement in Art (32 units)
The certificate of achievement is awarded upon completion of the core and support courses. General education courses are not required.

6–9 It is recommended that this course be taken at the end of the program as this is an exit portfolio course.

*A minimum of 90 units required for the A.A./A.S. Degree, to include required courses, required electives, and graduation requirements, and these minimum proficiencies: ENGL 1A or 1AH or 1S and 1T or ESLL 26; MATH 57 or 105 or 108.

ART HISTORY

Program Type(s): Associate in Arts Degree, Certificate of Achievement
Units required for major: 48, certificate: 48

Program Learning Outcomes:

- Students will be able to collect and assess primary and secondary source information and successfully analyze and comment on that information in the form of a reasoned 8–10-page term paper, complete with a full bibliography (works cited page), utilizing the MLA format.
- Students will be able to demonstrate in written form a strong awareness of the political, social, religious, and technological factors that influence cultures and change in those cultures.

Associate Degree Requirements *

Core Courses: (36 units)
ART 1[10] Introduction to Art (4.5 units)
ART 2A History of Art: History of Western Art from Prehistory through Early Christianity (4.5 units)
or ART 2AH Honors History of Art: History of Western Art from Prehistory through Early Christianity (4.5 units)
ART 2B History of Western Art from the Middle Ages to the Renaissance (4.5 units)
or ART 2BH Honors History of Western Art from the Middle Ages to the Renaissance (4.5 units)
ART 2C History of Western Art from the Baroque to Post-Impressionism (4.5 units)
or ART 2CH Honors History of Western Art from the Baroque to Post-Impressionism (4.5 units)
ART 2D African, Oceanic & Native American Art (4.5 units)
or ART 2F Introduction to Asian Art (4.5 units)
or ART 2G Introduction to Islamic Art (4.5 units)
ART 2J American Art (4.5 units)
ART 2E A History of Women in Art (4.5 units)
ART 3 Modern Art & Contemporary Thought (4.5 units)

Support Courses: (12 units)
ANTH 2A Cultural Anthropology (4 units)
ART 4A Fundamentals in Drawing (4 units)
HIST 4A History of Western Civilization to 800 AD (4 units)
HIST 4B History of Western Civilization: 700–1800 (4 units)
HIST 4C History of Western Civilization 1789–Present (4 units)
or HIST 4CH Honors History of Western Civilization 1789–Present (4 units)
PHIL 24 Comparative World Religions: East (4 units)
or PHIL 25 Comparative World Religions: West (4 units)
PHIL 30 Introduction to Critical Thinking (4 units)
PHOT 10 History of Photography (4 units)
or PHOT 10H Honors History of Photography (4 units)

Certificate of Achievement in Art History (48 units)
The certificate of achievement is awarded upon completion of the core and support courses. General education courses are not required.

10 Recommended before taking Art History courses if no previous experience in art.

ATHLETIC INJURY CARE—PHYSICAL EDUCATION

Program Type(s): Associate in Science Degree
Units required for major: 48

Program Learning Outcomes:

- Students will demonstrate an entry-level knowledge of and skill in a variety of sports medicine disciplines, including athletic training, physical therapy, strength and conditioning and emergency medical care.
- Students will be able to provide quality medical care for the Foothill College intercollegiate athletic teams.

Associate Degree Requirements *

Core Courses: (48 units)
KINS 1 Introduction to Kinesiology (4 units)
KINS 16A Prevention of Athletic Injuries (3 units)
KINS 16B Emergency Athletic Injury Care (3 units)
KINS 16C Treatment & Rehabilitation of Athletic Injuries (3 units)
KINS 62A Clinical Experiences in Sports Medicine I (3 units)
KINS 62B Clinical Experiences in Sports Medicine II (3 units)
KINS 62C Clinical Experiences in Sports Medicine III (3 units)
KINS 62D Clinical Experiences in Sports Medicine IV (3 units)
KINS 62E Clinical Experiences in Sports Medicine V (3 units)
BIOL 40A Human Anatomy & Physiology I (5 units)
BIOL 40B Human Anatomy & Physiology II (5 units)
BIOL 40C Human Anatomy & Physiology III (5 units)
CHEM 25 Fundamentals of Chemistry (5 units)
or CHEM 30A Survey of Inorganic & Organic Chemistry (5 units)

Support Courses: (optional units)
BIOL 45 Introduction to Human Nutrition (4 units)
CHEM 1A General Chemistry (5 units)
CHEM 1B General Chemistry (5 units)
CHEM 1C General Chemistry & Qualitative Analysis (5 units)
HLTH 21 Contemporary Health Concerns (4 units)
KINS 4 Concepts of Physical Fitness & Wellness (4 units)
KINS 15 First Aid & CPR/AED (1 unit)
KINS 65A PNF: Introduction to the Upper Extremity (3 units)
KINS 65B PNF: Introduction to the Lower Extremity (3 units)
MATH 10 Elementary Statistics (5 units)
PHYS 2A General Physics (5 units)
PHYS 2B General Physics (5 units)
PHYS 2C General Physics (5 units)
PSYC 1 General Psychology (5 units)

*A minimum of 90 units required for the A.A./A.S. Degree, to include required courses, required electives, and graduation requirements, and these minimum proficiencies: ENGL 1A or 1AH or 1S and 1T or ESLL 26; MATH 57 or 105 or 108.

BIOLOGICAL SCIENCES

Program Type(s): Associate in Science Degree
Units required for major: 48

Program Learning Outcomes:
- The Biology majors sequence prepares students to use the scientific method to formulate questions, design experiments to test hypotheses, interpret experimental results to draw conclusions, communicate results both orally and in writing, and critically evaluate the use of the scientific method from published sources.
- The Biology majors sequence prepares students to apply evolutionary theory at the molecular, cellular, organismal and population levels to explain the unity and diversity of living things.

Associate Degree Requirements *

Core Courses: (48 units)
BIOL 1A Principles of Cell Biology (6 units)
BIOL 1B Form & Function in Plants & Animals (6 units)
BIOL 1C Evolution, Systematics & Ecology (6 units)
CHEM 1A General Chemistry (5 units)
CHEM 1B General Chemistry (5 units)
CHEM 1C General Chemistry & Qualitative Analysis (5 units)

And select ONE option:
Organic Chemistry (Option #1) OR Physics (Option #2).

Option # 1
CHEM 12A Organic Chemistry (6 units)
CHEM 12B Organic Chemistry (6 units)
CHEM 12C Organic Chemistry (6 units)

Option # 2
PHYS 2A General Physics (5 units)
PHYS 2B General Physics (5 units)
PHYS 2C General Physics (5 units)
or
PHYS 4A General Physics (Calculus) (6 units)
PHYS 4B General Physics (Calculus) (6 units)
PHYS 4C General Physics (Calculus) (6 units)
or
PHYS 5A[11] General Physics (Calculus) Extended (5 units)
PHYS 5B[12] General Physics (Calculus) Extended (5 units)
PHYS 5C[13] General Physics (Calculus) Extended (5 units)
PHYS 4C General Physics (Calculus) (6 units)

BUSINESS ADMINISTRATION

Program Type(s): Associate in Arts Degree, Career Certificate
Units required for major: 54, certificate(s): 22–24

Program Learning Outcomes:
- Students will develop skills to interpret resource allocation through research in basic financial literacy skills, (computation) (critical thinking skills) by analyzing the data with understanding of communication/leadership local and in the global sphere of the business world. This is accomplished in writing and in their oral presentations.
- As a result of these basic business experiences, students will develop strategies on to which area of business they may enter.

11–13 The PHYS 5A, 5B & 5C sequence is equivalent to PHYS 4A & 4B.

Associate Degree Requirements *

Core Courses: (24 units)
BUSI 11 Introduction to Information Systems (5 units)
BUSI 18 Business Law I (5 units)
BUSI 22 Principles of Business (5 units)
BUSI 53A Business Communications & Technologies (5 units)
BUSI 59 Principles of Marketing (4 units)

Support Courses: (30 units)
ACTG 1A Financial Accounting I (5 units)
ACTG 1B Financial Accounting II (5 units)
ECON 1A Principles of Macroeconomics (5 units)
ECON 1B Principles of Microeconomics (5 units)

And select 10 units from the following:
ACTG 1C Managerial Accounting (5 units)
BUSI 19 Business Law II (4 units)
BUSI 53 Survey of International Business (4 units)
BUSI 54H Honors Institute Seminar in Biology (1 unit)
BUSI 57 Principles of Advertising (4 units)
or ADVT 57 Principles of Advertising (4 units)
BUSI 59A Web Marketing (5 units)
BUSI 59B E-Business (5 units)
BUSI 61 Investment Fundamentals (3 units)
BUSI 62 Principles of Salesmanship (3 units)
BUSI 70 Business Professional Ethics (4 units)
BUSI 70R Independent Study in Business (1 unit)
BUSI 71R Independent Study in Business (2 units)
BUSI 72R Independent Study in Business (3 units)
BUSI 73R Independent Study in Business (4 units)
BUSI 90A Principles of Management (4 units)
BUSI 91L Introduction to Business Information Processing (4 units)
BUSI 95 Entrepreneurship—Small Business Management (4 units)
GIST 11 Introduction to Mapping & Spatial Reasoning (4 units)

CSU campuses require[14]:
MATH 10 Elementary Statistics (5 units) (may be required)
MATH 11 Finite Mathematics (5 units)
MATH 12 Calculus for Business & Economics (5 units)

University of California campuses require[15]:
MATH 1A Calculus (5 units)
MATH 1B Calculus (5 units)

Career Certificate in E-Commerce & Electronic Business (23 units) [Non-Transcriptable]
BUSI 11 Introduction to Information Systems (5 units)
BUSI 59 Principles of Marketing (4 units)
BUSI 59A Web Marketing (5 units)
BUSI 59B E-Business (5 units)
BUSI 95 Entrepreneurship—Small Business Management (4 units)

Business Management Career Certificate (22 units) [Non-Transcriptable]
BUSI 18 Business Law I (5 units)
BUSI 22 Principles of Business (5 units)
BUSI 59 Principles of Marketing (4 units)
BUSI 90A Principles of Management (4 units)

14–15 Consult your counselor for the most recent math requirements for CSU and UC requirements in business administration.

*A minimum of 90 units required for the A.A./A.S. Degree, to include required courses, required electives, and graduation requirements, and these minimum proficiencies: ENGL 1A or 1AH or 1S and 1T or ESLL 26; MATH 57 or 105 or 108.

And ONE of the following:
ACTG 1A Financial Accounting I (5 units)
ACTG 1C Managerial Accounting (5 units)
ACTG 60 Accounting for Small Business (5 units)
BUSI 11 Introduction to Information Systems (5 units)
BUSI 53A Business Communications & Technologies (5 units)
BUSI 70 Business & Professional Ethics (4 units)

Entrepreneurship Career Certificate (22 Units)
[Non-Transcriptable]
BUSI 18 Business Law I (5 units)
BUSI 59 Principles of Marketing (4 units)
BUSI 90A Principles of Management (4 units)
BUSI 95 Entrepreneurship—Small Business Management (4 units)

And ONE of the following:
BUSI 22 Principles of Business (5 units)
ACTG 1A Financial Accounting I (5 units)
ACTG 1C Managerial Accounting I (5 units)
ACTG 60 Accounting for Small Business (5 units)

Marketing Career Certificate (17 units)
[Non-Transcriptable]
BUSI 53A Business Communications & Technologies (5 units)
BUSI 57 Principles of Advertising (4 units)
BUSI 59 Principles of Marketing (4 units)
BUSI 59A Web Marketing (5 units)

And ONE of the following:
BUSI 18 Business Law I (5 units)
BUSI 22 Principles of Business (5 units)
BUSI 58 Survey of International Marketing (4 units)
BUSI 59B E-Business (5 units)
BUSI 62 Principles of Salesmanship (3 units)

BUSINESS INTERNATIONAL STUDIES

Program Type(s): Associate in Arts Degree, Certificate of Achievement
Units required for major: 52, certificate: 52

Program Learning Outcomes:
- Students will develop skills to interpret resource allocation through research in basic financial literacy skills, (computation) (critical thinking skills) by analyzing the data with understanding of communication/leadership local and in the global sphere of the business world. This is accomplished in writing and in their oral presentations.
- As a result of these basic business experiences students then can develop strategies on to which area of business they may enter.

Associate Degree Requirements *

Core Courses: (29 units)
ACTG 1A Financial Accounting I (5 units)
ACTG 1B Financial Accounting II (5 units)
BUSI 18 Business Law I (5 units)
BUSI 22 Principles of Business (5 units)
BUSI 53 Survey of International Business (4 units)
ECON 1A Principles of Macroeconomics (5 units)

Support Courses: (23 units)
Select THREE courses from the following:
ACTG 1C Managerial Accounting (5 units)
BUSI 11 Introduction to Information Systems (5 units)
BUSI 53A Business Communications & Technologies (5 units)
BUSI 58 Survey of International Marketing (4 units)
BUSI 59A Web Marketing (5 units)
BUSI 59B E-Business (5 units)
BUSI 95E Small Business Export & Import (3 units)
ECON 1B Principles of Microeconomics (5 units)
ECON 25 Introduction to the Global Economy (4 units)

And ONE course from EACH of the following subject categories:

Geography
GEOG 1 Physical Geography (5 units)
GEOG 2 Human Geography (4 units)
GEOG 10 World Regional Geography (4 units)

History
HIST 8 History of Latin America (4 units)
HIST 9 History of Contemporary Europe (4 units)
or HIST 9H Honors History of Contemporary Europe (4 units)
HIST 18 Introduction to Middle Eastern Civilization (4 units)
HIST 20 History of Russia & the Soviet Union (4 units)

Political Science
POLI 2 Comparative Government & Politics (4 units)
or POLI 2H Honors Comparative Government & Politics (4 units)
POLI 15 International Relations/World Politics (4 units)
or POLI 15H Honors International Relations/World Politics (4 units)

Certificate of Achievement in International Business (52 units)
The certificate is awarded upon completion of the core and support courses. General education courses are not required.

CHEMISTRY

Program Type(s): Associate in Science Degree
Units required for major: 60

Program Learning Outcomes:
- Knowledge of current theories and applications in the field of chemistry.
- An enhanced ability to research, assess and evaluate topics of interest.
- An enhanced ability to communicate effectively, both orally and in writing.
- Facility in the safe handling of chemicals and the execution of common laboratory techniques.

Associate Degree Requirements *

Core Courses: (60 units)

Chemistry: (33 units)
CHEM 1A General Chemistry (5 units)
CHEM 1B General Chemistry (5 units)
CHEM 1C General Chemistry & Qualitative Analysis (5 units)
CHEM 12A Organic Chemistry (6 units)
CHEM 12B Organic Chemistry (6 units)
CHEM 12C Organic Chemistry (6 units)

Mathematics: (15 units)
MATH 1A Calculus (5 units)
MATH 1B Calculus (5 units)
MATH 1C Calculus (5 units)
MATH 1D Calculus (5 units)
MATH 2A Differential Equations (5 units)

*A minimum of 90 units required for the A.A./A.S. Degree, to include required courses, required electives, and graduation requirements, and these minimum proficiencies: ENGL 1A or 1AH or 1S and 1T or ESLL 26; MATH 57 or 105 or 108.

Physics: (12 units)
PHYS 4A General Physics (Calculus) (6 units)
PHYS 4B General Physics (Calculus) (6 units)
PHYS 4C General Physics (Calculus) (6 units)
PHYS 4D General Physics (Calculus) (6 units)
PHYS 5A[16] General Physics (Calculus) Extended (5 units)
PHYS 5B[17] General Physics (Calculus) Extended (5 units)
PHYS 5C[18] General Physics (Calculus) Extended (5 units)

CHILD DEVELOPMENT

Program Type(s): Associate in Arts Degree, Certificate of Achievement, Certificate of Specialization

May be transferrable to a four-year university

Units required for major: 49, certificate(s): 23–85

Program Learning Outcomes:

- Students will be able to demonstrate understanding of the needs and characteristics of children from birth through middle childhood and the multiple influences on their development as related to the high-quality care and education of young children.
- Students will be able to demonstrate understanding of ethical standards and professional behaviors that deepen knowledge and commitment to the field of early care and education as related to National Association for the Education of Young Children Code of Ethical Conduct.

Associate Degree Requirements *

Core Courses: (43 units)
CHLD 1 Child Growth & Development: Prenatal to Early Childhood (4 units)
CHLD 2 Child Growth & Development II: Middle Childhood through Adolescence (4 units)
CHLD 51A Affirming Diversity in Education (4 units)
CHLD 56 Observation & Assessment (4 units)
CHLD 56N Principles & Practices of Teaching Young Children (4 units)
CHLD 86A Mentoring the Early Care & Education Professional (4 units)
CHLD 86B Practicum Student Teaching in an Early Childhood Program (5 units)
CHLD 88 Child, Family & Community (4 units)
CHLD 88B Positive Behavior Management (2 units)
CHLD 89 Curriculum for Early Care & Education Programs (4 units)
CHLD 95 Health, Safety & Nutrition in Children's Programs (4 units)

Support Courses: (6 units)
Select ONE course from the following:
CHLD 59 Working with School-Age Children (4 units)
CHLD 79 Caring for Infants & Toddlers in Groups (3 units)
CHLD 63N Artistic & Creative Development (3 units)

And 3 units from the following (if not used in the previous section):
CHLD 50A Infant/Toddler Development (3 units)
CHLD 53NC Supporting Children with Special Needs in Children's Programs (3 units)
CHLD 53NP Development of Children With Special Needs (3 units)
CHLD 54A Developing a Healthy Organizational Climate in Education (1 unit)
CHLD 54B The Right Fit: Recruiting, Selecting & Orienting Staff (1 unit)
CHLD 54C Leadership in Action: How Effective Directors Get Things Done (1 unit)
CHLD 54D From the Inside Out: the Power of Reflection & Self-Awareness (1 unit)
CHLD 59 Working with School-Age Children (4 units)
CHLD 63N Artistic & Creative Development (3 units)
CHLD 71 Planning Creative Art Activities for Children (1 unit)
CHLD 72 Language, Literacy & the Developing Child (3 units)
CHLD 73 Music & Movement in the Early Years (3 units)
CHLD 74 Science & Nature (1 unit)
CHLD 79 Caring for Infants & Toddlers in Groups (3 units)
CHLD 82 Planning Creative Dramatics (1 unit)
CHLD 90B Administration & Supervision of Children's Programs Part I (4 units)
CHLD 90C Administration & Supervision of Children's Programs Part II (4 units)
CHLD 91 Administration & Supervision: Adult Supervision & Leadership (4 units)
ANTH 2A Cultural Anthropology (4 units)
ENGL 8 Children's Literature (4 units)
PSYC 14 Child & Adolescent Development (4 units)
SOC 40 Aspects of Marriage & Family (4 units)
SOC 57 Child Advocacy (4 units)
WMN 5 Introduction to Women's Studies (4 units)

Certificate of Achievement: Child Development Teacher[19] (73 units)
The certificate of achievement is awarded upon completion of the core and support courses and 24 units of general education courses (at least one course from each of the following categories):
1. English/Language Arts
2. Math or Science
3. Social Sciences
4. Humanities and/or Fine Arts

Certificate of Achievement in Program Supervision & Mentoring[20] (85 units)
This certificate is awarded upon the completion of the Certificate of Achievement: Child Development Teacher (73 units)

AND the following:
CHLD 90B Administration & Supervision of Children's Programs: Part I (4 units)
CHLD 90C Administration & Supervision of Children's Programs: Part II (4 units)
CHLD 91 Administration & Supervision: Adult Supervision & Leadership (4 units)

Early Childhood Education Certificate of Specialization[21] (25 units) [Non-Transcriptable]
CHLD 1 Child Growth & Development: Prenatal to Early Childhood (4 units)
CHLD 2 Child Growth & Development II: Middle Childhood through Adolescence (4 units)
CHLD 53NC Supporting Children with Special Needs in Children's Programs (3 units)
CHLD 56N Principles & Practices of Teaching Young Children (4 units)
CHLD 88 Child, Family & Community (4 units)
CHLD 88B Positive Behavior Management (2 units)
CHLD 89 Curriculum for Early Care & Education Programs (4 units)

16–18 The PHYS 5A, 5B & 5C sequence is equivalent to PHYS 4A and 4B.

19–20 Meets the requirements for the California Commission on Teacher Credentialing Child Development Teacher Permit.

21 Meets the requirements for the California Commission on Teacher Credentialing Child Development Associate Teacher Permit. There are no English or math proficiency requirements for this certificate.

*A minimum of 90 units required for the A.A./A.S. Degree, to include required courses, required electives, and graduation requirements, and these minimum proficiencies: ENGL 1A or 1AH or 1S and 1T or ESLL 26; MATH 57 or 105 or 108.

School-Age Child Care Certificate of Specialization[22] (25 Units) [Non-Transcriptable]

CHLD 2 Child Growth & Development II: Middle Childhood through Adolescence (4 units)
CHLD 53NC Supporting Children with Special Needs in Children's Programs (3 units)
CHLD 56N Principles & Practices of Teaching Young Children (4 units)
CHLD 59 Working with School-Age Children (4 units)
CHLD 88 Child, Family & Community (4 units)
CHLD 88B Positive Behavior Management (2 units)
CHLD 89 Curriculum for Early Care & Education Programs (4 units)

Inclusion & Children with Special Needs Certificate of Specialization[23] (24 units) [Non-Transcriptable]

CHLD 1 Child Growth & Development: Prenatal to Early Childhood (4 units)
CHLD 2 Child Growth & Development II: Middle Childhood through Adolescence (4 units)
CHLD 53NC Supporting Children with Special Needs in Children's Programs (3 units)
CHLD 53NP Development of Children With Special Needs (3 units)
CHLD 56N Principles & Practices of Teaching Young Children (4 units)
CHLD 88 Child, Family & Community (4 units)
CHLD 88B Positive Behavior Management (2 units)

Infant Toddler Development Certificate of Specialization[24] (23 units) [Non-Transcriptable]

CHLD 1 Child Growth & Development: Prenatal through Early Childhood (4 units)
CHLD 50A Infant/Toddler Development (3 units)
CHLD 53NC Supporting Children with Special Needs in Children's Programs (3 units)
CHLD 56N Principles & Practices of Teaching Young Children (4 units)
CHLD 79 Caring for Infants & Toddlers in Groups (3 units)
CHLD 88 Child, Family & Community (4 units)
CHLD 88B Positive Behavior Management (2 units)

COMMUNICATION STUDIES

Program Type(s): Associate in Arts Degree, Certificate of Proficiency, Certificate of Specialization

Units required for major: 30, certificate(s): 15–20

Program Learning Outcomes:

- Identify patterns of communication in a variety of contexts.
- Utilize appropriate methods of communication in critical thinking and/or communication situations.

Associate Degree Requirements *

Core Courses: (15 units)

COMM 1A Public Speaking (5 units)
or COMM 1AH Honors Public Speaking (5 units)
COMM 2 Interpersonal Communication (5 units)
COMM 4 Group Discussion (5 units)

22–24 Meets the requirements for the California Commission on Teacher Credentialing Child Development Associate Teacher Permit. There are no English or math proficiency requirements for this certificate.

Support Courses: (15 units)

COMM 1B Argumentation & Persuasion (5 units)
or COMM 1BH Honors Argumentation & Persuasion (5 units)
COMM 3 Fundamentals of Oral Communication (5 units)
COMM 10 Gender, Communication & Culture (5 units)
COMM 12 Intercultural Communication (5 units)
COMM 54A Forensic Speech (2.5 units)
COMM 54B Forensic Debate (2.5 units)
COMM 54C Forensic Oral Interpretation (2.5 units)
COMM 55 Career & Leadership Communication in the Global Workplace (5 units)

Communication Studies Certificate of Specialization (20 units) [Non-Transcriptable]

COMM 10 Gender, Culture & Communication (5 units)
or COMM 12 Intercultural Communication (5 units)

And ONE course from the following:

COMM 1B Argumentation & Persuasion (5 units)
or COMM 1BH Honors Argumentation & Persuasion (5 units)
COMM 55 Career & Leadership Communication in the Global Workplace (5 units)

And 10 units from the following:

COMM 1A Public Speaking (5 units)
or COMM 1AH Honors Public Speaking (5 units)
COMM 1B Argumentation & Persuasion (5 units)
or COMM 1BH Honors Argumentation & Persuasion (5 units)
COMM 2 Interpersonal Communication (5 units)
COMM 3 Fundamentals of Oral Communication (5 units)
COMM 4 Group Discussion (5 units)
COMM 10 Gender, Communication & Culture (5 units)
COMM 12 Intercultural Communication (5 units)
COMM 54A Forensic Speech (2.5 units)
COMM 54B Forensic Debate (2.5 units)
COMM 54C Forensic Oral Interpretation (2.5 units)
COMM 55 Career & Leadership Communication in the Global Workplace (5 units)

Communication Studies Certificate of Proficiency (15 units) [Non-Transcriptable]

COMM 1A Public Speaking (5 units)
or COMM 1AH Honors Public Speaking (5 units)
or COMM 2 Interpersonal Communication (5 units)

And 10 units from the following:

COMM 1A Public Speaking (5 units)
or COMM 1AH Honors Public Speaking (5 units)
COMM 1B Argumentation & Persuasion (5 units)
or COMM 1BH Honors Argumentation & Persuasion (5 units)
COMM 2 Interpersonal Communication (5 units)
COMM 3 Fundamentals of Oral Communication (5 units)
COMM 4 Group Discussion (5 units)
COMM 10 Gender, Culture & Communication (5 units)
COMM 12 Intercultural Communication (5 units)
COMM 54A Forensic Speech (2.5 units)
COMM 54B Forensic Debate (2.5 units)
COMM 54C Forensic Oral Interpretation (2.5 units)
COMM 55 Career & Leadership Communication in the Global Workplace (5 units)

*A minimum of 90 units required for the A.A./A.S. Degree, to include required courses, required electives, and graduation requirements, and these minimum proficiencies: ENGL 1A or 1AH or 1S and 1T or ESLL 26; MATH 57 or 105 or 108.

Certificate of Proficiency in Communications & IT Support (23 units)
[Non-Transcriptable]
COMM 1A Public Speaking (5 units)
or COMM 2 Interpersonal Communication (5 units)
or ENGL 50C Technical Writing (5 units)
BUSI 11 Introduction to Information Systems (5 units)
ITRN 54 Internship (5 units)
LINC 88 Introduction to Computer Operating Systems (4 units)
LINC 89 Introduction to Microsoft Windows Servers (4 units)

Certificate of Proficiency in Workforce Training (20.5 units)
[Non-Transcriptable]
COMM 1A Public Speaking (5 units)
COMM 2 Interpersonal Communication (5 units)
BUSI 11 Introduction to Information Systems (5 units)
CNSL 5 Introduction to College (1.5 unit)
CNSL 85A Transfer Readiness (1 unit)
LINC 62 Word Processing Beyond the Basics (1 unit)
LINC 63 Microsoft Excel Overview (1 unit)
LINC 95B Technology Ethics & Cyber Law (1 unit)

COMPUTER SCIENCE

Program Type(s): Associate in Science Degree, Certificate of Proficiency

Units required for major: 60, certificate: 25

Program Learning Outcomes:

- Use standard software engineering tools to create reusable code.
- Design a large program that takes advantage of existing code libraries.
- Organize a complex program in a logical way, enabling the extension of the program.
- Comprehend user requirements and produce code and documentation in an industry-accepted style that satisfies those requirements.
- Develop software that solves problems in a variety of fields, including math, physics, chemistry, biology, astronomy, business, and the Internet.

Associate Degree for Transfer Requirements:

The Foothill GE pattern may not be used for this degree. The requirement is full certification of the either the CSU General Education Breadth Requirements or the Intersegmental General Education Transfer Curriculum (IGETC) (49–58 units).

Core Courses: (40 Units)
C S 10 Computer Architecture & Organization (5 units)
MATH 1A Calculus (5 units)
MATH 1B Calculus (5 units)
MATH 1C Calculus (5 units)
MATH 22 Discrete Mathematics (5 units)
or C S 18 Discrete Mathematics (5 units)

And select ONE option:
Option #1: JAVA
C S 1A Object-Oriented Programming Methodologies in Java (5 units)
C S 1B Intermediate Software Design in Java (5 units)
C S 1C Advanced Data Structures & Algorithms in Java (5 units)
Option #2: C++
C S 2A Object-Oriented Programming Methodologies in C++ (5 units)
C S 2B Intermediate Software Design in C++ (5 units)
C S 2C Advanced Data Structures & Algorithms in C++ (5 units)

Support Courses: (20 units)
C S 20A Programming in C# (5 units)
C S 21A Programming in Python (5 units)
C S 22A Javascript for Programmers (5 units)
C S 30A Introduction to Linux & UNIX (5 units)
C S 30B Linux & UNIX Shell Programming (5 units)
C S 30C Linux & UNIX System Administration (5 units)
C S 31A Introduction to Database Management Systems (5 units)
C S 40A Software Engineering Methodologies (5 units)
C S 49 Foundations of Computer Programming (2.5 units)
C S 50A Network Fundamentals (CCNA) (5 units)
C S 63A Developing Applications for IOS (5 units)
C S 64A Writing Apps for Android in Java (5 units)
C S 80A Open Source Contribution (5 units)
C S 81A 3-D Graphics Programming (5 units)
C S 82A Introduction to Software Quality Assurance (5 units)
C S 83A Theory of Quantum Computing I (5 units)
C S 83B Theory of Quantum Computing II (5 units)
C S 83C Theory of Quantum Computing III (5 units)
C S 84A Database-Driven Web Application Development (5 units)
C S 84B Distributed Databases (5 units)
BIOL 1A Principles of Cell Biology (6 units)
BIOL 1B Form & Function in Plants & Animals (6 units)
BIOL 1C Evolution, Systematics & Ecology (6 units)
CHEM 1A General Chemistry (5 units)
CHEM 1B General Chemistry (5 units)
CHEM 1C General Chemistry & Qualitative Analysis (5 units)
MATH 1D Calculus (5 units)
MATH 2A Differential Equations (5 units)
MATH 2B Linear Algebra (5 units)
PHYS 2A General Physics (5 units)
PHYS 2AM General Physics—Calculus Supplement (1 unit)
PHYS 2B General Physics (5 units)
PHYS 2BM General Physics—Calculus Supplement (1 unit)
PHYS 2C General Physics (5 units)
PHYS 2CM General Physics—Calculus Supplement (1 unit)
PHYS 4A General Physics (Calculus) (6 units)
PHYS 4B General Physics (Calculus) (6 units)
PHYS 4C General Physics (Calculus) (6 units)
PHYS 5A[25] General Physics (Calculus) Extended (5 units)
PHYS 5B[26] General Physics (Calculus) Extended (5 units)
PHYS 5C[27] General Physics (Calculus) Extended (5 units)

Certificate of Proficiency in Mobile Applications[28] (25 units)
[Non-Transcriptable]
C S 10 Computer Architecture & Organization (5 units)
C S 18 Discrete Mathematics (5 units)
or MATH 22 Discrete Mathematics (5 units)
C S 40A Software Engineering Methodologies (5 units)
C S 63A Developing Applications for IOS (5 units)
or C S 64A Writing Apps for the Android in Java (5 units)

25–27 The PHYS 5A, 5B & 5C sequence is equivalent to PHYS 4A & 4B.

28 There is no minimum English proficiency required for this certificate.

*A minimum of 90 units required for the A.A./A.S. Degree, to include required courses, required electives, and graduation requirements, and these minimum proficiencies: ENGL 1A or 1AH or 1S and 1T or ESLL 26; MATH 57 or 105 or 108.

And select ONE from the following:
C S 1C Advanced Data Structures & Algorithms in Java (5 units)
C S 2C Advanced Data Structures & Algorithms in C++ (5 units)
C S 22A JavaScript for Programmers (5 units)
C S 30B Linux & UNIX Shell Programming (5 units)
C S 63A Developing Applications for IOS (5 units)
C S 64A Writing Apps for the Android in Java (5 units)
C S 80A Open Source Contribution (5 units)
C S 81A 3-D Graphics Programming (5 units)

COMPUTER SCIENCE FOR TRANSFER

Program Type(s): Associate in Science for Transfer
Units required for major: 90

Program Learning Outcomes:
- Use of standard software engineering tools to create reusable code.
- Design of large programs that take advantage of existing code libraries.
- Organization of complex programs in a logical way, enabling the extension of the program.
- Comprehension of user requirements and production of code and documentation in an industry-accepted style that satisfies those requirements.
- Development of software that solves problems in a variety of fields, including math, physics, chemistry, biology, astronomy, business, and the Internet.

Associate Degree for Transfer Requirements:
The Foothill GE pattern may not be used for this degree. The requirement is full certification of the either the CSU General Education Breadth Requirements or the Intersegmental General Education Transfer Curriculum (IGETC) (49–58 units).

Core Courses: (47 units)
C S 1A Object-Oriented Programming Methodologies in Java (5 units)
C S 1M Intermediate Algorithm & Data Structure Methodologies in Java (5 units)
C S 10 Computer Architecture & Organization (5 units)
C S 18 Discrete Mathematics (5 units)
MATH 1A Calculus (5 units)
MATH 1B Calculus (5 units)
MATH 1C Calculus (5 units)
PHYS 4A General Physics (Calculus) (6 units)
PHYS 4B General Physics (Calculus) (6 units)

DENTAL ASSISTING

Program Type(s): Associate in Science Degree, Certificate of Achievement
Units required for major: 47, certificate: 47

Program Learning Outcomes:
- Graduates will demonstrate entry-level competency skills mandated by the Commission on Dental Accreditation and the Dental Board of California.
- Graduates will value and implement proper radiation safety for patients, self, and others.

Associate Degree Requirements *

Core Courses: (47 units)
Fall Quarter
D A 50 Orientation to Chairside Dental Assisting (2.5 units)
D A 51A Introduction to Chairside Dental Assisting (8 units)
D A 53A Introduction to Radiography I (3 units)
D A 58 Specialty Practice Procedures (1 unit)
D A 62A Dental Sciences I (2 units)
D A 71 Infection Control & Hazardous Waste Management (1.5 units)

Winter Quarter
D A 51B Intermediate Clinical Dental Assisting (2 units)
D A 53B Dental Radiography II (2 units)
D A 56 Dental Health Education (1 unit)
D A 57 Office Emergency Procedures (2 units)
D A 60A Dental Office Business Practices I (2 units)
D A 62B Dental Sciences II (2 units)
D A 73 Dental Assisting Supervised Clinic (2 units)

Spring Quarter
D A 51C Advance Dental Assisting Skills (3.5 units)
D A 53C Dental Radiography III (1 unit)
D A 60B Dental Office Business Practices II (3 units)
D A 62C Dental Sciences III (2 units)
D A 63 Special Patient Populations (1 unit)
D A 74 Dental Assisting Clinical Practice (2 units)
D A 85 RDA Review (2 unit)
D A 88 Pit & Fissure Sealants (1.5 units)

Certificate of Achievement in Dental Assisting (47 units)
The certificate of achievement is awarded upon completion of the core courses (general education courses are not required) and the following:
- Cardiopulmonary Resuscitation Certificate (Health Care Provider, American Heart Association or Professional Rescuer American Red Cross).
- Eligibility for ENGL 110 or ESLL 25 or equivalent.
- Completion of MATH 230 or equivalent on the mathematics placement test.

DENTAL HYGIENE

Program Type(s): Associate in Science Degree
Units required for major: 128.5

Program Learning Outcomes:
• Students will demonstrate the necessary knowledge, skills, and values for the practice of dental hygiene.
• Students will demonstrate the necessary knowledge and values in legal regulations and ethical issues for the practice of dental hygiene.

Associate Degree Requirements *
Core Courses: (128.5 units)

FIRST YEAR
Summer
D H 50 Orientation to Dental Hygiene (1 unit)
HLTH 21 Contemporary Health Concerns (4 units)
PSYC 1 General Psychology (5 units)

*A minimum of 90 units required for the A.A./A.S. Degree, to include required courses, required electives, and graduation requirements, and these minimum proficiencies: ENGL 1A or 1AH or 1S and 1T or ESLL 26; MATH 57 or 105 or 108.

Fall
D H 52A Oral Biology I (3 units)
D H 53 Assessment Procedures in the Dental Hygiene Process (4 units)
D H 54 Pre-Clinical Dental Hygiene (4 units)
D H 59 Survey of Dentistry (1 unit)
D H 60A Introduction to Dental Radiography I (2 units)
AHS 50A Introduction to Allied Health Programs (1.5 units)
BIOL 40A Human Anatomy & Physiology I (5 units)
BIOL 58 Fundamentals of Pharmacology (4 units)

Winter
D H 52B Oral Biology II (3 units)
D H 60B Dental Radiography II (1 unit)
D H 61A Clinical Technique (6 units)
D H 71 Office Emergency Procedures (2 units)
D H 72 Dental Materials (3 units)
D H 73 Dental Health Education (2 units)
AHS 50B Interprofessional Patient Competencies (.5 unit)
BIOL 40B Human Anatomy & Physiology II (5 units)
BIOL 41 Microbiology (6 units)

Spring
D H 55A Fundamentals of Pathology I (2 units)
D H 56 Applied Pharmacology in Dentistry (2 units)
D H 57A Periodontics I (2 units)
D H 61B Introduction to Clinic (4.5 units)
D H 68A Radiographic Interpretation (2 units)
BIOL 40C Human Anatomy & Physiology III (5 units)
BIOL 45 Introduction to Human Nutrition (4 units)

Summer
D H 62A Clinical Dental Hygiene I (2.5 units)
D H 65 Clinical Local Anesthesia (2.5 units)

SECOND YEAR
Fall
D H 55B Fundamentals of Pathology II (2 units)
D H 57B Periodontics II (2 units)
D H 60C Dental Radiography III (.5 unit)
D H 62B Clinical Dental Hygiene II (6 units)
D H 63C Community Dental Health I (3 units)
D H 75A Clinical Dental Hygiene Theory I (1.5 units)

Winter
D H 60D Dental Radiography IV (.5 unit)
D H 62C Clinical Dental Hygiene III (6 units)
D H 63D Community Dental Health II (3 units)
D H 67 Nitrous Oxide/Oxygen Analgesia (1 unit)
D H 75B Clinical Dental Hygiene Theory II (1.5 units)

Spring
D H 57C Periodontics III (2 units)
D H 60E Dental Radiography V (.5 unit)
D H 62D Clinical Dental Hygiene IV (6 units)
D H 64 Ethics, Law & Dental Office Practices (2 units)
D H 75C Clinical Dental Hygiene Theory III (1.5 units)

DIAGNOSTIC MEDICAL SONOGRAPHY

Program Type(s): Associate in Science Degree, Certificate of Achievement

Units required for major: 106, certificate: 106

Program Learning Outcomes:

- Students will demonstrate the necessary knowledge, technical skills, analytical skills, interpersonal skills and diagnostic ability within the scope of practice for diagnostic medical sonography.
- Students will demonstrate the necessary knowledge and values pertaining to professional demeanor including the implementation of confidentiality and privacy for the practice of diagnostic medical sonography.

Associate Degree Requirements *

Core Courses: (106 units)
Fall
AHS 50A Introduction to Allied Health Programs (1.5 units)
DMS 50A Diagnostic Medical Sonography Principles & Protocols (4 units)
DMS 50B Sonography & Patient Care (2 units)
DMS 60A Critique & Pathology I (2 units)
DMS 72A Diagnostic Medical Sonography Procedures & Applications (11.5 units)

Winter
AHS 50B Interprofessional Patient Competencies (.5 unit)
DMS 51A Sectional Anatomy (3 units)
DMS 53A Diagnostic Medical Sonography I (2 units)
DMS 54A Gynecology (2 units)
DMS 60B Critique & Pathology II (2 units)
DMS 70A Clinical Preceptorship I (8.5 units) (32 hrs/wk for 13 wks)

Spring
DMS 52A Physical Principles of Diagnostic Medical Sonography I (2 units)
DMS 53B Diagnostic Medical Sonography II (2 units)
DMS 54B Gynecology & Obstetrics (2 units)
DMS 60C Critique & Pathology III (2 units)
DMS 70B Clinical Preceptorship II (8 units)

Summer
DMS 52B Physical Principles of Diagnostic Medical Sonography II (2 units)
DMS 53C Diagnostic Medical Sonography III (2 units)
DMS 55A Obstetrics I (2 units)
DMS 60D Critique & Pathology IV (2 units)
DMS 70C Clinical Preceptorship III (8.5 units) (32 hrs/wk for 13 wks)

Fall
DMS 55B Obstetrics II (2 units)
DMS 56A Vascular Sonography (3 units)
DMS 60E Critique & Pathology V (2 units)
DMS 70D Clinical Preceptorship IV (8.5 units) (32 hrs/wk for 13 wks)
DMS 72E Diagnostic Medical Sonography Procedures & Applications (1 unit)

Winter
DMS 52C Physical Principles of Diagnostic Medical Sonography III (2 units)
DMS 56B Advanced Applications of Vascular Technology (2 units)
DMS 60F Critique & Pathology VI (2 units)
DMS 70E Clinical Preceptorship V (8.5 units) (32 hrs/wk for 13 wks)
DMS 80A Advanced Sonographic Principles (4 units)

Certificate of Achievement in Diagnostic Medical Sonography (106 units)
The certificate of achievement is awarded upon completion of the core courses. General education courses are not required. However the prerequisites and entrance requirements must be met.

*A minimum of 90 units required for the A.A./A.S. Degree, to include required courses, required electives, and graduation requirements, and these minimum proficiencies: ENGL 1A or 1AH or 1S and 1T or ESLL 26; MATH 57 or 105 or 108.

ECONOMICS

Program Type(s): Associate in Arts Degree
Units required for major: 30

Program Learning Outcomes:
- Have a working understanding of the role of prices in a market economy, the benefits of trade, economic growth and stability, market structures and competition, market failures and the economic role of government.
- Employ economic reasoning to explain the world around them and make objective decisions based on assessments of costs and benefits.

Associate Degree Requirements *
Core Courses: (18 units)
ECON 1A Principles of Macroeconomics (5 units)
ECON 1B Principles of Microeconomics (5 units)
ECON 9 Political Economy (4 units)
or ECON 9H Honors Political Economy (4 units)
or POLI 9 Political Economy (4 units)
or POLI 9H Honors Political Economy (4 units)
ECON 25 Introduction to the Global Economy (4 units)

Support Courses: (12 units)
Select a minimum of 8 units from the following:
BUSI 53 Survey of International Business (4 units)
GEOG 5 Introduction to Economic Geography (4 units)
or GEOG 10 World Regional Geography (4 units)
MATH 1A Calculus (5 units)
MATH 10 Elementary Statistics (5 units)
or PSYC 7 Statistics for the Behavioral Sciences (5 units)
or SOC 7 Statistics for the Behavioral Sciences (5 units)

And 4 units from the following:
HIST 17C History of the United States from 1914 to the Present (4 units)
POLI 3 Introduction to Political Philosophy/Political Theory (5 units)
or POLI 3H Honors Introduction to Political Philosophy/ Political Theory (5 units)
POLI 15 International Relations/World Politics (4 units)
or POLI 15H Honors International Relations/World Politics (4 units)
ECON 54H Honors Institute Seminar in Economics (1 unit)
ECON 70R Independent Study in Economics (1 unit)
ECON 71R Independent Study in Economics (2 units)
ECON 72R Independent Study in Economics (3 units)
ECON 73R Independent Study in Economics (4 units)

ENGINEERING

Program Type(s): Associate in Science Degree, Certificate of Proficiency
Units required for major: 68, certificate(s): 23–25

Program Learning Outcomes:
- Formulate logical problem-solving approaches, generate solutions, and assess the reasonableness of the solutions for engineering-type analysis problems.
- Design, construct, and produce creative solutions to engineering problems by applying the engineering design process and identifying pertinent design parameters based on the fundamental physics governing a system.
- Demonstrate understanding of the fundamental knowledge necessary for the practice of, or for advanced study in, engineering, including scientific principles, rigorous analysis, and problem solving.
- Demonstrate clear communication skills, responsible teamwork, professional attitudes and ethics.
- Demonstrate a preparation for the complex work environment and continuous learning.

Associate Degree Requirements *
Core Courses: (53 units)
CHEM 1A General Chemistry (5 units)
CHEM 1B General Chemistry (5 units)
ENGR 10 Introduction to Engineering (5 units)
MATH 1B Calculus (5 units)
MATH 1C Calculus (5 units)
MATH 1D Calculus (5 units)
MATH 2A Differential Equations (5 units)
PHYS 4A General Physics (Calculus) (6 units)
PHYS 4B General Physics (Calculus) (6 units)
PHYS 4C General Physics (Calculus) (6 units)

Support Courses: (15 units)
C S 2A Object-Oriented Programming Methodologies in C++ (5 units)
ENGR 6 Engineering Graphics (4 units)
ENGR 12 Computer Architecture & Organization (5 units)
ENGR 35 Statics (5 units)
ENGR 37 Introduction to Circuit Analysis (5 units)
ENGR 45 Properties of Materials (5 units)
ENGR 62A Introduction to 3-D Printing & Rapid Prototype Design (4 units)
ENGR 62B 3-D Printing: Basic Model Making (5 units)
ENGR 62C 3-D Printing: Advanced Model Making (5 units)
ENGR 62D 3-D Rapid Model Making & Prototype Development (5 units)
ENGR 83A Introduction to Biomedical Engineering (5 units)
ENGR 83B Design & Manufacturing in the Biomedical Engineering Field (5 units)
ENGR 83C Introduction to Medical Device Regulations (5 units)
ENGR 83E Introduction to Documentation (5 units)
MATH 2B Linear Algebra (5 units)
NANO 10 Introduction to Nanotechnology (5 units)
PHYS 4D General Physics (Calculus) (6 units)

Certificate of Proficiency in Biomedical Devices (25 units)
[Non-Transcriptable]
ENGR 83A Introduction to Biomedical Device Industry (5 units)
ENGR 83B Design & Manufacting in the Medical Device Industry (5 units)
ENGR 83C Introduction to Medical Device Regulations (5 units)
ENGR 83D Introduction to Quality Assurance (5 units)
ENGR 83E Introduction to Documentation (5 units)

Certificate of Proficiency in Rapid Prototyping (23 units)
[Non-Transcriptable]
ENGR 6 Engineering Graphics (4 units)
ENGR 62A Introduction to 3-D Printing & Rapid Prototype Design (4 units)
ENGR 62B 3-D Printing: Basic Model Making (5 units)
ENGR 62C 3-D Printing: Advanced Model Making (5 units)
ENGR 62D 3-D Rapid Model Making & Prototype Development (5 units)

*A minimum of 90 units required for the A.A./A.S. Degree, to include required courses, required electives, and graduation requirements, and these minimum proficiencies: ENGL 1A or 1AH or 1S and 1T or ESLL 26; MATH 57 or 105 or 108.

ENGLISH

Program Type(s): Associate in Arts Degree
Units required for major: 29

Program Learning Outcomes:
- Students will be able to compose a thesis-based essay that clearly communicates a logical, evidence-supported argument.
- Students will demonstrate, in writing, comprehension and critical analysis of college-level texts.

Associate Degree Requirements *

Core Courses: (17 units)
ENGL 1B Composition, Critical Reading & Thinking (5 units)
or ENGL 1BH Honors Composition, Critical Reading & Thinking (5 units)

And THREE of the following:
ENGL 46A Monsters, Madness & Mayhem: English Literature from Its Earliest Beginnings to Milton (4 units)
ENGL 46B Reason, Rebellion & Romanticism: English Literature from 1660–1830 (4 units)
ENGL 46C Wars & Wastelands: English Literature from the Victorian Period to the Present (4 units)
ENGL 48A The Nature of American Literature: 1492–1864 (4 units)
ENGL 48B American Literature in the Gilded Age: 1865–1914 (4 units)
ENGL 48C Modern American Literature: 1914–Present (4 units)

Support Courses: (12 units)
Select THREE[29] courses from the following:
ENGL 1C Advanced Composition (4 units)
or ENGL 1CH Honors Advanced Composition (4 units)
ENGL 50C Technical Writing (5 units)
CRWR 6 Introduction to Creative Writing (5 units)
CRWR 39A Introduction to Short Fiction Writing (5 units)
CRWR 41A Poetry Writing (5 units)

Literature Courses[30]:
ENGL 5 Gay & Lesbian Literature (4 units)
or ENGL 5H Honors Gay & Lesbian Literature (4 units)
ENGL 7 Native American Literature (4 units)
or ENGL 7H Honors Native American Literature (4 units)
ENGL 8 Children's Literature (4 units)
ENGL 11 Introduction to Poetry (4 units)
or ENGL 11H Honors Introduction to Poetry (4 units)
ENGL 12 African American Literature (4 units)
ENGL 14 Traveling the World through Contemporary Literature (4 units)
ENGL 16 Introduction to Literature (4 units)
ENGL 17 Introduction to Shakespeare (4 units)
ENGL 18A Vampire Literature: Multicultural Representatives of the Bloodsucker (4 units)
ENGL 24 Unmasking Comics: The Dawn of the Graphic Novel (4 units)
ENGL 31 Latino/a Literature (4 units)
ENGL 40 Asian American Literature (4 units)
or ENGL 40H Honors Asian American Literature (4 units)
ENGL 47A World Literature I (5 units)
ENGL 47B World Literature II (5 units)

29–30 At least two courses must be Literature courses; the student has the option of taking all three required courses from the identified Literature courses.

ENGLISH FOR TRANSFER

Program Type(s): Associate in Arts for Transfer
Units required for major: 90

Program Learning Outcomes:
- Students will be able to compose a thesis-based essay that clearly communicates a logical, evidence-supported argument.
- Students will demonstrate, in writing, comprehension and critical analysis of college-level texts.

Associate Degree for Transfer Requirements:
The Foothill GE pattern may not be used for this degree. The requirement is full certification of the either the CSU General Education Breadth Requirements or the Intersegmental General Education Transfer Curriculum (IGETC) (49–58 units).

Core Courses: (9 units)
ENGL 1B Composition, Critical Reading & Thinking (5 units)
or ENGL 1BH Honors Composition, Critical Reading & Thinking (5 units)
ENGL 16 Introduction to Literature (4 units)

Support Courses: (20–22 units)
Select 12 units from the following options in List A:
List A:
A. ENGL 46A Monsters, Madness & Mayhem: English Literature from its Earliest Beginnings to Milton (4 units)
B. ENGL 46B Reason, Rebellion & Romanticism: English Literature from 1660–1830 (4 units)
and ENGL 46C Wars & Wastelands: English Literature from the Victorian Period to the Present (4 units)
(both courses must be completed for this option)
C. ENGL 48A The Nature of American Literature: 1492–1862 (4 units)
D. ENGL 48B American Literature in the Gilded Age: 1865–1914 (4 units)
and ENGL 48C Modern American Literature: 1914–Present (4 units)
(both courses must be completed for this option)

Complete ONE course from List B (or any course from List A not used above):
List B:
ENGL 11 Introduction to Poetry (4 units)
or ENGL 11H Honors Introduction to Poetry (4 units)
ENGL 14 Traveling the World through Contemporary Literature (4 units)
ENGL 17 Introduction to Shakespeare (4 units)
CRWR 6 Introduction to Creative Writing (5 units)

Complete ONE course from List C (or any course from List A or B not used above):
List C:
ENGL 1C Advanced Composition (4 units)
or ENGL 1CH Honors Advanced Composition (4 units)
ENGL 5 Gay & Lesbian Literature (4 units)
or ENGL 5H Honors Gay & Lesbian Literature (4 units)
ENGL 7 Native American Literature (4 units)
or ENGL 7H Honors Native American Literature (4 units)
ENGL 8 Children's Literature (4 units)
ENGL 12 African American Literature (4 units)
ENGL 18A Vampire Literature: Multicultural Representations of the Bloodsucker (4 Units)
ENGL 22 Women Writers (4 units)
ENGL 24 Unmasking Comics: The Dawn of the Graphic Novel (4 Units)
ENGL 31 Latino/a Literature (4 units)

*A minimum of 90 units required for the A.A./A.S. Degree, to include required courses, required electives, and graduation requirements, and these minimum proficiencies: ENGL 1A or 1AH or 1S and 1T or ESLL 26; MATH 57 or 105 or 108.

ENGL 40 Asian American Literature (4 units)
or ENGL 40H Honors Asian American Literature (4 units)
CRWR 39A Introduction to Short Fiction Writing (5 units)
CRWR 41A Poetry Writing (5 units)
JAPN 3 Elementary Japanese III (5 units)
SPAN 3 Elementary Spanish III (5 units)

ENTERPRISE NETWORKING

Program Type(s): Associate in Science Degree, Certificate of Proficiency

Units required for major: 55, certificate(s): 20–25

Program Learning Outcomes:

- The student will be able to design a network infrastructure to support specific user and business requirements.
- The student will be able to design, implement and maintain appropriate security services for network systems.
- The student will be able to select the components to create a virtual infrastructure.
- The student will be able to optimize the performance, reliability and availability of network services.

Associate Degree Requirements *

Core Courses: (45 units)
C S 50A Network Basics (CCNA) (5 units)
C S 50B Routing Protocols (CCNA) (5 units)
C S 50C Switched Networks (CCNA) (5 units)
C S 50D Connecting Networks - WANS (CCNA) (5 units)
C S 52A Advanced IP Routing Protocols & Services (CCNP) (5 units)
C S 52B Advanced Switching & Campus LAN Design (CCNP) (5 units)
C S 52C Advanced Network Troubleshooting (CCNP) (5 units)
C S 54A Storage Area Networks (5 units)
C S 60A Installing & Configuring Windows Server 2012 (5 units)

Support Courses: (10 units)

Select ONE option from the following:
VMware Option:
C S 54B VMware vSphere Install, Configure & Manage (5 units)
C S 54C VMware VIEW (5 units)

Data Center Visualization & Cloud Computing Option:
C S 54B VMware vSphere Install, Configure & Manage (5 units)
C S 54D Cloud Infrastructure & Services (5 units)

Microsoft MSCA Server Option:
C S 60B Administering Windows Server 2012 (5 units)
C S 60C Configuring Advanced Windows Server 2012 Services (5 units)

Infrastructure/Desktop Support Option: (select 2 courses)
C S 50E Introduction to IP Network Security (5 units)
C S 56A Enterprise Wireless Local Area Networks (5 units)
C S 61A Windows 8 Configuration (5 units)

VMware Certificate of Proficiency[31] (25 units)
[Non-Transcriptable]
Prepares the student to receive the VMware Certified Professional–Data Center Virtualization credential.
C S 50C Switched Networks (CCNA) (5 units)
C S 54A Storage Area Networks (5 units)
C S 54B VMware vSphere Install, Configure & Manage (5 units)
C S 54C VMware VIEW (5 units)
C S 54D Cloud Infrastructure & Services (5 units)

Microsoft Windows MCSA Certificate of Proficiency[32] (25 units)
[Non-Transcriptable]
Prepares the student to take the Microsoft Windows MCSA Certification Exams.
C S 50A Network Basics (CCNA) (5 units)
C S 60A Installing & Configuring Windows Server 2012 (5 units)
C S 60B Administering Windows Server 2012 (5 units)
C S 60C Configuring Advanced Windows Server 2012 Services (5 units)

Cisco Academy CCNA Certificate of Proficiency[33] (25 units)
[Non-Transcriptable]
Prepares the student to take the CCNA certification exam.
C S 50A Network Basics (CCNA) (5 units)
C S 50B Routing Protocols (CCNA) (5 units)
C S 50C Switched Networks (CCNA) (5 units)
C S 50D Connecting Networks–WANS (CCNA) (5 units)
C S 50E Introduction to IP Network Security (5 units)

Cisco Academy CCNP Certificate of Proficiency[34] (20 units)
[Non-Transcriptable]
Prepares the student to receive the CCNP certification. CCNA-level knowledge is necessary to successfully complete these courses.
C S 52A Advanced IP Routing Protocols & Services (CCNP) (5 units)
C S 52B Advanced Switching & Campus LAN Design (CCNP) (5 units)
C S 52C Advance Network Troubleshooting (CCNP) (5 units)
C S 56A Enterprise Wireless Local Area Networks (5 units)

ENVIRONMENTAL HORTICULTURE & DESIGN

Program Type(s): Associate in Science Degree, Certificate of Achievement

Units required for major: 65, certificate: 65

Program Learning Outcomes:

- Students will demonstrate skills necessary to design residential landscapes.
- Students will be able to identify plant material.

Associate Degree Requirements *

Core Courses: (53 units)
HORT 10 Environmental Horticulture & the Urban Landscape (5 units)
HORT 15 Orientation to Environmental Horticulture (4 units)
HORT 21 Plant Materials I (3 units)
HORT 22 Plant Materials II (3 units)
HORT 30 Horticultural Practices: Soils (3 units)
HORT 40 Landscape Design: Graphic Communication (4 units)
HORT 52C Horticultural Practices: Plant Installation & Maintenance (3 units)
HORT 52E Horticultural Practices: Greenhouse Management (2 units)
HORT 52J Horticultural Practices: Nursery Management (2 units)
HORT 54A Landscape Construction: General Practices (4 units)
HORT 54B Landscape Construction: Technical Practices (3 units)
HORT 54C Landscape Construction: Irrigation Practices (3 units)
HORT 60B Landscape Design: Theory (3 units)

31 There are no minimum math or English proficiencies required for this certificate.

32–34 There are no English or mathematics proficiencies required for this certificate.

*A minimum of 90 units required for the A.A./A.S. Degree, to include required courses, required electives, and graduation requirements, and these minimum proficiencies: ENGL 1A or 1AH or 1S and 1T or ESLL 26; MATH 57 or 105 or 108.

HORT 60C Landscape Design: Irrigation (3 units)
HORT 80A Environmental Horticulture Fall Skills (2 units)
HORT 80B Environmental Horticulture Winter Skills (2 units)
HORT 80C Environmental Horticulture Spring Skills (2 units)
HORT 80D Environmental Horticulture Summer Skills (2 units)

Support Courses: (12 units)

Plant Material Specialization:
Select ONE course from the following:
HORT 23 Plant Materials: California Native Plants (2 units)
HORT 24 Plant Materials: Ground Covers & Vines (2 units)
HORT 25 Plant Materials: Bamboos & Palms (2 units)
HORT 26 Plant Materials: Perennials & Annuals (2 units)

Career Focus Specialization
And select THREE courses from the following:
HORT 31 Horticultural Practices: Plant Propagation (3 units)
HORT 43 The Timeless Garden (3 units)
HORT 45 Landscape Design: Computer Applications (3 units)
HORT 52G Horticultural Practices: Turfgrass Management (3 units)
HORT 52H Horticultural Practices: Integrated Pest Management (3 units)
HORT 54D Landscape Construction: Applied Practices (2 units)
HORT 55A Green Industry Management: Business Practices (3 units)
HORT 60D Landscape Design: Planting (3 units)
HORT 60F Landscape Design: Process (3 units)
HORT 60G Landscape Design: Intermediate Computer Applications (3 units)

Short Course Specialization
And select TWO courses from the following:
HORT 90A Container Plantings in the Landscape (1 unit)
HORT 90C Garden Ponds & Water Features (1 unit)
HORT 90D Herbs: Identification, Use & Folklore (1 unit)
HORT 90E Horticultural & Landscape Photography (1 unit)
HORT 90F Landscape Design: Basic Principles (1 unit)
HORT 90G Landscape Design Forum (1 unit)
HORT 90H Landscape Lighting (1 unit)
HORT 90I Landscape Sustainability Practices (1 unit)
HORT 90K Landscaping with Edibles (1 unit)
HORT 90L Plant Propagation: Basic Skills (1 unit)
HORT 90M Plant Nutrition & Fertilization (1 unit)
HORT 90N Plant Materials: Fall Color (1 unit)
HORT 90P Pruning: Basic Skills (1 unit)
HORT 90Q Residential Irrigation Systems (1 unit)
HORT 90R Seasonal Floral Design (1 unit)
HORT 90S Sustainable Integrated Pest Management (IMP) (1 unit)
HORT 90U Landscape Design: Perspective Sketching (1 unit)
HORT 90V Sustainable Organic Gardening (1 unit)
HORT 90X Water Conservation in Landscape Design (1 unit)
HORT 90Y Cacti & Succulents (1 unit)
HORT 90Z Ornamental Grasses (1 unit)
HORT 91A Composting Theory & Techniques (1 unit)
HORT 91B Sketching for Landscape Designers (1 unit)

Certificate of Achievement in Environmental Horticulture & Design (65 units)
The certificate of achievement is awarded upon completion of the core and support courses. General education courses are not required.

GENERAL ELECTRICIAN

Program Type(s): Associate in Science Degree, Certificate of Achievement, Career Certificate
Units required for major: 40, certificate(s): 18–40

Program Learning Outcomes:
Students gain hands-on experience as they work on electrical systems and component wiring to include power distribution systems, electrical panels, wiring, conduit, piping, test equipment, transformers, motors, grounding, over-current protection, security, solar and home automation systems. These specialized skills are acquired through on-the-job training and classroom instruction and lead to employment in the construction and service industry. After five years of classroom and work experience, students who pass the state license exam are recognized as journeypersons within the electrical trades industry.

Associate Degree Requirements *

Core Courses: (40 units)
APEL 120 Orientation to the Electrical Trade (4 units)
or APEL 120A Orientation to the Electrical Trade, CPR & First Aid (5 units)
APEL 121 Electron Theory; Basic Blueprint Reading; DC Theory; National Electrical Code Introduction (4 units)
or APEL 121A Electron Theory; AC & DC Electrical Theory; National Electrical Code Introduction; Parallel & Combination Circuits (5 units)
APEL 122 Codeology; Test Equipment; Pipe Bending; Blueprints (4 units)
or APEL 122A Codeology; NEC Code; Test Equipment; Pipe Bending; Blueprints (5 units)
APEL 123 AC Theory; Transformers; Intermediate National Electrical Code (4 units)
APEL 124 DC/AC Theory Review; Electronics; Industrial Blueprints (4 units)
or APEL 124A DC/AC Theory Review; Electronics; Industrial Blueprints; Transformers, Grounding; Electrical Systems (5 units)
APEL 125 NEC Grounding; Overcurrent Protection; Transformer Connections (4 units)
APEL 126 Motors; Motor Control; Lighting Protection (4 units)
APEL 127 Digital Electronics; Motor Speed Control; Advanced National Electrical Code (4 units)
APEL 128 Programmable Logic Controllers; Low-Voltage Systems & High-Voltage Systems (4 units)
APEL 129 National Electrical Code Review (4 units)

Certificate of Achievement in Inside Wireman (40 units)
The certificate of achievement is awarded upon completion of the core courses. General education courses are not required.

Residential Electrician Career Certificate (18 units)
[Non-Transcriptable]
APEL 112 Residential Electrical Air Conditioning & Refrigeration; Telephone Systems (3 units)
APEL 113 Residential Electrical Systems: Basic Security, Solar Power, Home Automation & Life Safety (3 units)
APEL 135 Residential Electrical Orientation; Safety & Code Introduction (3 units)
APEL 136 Residential Electrical DC Theory; Blueprint Reading (3 units)
APEL 137 Residential Electrical AC Theory & Circuitry (3 units)
APEL 138 Residential Wiring Layout & Installation (3 units)

*A minimum of 90 units required for the A.A./A.S. Degree, to include required courses, required electives, and graduation requirements, and these minimum proficiencies: ENGL 1A or 1AH or 1S and 1T or ESLL 26; MATH 57 or 105 or 108.

GENERAL STUDIES—SCIENCE

Program Type(s): Associate in Science Degree

Units required for major: 40

Program Learning Outcomes:

- Students will be able to integrate the various fields of science in order to critically evaluate and interpret scientific information.
- Students will be able to assess how relevant scientific information could be used to inform their own personal economic, political and social decisions.

Associate Degree Requirements *

Core Courses: (40 units)[35]

Select 40 units to represent all FIVE categories listed below.

Biology (20 units)

At least one course each from Area A and Area B. At least one course in this area must include a laboratory.

Area A:

BIOL 1C[36] Evolution, Systematics & Ecology (6 units)
BIOL 9 Environmental Biology (may be taken with BIOL 9L to satisfy laboratory requirement) (4 units)
BIOL 9L Environmental Biology Laboratory (only if taken with BIOL 9) (1 unit)
BIOL 10[37] General Biology: Basic Principles (5 units)
BIOL 14[38] Human Biology (5 units)

Area B:

BIOL 1A[39] Principles of Cell Biology (6 units)
BIOL 1B[40] Form & Function in Plants & Animals (6 units)
BIOL 8 Basic Nutrition (5 units)
BIOL 12 Human Genetics (4 units)
BIOL 13[41] Marine Biology (5 units)
BIOL 23 Introduction to Biotechnology (5 units)
BIOL 40A[42] Human Anatomy & Physiology I (5 units)
BIOL 40B[43] Human Anatomy & Physiology II (5 units)
BIOL 40C[44] Human Anatomy & Physiology III (5 units)
BIOL 41[45] Microbiology (6 units)
BIOL 45 Introduction to Human Nutrition (4 units)

Chemistry (5 units)

CHEM 1A General Chemistry (5 units)
CHEM 1B General Chemistry (5 units)
CHEM 1C General Chemistry & Qualitative Analysis (5 units)
CHEM 12A Organic Chemistry (6 units)
CHEM 12B Organic Chemistry (6 units)
CHEM 12C Organic Chemistry (6 units)
CHEM 20 I Matter: Introduction to Green Technology & the Environment (5 units)
CHEM 25 Fundamentals of Chemistry (5 units)
CHEM 30A Survey of Inorganic & Organic Chemistry (5 units)
CHEM 30B Survey of Organic & Biochemistry (5 units)

Engineering/Computer Science/Astronomy (5 units)

ASTR 10A General Astronomy: Solar System (5 units)
ASTR 10B General Astronomy: Star, Galaxies, Cosmology (5 units)
or ASTR 10BH Honors General Astronomy: Stars, Galaxies, Cosmology (5 units)
ASTR 10L Astronomy Laboratory (1 unit)
ASTR 77 Seminar on Exciting Topics in Astronomy (1 unit)
C S 1A Object-Oriented Programming Methodologies in Java (5 units)
C S 1B Intermediate Software Design in Java (5 units)
C S 1C Advanced Data Structures & Algorithms in Java (5 units)
C S 2A Object-Oriented Programming Methodologies in C++ (5 units)
C S 2B Intermediate Software Design in C++ (5 units)
C S 2C Advanced Data Structures & Algorithms in C++ (5 units)
C S 10 Computer Architecture & Organization (5 units)
C S 49 Foundations of Computer Programming (2.5 units)
ENGR 6 Engineering Graphics (4 units)
ENGR 10 Introduction to Engineering (5 units)
ENGR 25 Introduction to Fresh Water (5 units)
ENGR 28 Introduction to Bioengineering (4 units)
or BIOL 28 Introduction to Bioengineering (4 units)
ENGR 35 Statics (5 units)
ENGR 37 Introduction to Circuit Analysis (5 units)
ENGR 39 Energy, Society & the Environment (5 units)
ENGR 40 Introduction to Clean Energy Technology (5 units)
ENGR 45 Properties of Materials (5 units)
ENGR 49 Engineering Profession (1 unit)
ENGR 62A Introduction to 3-D Printing & Rapid Prototype Design (4 units)
ENGR 62B 3-D Printing: Basic Model Making (5 units)
ENGR 62C 3-D Printing: Advanced Model Making (5 units)
ENGR 62D 3-D Rapid Model Making & Prototype Development (5 units)
ENGR 81 Electric Power Systems (5 units)
ENGR 82 Photo Voltaic & Solar Cell Design (5 units)
ENGR 83 Smart Energy Systems (5 units)
ENGR 83A Introduction to Biomedical Engineering (5 units)
ENGR 83B Design & Manufacturing in the Biomedical Engineering Field (5 units)
ENGR 83C Introduction to Medical Device Regulations (5 units)
ENGR 83E Introduction to Documentation (5 units)
ENGR 102 Building Science & Performance Engineering (5 units)

Mathematics (5 units)

MATH 1A Calculus (5 units)
MATH 1B Calculus (5 units)
MATH 1C Calculus (5 units)
MATH 1D Calculus (5 units)
MATH 2A Differential Equations (5 units)
MATH 2B Linear Algebra (5 units)
MATH 10 Elementary Statistics (5 units)
MATH 11 Finite Mathematics (5 units)
MATH 12 Calculus for Business & Economics (5 units)
MATH 22 Discrete Mathematics (5 units)
MATH 42 Math for Elementary School Teachers (5 units)
MATH 44 Math for the Liberal Arts (5 units)
MATH 48A Precalculus I (5 units)
MATH 48B Precalculus II (5 units)
MATH 48C Precalculus III (5 units)
MATH 54H Honors Institute Seminar in Mathematics (1 unit)

Physics (5 units)

PHYS 2A General Physics (5 units)
PHYS 2AM General Physics–Calculus Supplement (1 unit)
PHYS 2B General Physics (5 units)
PHYS 2BM General Physics–Calculus Supplement (1 unit)
PHYS 2C General Physics (5 units)
PHYS 2CM General Physics–Calculus Supplement (1 unit)
PHYS 4A General Physics (Calculus) (6 units)
PHYS 4B General Physics (Calculus) (6 units)

35 Courses used to meet major requirements. May be used to satisfy any graduation general education requirement.
36–45 Course includes a laboratory component.

*A minimum of 90 units required for the A.A./A.S. Degree, to include required courses, required electives, and graduation requirements, and these minimum proficiencies: ENGL 1A or 1AH or 1S and 1T or ESLL 26; MATH 57 or 105 or 108.

PHYS 4C General Physics (Calculus) (6 units)
PHYS 4D General Physics (Calculus) (6 units)
PHYS 5A[46] General Physics (Calculus) Extended (5 units)
PHYS 5B[47] General Physics (Calculus) Extended (5 units)
PHYS 5C[48] General Physics (Calculus) Extended (5 units)
PHYS 6 Introductory Physics (5 units)
PHYS 12 Introduction to Modern Physics (5 units)
PHYS 54H Honors Institute Seminar in Physics (1 unit)

GENERAL STUDIES—SOCIAL SCIENCE

Program Type(s): Associate in Arts Degree
Units required for major: 30

Program Learning Outcomes:
- Identify connections and linkages between specific fields of study, events and ideas and larger studies of specific themes, developments and topics in anthropology, economics, geography, history, political science, psychology, and sociology.
- Critically analyze a variety of primary and secondary sources in the fields of anthropology, economics, geography, history, political science, psychology, and sociology and draw scholarly interpretations from them.

Associate Degree Requirements *

Core Courses: (30 units)

Select any combination of 30 units from at least FIVE departments.

Anthropology
ANTH 1 Introduction to Physical Anthropology (4 units)
ANTH 2A Cultural Anthropology (4 units)
ANTH 2B Patterns of Culture (4 units)
ANTH 3 Prehistory: The Search for Lost Civilizations (4 units)
ANTH 4 First Peoples of North America (4 units)
ANTH 5 Magic, Science & Religion (4 units)
ANTH 6 Peoples of Africa (4 units)
ANTH 8 Introduction to Archaeology (4 units)
ANTH 12 Applied Anthropology (4 units)

Economics
ECON 1A Principles of Macroeconomics (5 units)
ECON 1B Principles of Microeconomics (5 units)
ECON 9 Political Economy (4 units)
ECON 25 Introduction to Global Economy (4 units)

Geography
GEOG 1 Physical Geography (5 units)
GEOG 2 Human Geography (4 units)
GEOG 5 Introduction to Economic Geography (4 units)
GEOG 9 California Geography (4 units)
GEOG 10 World Regional Geography (4 units)

History
HIST 4A History of Western Civilization to 800 AD (4 units)
HIST 4B History of Western Civilization 700–1800 (4 units)
HIST 4C History of Western Civilization 1789–Present (4 units)
or HIST 4CH Honors History of Western Civilization 1789–Present (4 units)
HIST 9 History of Contemporary Europe (4 units)
or HIST 9H Honors History of Contemporary Europe (4 units)
HIST 10 History of California: The Multicultural State (4 units)
HIST 17A History of the United States to 1815 (4 units)
HIST 17B History of the United States from 1812 to 1914 (4 units)
HIST 17C History of the United States from 1914 to the Present (4 units)
HIST 18 Introduction to Middle Eastern Civilization (4 units)
HIST 20 History of Russia & the Soviet Union (4 units)

Political Science
POLI 1 Political Science: Introduction to American Government & Politics (5 units)
POLI 2 Comparative Government & Politics (4 units)
or POLI 2H Honors Comparative Government & Politics (4 units)
POLI 3 Introduction to Political Philosophy/Political Theory (5 units)
or POLI 3H Honors Introduction to Political Philosophy/Political Theory (5 units)
POLI 15 International Relations/World Politics (4 units)
or POLI 15H Honors International Relations/World Politics (4 units)

Psychology
PSYC 1 General Psychology (5 units)
PSYC 4 Introduction to Biopsychology (4 units)
PSYC 10 Research Methods & Designs (5 units)
PSYC 14 Child & Adolescent Development (4 units)
PSYC 21 Psychology of Women: Sex & Gender Differences (4 units)
PSYC 22 Psychology of Prejudice (4 units)
PSYC 25 Introduction to Abnormal Psychology (4 units)
PSYC 30 Social Psychology (4 units)
PSYC 33 Introduction to Personality Psychology (4 units)
PSYC 40 Human Development (5 units)
PSYC 49 Human Sexuality (4 units)
PSYC 50 Psychology of Crisis (5 units)
PSYC 55 Psychology of Sports (4 units)

Sociology
SOC 1 Introduction to Sociology (5 units)
SOC 8 Popular Culture (4 units)
SOC 10 Research Methods & Designs (5 units)
SOC 11 Introduction to Social Welfare (5 units)
SOC 14 Sociology of Crime (4 units)
SOC 15 Law & Society (4 units)
SOC 19 Alcohol & Drug Abuse (4 units)
SOC 20 Major Social Problems (4 units)
SOC 21 Psychology of Women: Sex & Gender Differences (4 units)
SOC 23 Race & Ethnic Relations (4 units)
SOC 28 Sociology of Gender (4 units)
SOC 30 Social Psychology (4 units)
SOC 40 Aspects of Marriage & Family (4 units)
SOC 57 Child Advocacy (4 units)

GEOGRAPHY

Program Type(s): Associate in Science Degree, Certificate of Achievement
Units required for major: 37, certificate: 23

Program Learning Outcomes:
- Interpret spatially distributed data and draw valid conclusions by using maps, graphs and/or Geographic Information Systems.
- Evaluate core concepts in cultural and physical geography and apply them to contemporary events and issues.

46–48 The PHYS 5A, 5B & 5C sequence is equivalent to PHYS 4A & 4B.

*A minimum of 90 units required for the A.A./A.S. Degree, to include required courses, required electives, and graduation requirements, and these minimum proficiencies: ENGL 1A or 1AH or 1S and 1T or ESLL 26; MATH 57 or 105 or 108.

Associate Degree Requirements *

Core Courses: (21 units)
GEOG 1 Physical Geography (5 units)
GEOG 2 Human Geography (4 units)
GEOG 5 Introduction to Economic Geography (4 units)
GEOG 10 World Regional Geography (4 units)
GEOG 11 Introduction to Mapping & Spatial Reasoning (4 units)
or GIST 11 Introduction to Mapping & Spatial Reasoning (4 units)

Support Courses: (16 units)
Select 8 units from the following:
ANTH 2A Cultural Anthropology (4 units)
or ANTH 2B Patterns of Culture (4 units)
ECON 25 Introduction to the Global Economy (4 units)
GEOG 9 California Geography (4 units)
GEOG 12 Introduction to Geospatial Technology (4 units)
or GIST 12 Introduction to Geospatial Technology (4 units)
HIST 4A History of Western Civilization to 800 AD (4 units)
or HIST 4B History of Western Civilization: 700–1800 (4 units)
POLI 15 International Relations/World Politics (4 units)
or POLI 15H Honors International Relations/World Politics (4 units)

And 8 units[49] from the following:
ANTH 6 Peoples of Africa (4 units)
HIST 8 History of Latin America (4 units)
HIST 9 History of Contemporary Europe (4 units)
or HIST 9H Honors History of Contemporary Europe (4 units)
HIST 18 Introduction to Middle Eastern Civilization (4 units)
HIST 20 History of Russia & the Soviet Union (4 units)
POLI 2 Comparative Government & Politics (4 units)
or POLI 2H Honors Comparative Government & Politics (4 units)
GEOG 54H Honors Geography (1 unit)
GEOG 70R Independent Study in Geography (1 unit)
GEOG 71R Independent Study in Geography (2 units)
GEOG 72R Independent Study in Geography (3 units)
GEOG 73R Independent Study in Geography (4 units)

Certificate of Achievement, Geographic Information Systems Analyst (34 units)
GEOG 11 Introduction to Mapping & Spatial Reasoning (4 units)
or GIST 11 Introduction to Mapping & Spatial Reasoning (4 units)
GEOG 12 Introduction to Geospatial Technology (4 units)
or GIST 12 Introduction to Geospatial Technology (4 units)
GIST 52 Geospatial Data Acquisition & Management (4 units)
GIST 53 Advanced Geospatial Technology & Spatial Analysis (4 units)
GIST 54A Seminar in Specialized Applications & Geographic Information Systems I (2 units)
GIST 58 Remote Sensing & Digital Image Processing (3 units)
GIST 59 Cartography, Map Presentation & Design (2 units)
ITRN 52 Internship (3 units)

And 8 units from ONE discipline[50] from the following list:
ANTH 1 Introduction to Physical Anthropology (4 units)
ANTH 2A Cultural Anthropology (4 units)
ANTH 2B Patterns of Culture (4 units)
ANTH 8 Introduction to Archaeology (4 units)
BIOL 9 Environmental Biology (4 units)
BIOL 10 General Biology: Basic Principles (5 units)
BIOL 13 Marine Biology (5 units)
BIOL 15 California Ecology/Natural History (5 units)
BUSI 22 Principles of Business (5 units)
BUSI 53 Survey of International Business (4 units)
BUSI 57 Principles of Advertising (4 units)
or ADVT 57 Principles of Advertising (4 units)
BUSI 59 Principles of Marketing (4 units)
GEOG 1 Physical Geography (5 units)
GEOG 2 Human Geography (4 units)
GEOG 5 Introduction to Economic Geography (4 units)
GEOG 10 World Regional Geography (4 units)
POLI 1 Political Science: Introduction to American Government & Politics (5 units)
POLI 2 Comparative Government & Politics (4 units)
or POLI 2H Honors Comparative Government & Politics (4 units)
POLI 3 Introduction to Political Philosophy/Political Theory (5 units)
or POLI 3H Honors Introduction to Political Philosophy/Political Theory (5 units)
POLI 9 Political Economy (4 units)
or POLI 9H Honors Political Economy (4 units)
or ECON 9 Political Economy (4 units)
or ECON 9H Honors Political Economy (4 units)
SOC 1 Introduction to Sociology (5 units)
SOC 8 Popular Culture (4 units)
SOC 20 Major Social Problems (4 units)
SOC 23 Race & Ethnic Relations (4 units)

49 Students may also use courses listed in the first section of support courses to fulfill the requirement for the second section of support courses.

50 Alternative focus areas are accepted by petition.

GEOGRAPHY FOR TRANSFER

Program Type(s): Associate in Arts for Transfer
Units required for major: 90

Program Learning Outcomes:
- Interpret spatially distributed data and draw valid conclusions by using maps, graphs and/or Geographic Information Systems.
- Evaluate core concepts in cultural and physical geography and apply them to contemporary events and issues.

Associate Degree for Transfer Requirements:
The Foothill GE pattern may not be used for this degree. The requirement is full certification of the either the CSU General Education Breadth Requirements or the Intersegmental General Education Transfer Curriculum (IGETC) (49-58 units).

Core Courses: (9 units)
GEOG 1 Physical Geography (5 units)
GEOG 2 Human Geography (4 units)

Support Courses: (18 units)
List A: (8 units)
GEOG 10 World Regional Geography (4 units)
GEOG 12 Introduction to Geospatial Technology (4 units)
List B: (10 units)
ANTH 2A Cultural Anthropology (4 units)
BIOL 10 General Biology: Basic Principles (5 units)
GEOG 5 Introduction to Economic Geography (4 units)
GIST 52 Geospatial Data Acquisition & Management (4 units)
GIST 58 Remote Sensing & Digital Image Processing (3 units)
GIST 59 Cartography, Map Presentation & Design (2 units)
PSYC 7 Statistics for the Behavioral Sciences (5 units)
or SOC 7 Statistics for the Behavioral Sciences (5 units)

*A minimum of 90 units required for the A.A./A.S. Degree, to include required courses, required electives, and graduation requirements, and these minimum proficiencies: ENGL 1A or 1AH or 1S and 1T or ESLL 26; MATH 57 or 105 or 108.

GRAPHIC & INTERACTIVE DESIGN

Program Type(s): Associate in Arts Degree, Certificate of Achievement, Skills Certificate

Units required for major: 58, certificate(s): 12–62

Program Learning Outcomes:

- Students will master the design process from sketching to the production of finished graphic designs.
- Students will create unique graphic designs that communicate effectively in contemporary media.
- Students will be trained in industry-standard software.
- Students will produce a professional portfolio and will be prepared to enter the workforce.

Associate Degree Requirements *

Core Courses: (42 units)

ART 4A Fundamentals in Drawing (4 units)
ART 5A 2-D Foundations (4 units)
GID 1 History of Graphic Design (4 units)
or ART 36 History of Graphic Design (4 units)
GID 33 Graphic Design Studio I (4 units)
GID 34 Graphic Design Studio II (4 units)
GID 35 Graphic Design Studio III (4 units)
GID 36 Typography (4 units)
GID 60 Careers in the Visual Arts (2 units)
or VART 50 Careers in the Visual Arts (2 units)
GID 61 Portfolio (4 units)
GID 70 Graphic Design Drawing (4 units)
PHOT 1 Black & White Photography I (4 units)
or PHOT 5 Introduction to Photography (4 units)

Support Courses: (16 units)

ART 20A Color I (3 units)
GID 37 Cartooning (4 units)
GID 38 Print Arts I (4 units)
or ART 40 Print Arts I (4 units)
GID 39 Print Arts II (4 units)
GID 40 Digital Printmaking (4 units)
GID 41 Digital Art & Graphics (4 units)
or ART 14D Digital Art & Graphics (4 units)
GID 42 Etching & Intaglio Printing (4 units)
or ART 37 Etching & Intaglio Printing (4 units)
GID 43 Illustration & Digital Imaging (4 units)
GID 44 Relief Printing (4 units)
or ART 38 Relief Printing (4 units)
GID 45 Digital Sound, Video & Animation (4 units)
or MUS 12 Introduction to Digital Sound, Video & Animation (4 units)
GID 46 Screenprinting (4 units)
or ART 39 Screenprinting (4 units)
GID 47 Motion Graphics (4 units)
or MDIA 32 Motions Graphics (4 units)
GID 53A Beginning T-Shirt Design & Garment Printing (4 units)
GID 53B Intermediate T-Shirt Design & Garment Printing (4 units)
GID 53C Advanced T-Shirt Design & Garment Printing (4 units)
GID 56 Web Site Design (4 units)
GID 57 Web Site Design & Development II (4 units)
GID 58 Web Site Design & Developement III (4 units)
GID 64A Graphic & Interactive Design Experiential Internship (4 units)
GID 71 Storyboarding (4 units)
GID 73 Paper Arts I (4 units)
or ART 73 Paper Arts I (4 units)
GID 77 Advanced Web Design & Development (4 units)
GID 78 Rapid Web Site Development (4 units)
GID 90 Book Arts I (4 units)
or ART 96 Book Arts I (4 units)
GID 91 Book Arts II (4 units)
GID 92 Letterpress Printing (4 units)
GID 93 Letterpress Projects (4 units)

Certificate of Achievement in Graphic & Interactive Design (58 units)

The certificate of achievement is awarded upon completion of the core and support courses. General education courses are not required.

Web Design & Development Career Certificate (24 units)
[Non-Transcriptable]

GID 56 Website Design (4 units)
GID 57 Web Site Design & Development II (4 units)
GID 58 Web Site Design & Developement III (4 units)
GID 71 Storyboarding (4 units)
GID 77 Advanced Web Design & Development (4 units)
GID 78 Rapid Web Site Development (4 units)

Graphic Design Skills Certificate (12 units)
[Non-Transcriptable]

GID 33 Graphic Design Studio I (4 units)
GID 34 Graphic Design Studio II (4 units)
GID 35 Graphic Design Studio III (4 units)

Motion Graphics Skills Certificate (12 units)
[Non-Transcriptable]

GID 45 Digital Sound, Video & Animation (4 units)
or MUS 12 Introduction to Digital Sound, Video & Animation (4 units)
GID 47 Motion Graphics (4 units)
or MDIA 32 Motion Graphics (4 units)
GID 71 Storyboarding (4 units)

Book Arts Skills Certificate (12 units)
[Non-Transcriptable]

GID 90 Book Arts I (4 units)
or ART 96 Book Arts I (4 units)
GID 73 Paper Arts I (4 units)
GID 92 Letterpress Printing (4 units)

Printmaking Skills Certificate (12 units)
[Non-Transcriptable]

GID 38 Print Arts I (4 units)
or ART 40 Print Arts I (4 units)
GID 39 Print Arts II (4 units)
GID 40 Digital Printmaking (4 units)

Printmaking Studio Skills Certificate (12 units)
[Non-Transcriptable]

GID 42 Etching & Intaglia Printing (4 units)
or ART 37 Etching & Intaglia Printing (4 units)
GID 44 Relief Printing (4 units)
GID 46 Screenprinting (4 units)
or ART 39 Screenprinting (4 units)

Garment Printing Skills Certificate (12 units)
[Non-Transcriptable]

GID 53A Beginning T-Shirt Design & Garment Printing (4 units)
GID 53B Intermediate T-Shirt Design & Garment Printing (4 units)
GID 53C Advanced T-Shirt Design & Garment Printing (4 units))

*A minimum of 90 units required for the A.A./A.S. Degree, to include required courses, required electives, and graduation requirements, and these minimum proficiencies: ENGL 1A or 1AH or 1S and 1T or ESLL 26; MATH 57 or 105 or 108.

Illustration Skills Certificate (12 units)
[Non-Transcriptable]
GID 41 Digital Art & Graphics (4 units)
or ART 14D Digital Art & Graphics (4 units)
GID 43 Illustration & Digital Imaging (4 units)
GID 70 Graphic Design Drawing (4 units)

HISTORY

Program Type(s): Associate in Arts Degree
Units required for major: 36

Program Learning Outcomes:
- Identify connections between specific people, groups, events and ideas and larger historical themes, developments and topics.
- Critically analyze a variety of primary and secondary sources and draw valid historical interpretations from them.

Associate Degree Requirements *

Core Courses: (24 units)
HIST 4A History of Western Civilization to 800 AD (4 units)
HIST 4B History of Western Civilization 700–1800 (4 units)
HIST 4C History of Western Civilization 1789–Present (4 units)
or HIST 4CH Honors History of Western Civilization 1789–Present (4 units)
HIST 17A History of the United States to 1815 (4 units)
HIST 17B History of the United States from 1812 to 1914 (4 units)
HIST 17C History of the United States from 1914 to the Present (4 units)

Support Courses: (12 units)
HIST 8 History of Latin America (4 units)
HIST 9 History of Contemporary Europe (4 units)
or HIST 9H Honors History of Contemporary Europe (4 units)
HIST 10 History of California: The Multicultural State (4 units)
HIST 16 Introduction to Ancient Rome (4 units)
or HIST 16H Honors Introduction to Ancient Rome (4 units)
HIST 18 Introduction to Middle Eastern Civilization (4 units)
HIST 19 History of Asia: China/Japan) (4 units)
HIST 20 History of Russia & the Soviet Union (4 units)
HIST 54H Honors Institute Seminar in History (1 unit)
GEOG 11 Introduction to Mapping & Spatial Reasoning (4 units)
or GIST 11 Introduction to Mapping & Spatial Reasoning (4 units)

HISTORY FOR TRANSFER

Program Type(s): Associate in Arts for Transfer
Units required for major: 90

Program Learning Outcomes:
- Identify connections between specific people, groups, events and ideas and larger historical themes, developments and topics.
- Critically analyze a variety of primary and secondary sources and draw valid historical interpretations from them.

Associate Degree for Transfer Requirements:
The Foothill GE pattern may not be used for this degree. The requirement is full certification of the either the CSU General Education Breadth Requirements or the Intersegmental General Education Transfer Curriculum (IGETC) (49–58 units).

Core Courses: (24 units)
HIST 17A History of the United States to 1815 (4 units)
HIST 17B History of the United States From 1812 to 1914 (4 units)
HIST 17C History of the United States From 1914 to the Present (4 units)
HIST 4A History of Western Civilization to 800 AD (4 units)
HIST 4B History of Western Civilization: 700–1800 (4 units)
HIST 4C History of Western Civilization 1789–Present (4 units)
or HIST 4CH Honors History of Western Civilization 1789–Present (4 units)

Support Courses: (8 units)

One course each from List A and List B:
List A:
ANTH 4 First Peoples of North America (4 units)
ANTH 6 Peoples of Africa (4 units)
ART 2E A History of Women in Art (4.5 units)
or WMN 15 A History of Women in Art (4.5 units)
ENGL 12 African American Literature (4 units)
ENGL 31 Latino/a Literature (4 units)
HIST 8 History of Latin America (4 units)
HIST 10 History of California: the Multicultural State (4 units)
HIST 18 Introduction to Middle Eastern Civilization (4 units)
WMN 5 Introduction to Women's Studies (4 units)
WMN 11 Women in Global Perspective (4 units)
List B:
ANTH 2A Cultural Anthropology (4 units)
ANTH 2B Patterns of Culture (4 units)
GEOG 2 Human Geography (4 units)
GEOG 10 World Regional Geography (4 units)
HIST 9 History of Contemporary Europe (4 units)
or HIST 9H Honors History of Contemporary Europe (4 units)
HIST 20 History of Russia & the Soviet Union (4 units)
MUS 8 Music of Multicultural America (5 units)
or MUS 8H Honors Music of Multicultural America (5 units)
PHIL 24 Comparative World Religions: East (4 units)
PHIL 25 Comparative World Religions: West (4 units)
POLI 1 Political Science: Introduction to American Government & Politics (5 units)

HUMANITIES

Program Type(s): Associate in Arts Degree
Units required for major: 28

Program Learning Outcomes:
- The student will have a heightened knowledge of cultural diversity in the world, and will be able to communicate how this diversity is reflected through the artistic and intellectual creations of humanity from the dawn of civilization to the present.
- The student will gain increased knowledge of how the enduring questions of humanity center on the meaning and experience of human life, and communicate how this meaning and experience is demonstrated through a continuity of thought through the changing artistic conventions of history. They will have the knowledge and skill to articulate orally or in writing the world of common meanings that unite humanity across time.

Associate Degree Requirements *

Core Courses: (16 units)
HUMN 1A Humanities & the Modern Experience I (4 units)
HUMN 1B Humanities & the Modern Experience II (4 units)
HUMN 3 World Myths in Literature, Arts & Film (4 Units)

*A minimum of 90 units required for the A.A./A.S. Degree, to include required courses, required electives, and graduation requirements, and these minimum proficiencies: ENGL 1A or 1AH or 1S and 1T or ESLL 26; MATH 57 or 105 or 108.

or HUMN 3H Honors World Myths in Literature, Arts & Film (4 units)
HUMN 4 Trauma & the Arts (4 units)
or HUMN 4H Honors Trauma & the Arts (4 units)

Support Courses: (12 units)
Select THREE categories from the list below. Complete at least 4 units in each selected category.

Art
ART 2D African, Oceanic & Native American Art (4.5 units)
ART 2E A History of Women in Art (4.5 units)
or WMN 15 A History of Women in Art (4.5 units)
ART 2F Introduction to Asian Art (4.5 units)
ART 2G Introduction to Islamic Art (4.5 units)
ART 2J American Art (4.5 units)
ART 3 Modern Art & Contemporary Thought (4.5 units)
ART 36 History of Graphic Design (4 units)
or GID 1 History of Graphic Design (4 units)
DANC 10 Topics in Dance History (4 units)
PHOT 5 Introduction to Photography (4 units)
PHOT 8 Photography of Multicultural America (4 units)
or PHOT 8H Honors Photography of Multicultural America (4 units)
PHOT 10 History of Photography (4 units)
or PHOT 10H Honors History of Photography (4 units)

Theatre/Film
MDIA 2A History of Film 1895–1945 (4 units)
or VART 2A History of Film 1895–1945 (4 units)
MDIA 2B History of Film 1945–Current (4 units)
MDIA 2C Current Trends in Film, TV & the Internet (4 units)
THTR 1 Introduction to Theater (4 units)
THTR 2A History of Dramatic Literature–Classical to Moliere (4 units)
THTR 2B History of Dramatic Literature–Moliere to Modern (4 units)
THTR 2F History of American Musical Theater (4 units)
THTR 8 Multicultural Theatre Arts in Modern America (4 units)
THTR 12A Stage & Screen (4 units)

Literature
ENGL 5 Gay & Lesbian Literature (4 units)
or ENGL 5H Honors Gay & Lesbian Literature (4 units)
ENGL 7 Native American Literature (4 units)
or ENGL 7H Honors Native American Literature (4 units)
ENGL 8 Children's Literature (4 units)
ENGL 11 Introduction to Poetry (4 units)
or ENGL 11H Honors Introduction to Poetry (4 units)
ENGL 12 African American Literature (4 units)
ENGL 14 Traveling the World through Contemporary Literature (4 units)
ENGL 17 Introduction to Shakespeare (4 units)
ENGL 18A Vampire Literature: Multicultural Representations of the Bloodsucker (4 units)
ENGL 22 Women Writers (4 units)
ENGL 24 Unmasking Comics: The Dawn of the Graphic Novel (4 units)
ENGL 31 Latino/a Literature (4 units)
ENGL 40 Asian American Literature (4 units)
or ENGL 40H Honors Asian American Literature (4 units)
ENGL 46A Monsters, Madness & Mayhem: English Literature from Its Beginnings to Milton (4 units)
ENGL 46B Reason, Rebellion & Romanticism: English Literature from 1660–1830 (4 units)
ENGL 46C Wars & Wastelands: English Literature from the Victorian Period to the Present (4 units)
ENGL 48A The Nature of American Literature: 1492–1862 (4 units)
ENGL 48B American Literature in the Gilded Age: 1865–1914 (4 units)
ENGL 48C Modern American Literature 1914–Present (4 units)

Music
MUS 1 Introduction to Music (4 units)
MUS 2A Great Composers & Music Masterpieces of Western Civilization (5 units)
MUS 2B Great Composers & Music Masterpieces of Western Civilization (5 units)
MUS 2C Great Composers & Music Masterpieces of Western Civilization (5 units)
MUS 2D World Music: Roots to Contemporary Global Fusion (5 units)
MUS 2F History of American Musical Theater (4 units)
MUS 7 Contemporary Music Styles: Rock, Pop & Jazz (4 units)
MUS 7D Contemporary Music Styles: The Beatles in the Culture of Popular Music (4 units)
MUS 7E History of the Blues (4 units)
MUS 8 Music of Multicultural America (5 units)
or MUS 8H Honors Music of Multicultural America (5 units)

Philosophy
PHIL 2 Introduction to Social & Political Philosophy (4 units)
PHIL 11 Introduction to the Philosophy of Art (4 units)
PHIL 20A History of Western Philosophy from Socrates through St. Thomas (4 units)
PHIL 20B History of Western Philosophy from the Renaissance through Kant (4 units)
PHIL 20C Contemporary Philosophy 19th & 20th Century Thought (4 units)
PHIL 24 Comparative World Religions: East (4 units)
PHIL 25 Comparative World Religions: West (4 units)

JAPANESE

Program Type(s): Associate in Arts Degree
Units required for major: 40

Program Learning Outcomes:
- The student will be able to communicate with native speakers of Japanese, using the appropriate language, styles, sensitivity and level of respectfulness in various situations.
- The student will demonstrate knowledge of Japanese society, culture and history, and will be able to analyze and discuss cultural differences and similarities.

Associate Degree Requirements *

Core Courses: (30 units)[51]
JAPN 1 Elementary Japanese I (5 units)
JAPN 2 Elementary Japanese II (5 units)
JAPN 3 Elementary Japanese III (5 units)
JAPN 4 Intermediate Japanese I (5 units)
JAPN 5 Intermediate Japanese II (5 units)
JAPN 6 Intermediate Japanese III (5 units)

51 For students who can demonstrate proficiency equivalent to one year of college Japanese, JAPN 1, 2 and 3 can be eliminated from the Core Courses. However, if you are waived out of JAPN 1-2-3 (15 units), you must take 15 units from the support courses below to satisfy the 30-unit requirement.

*A minimum of 90 units required for the A.A./A.S. Degree, to include required courses, required electives, and graduation requirements, and these minimum proficiencies: ENGL 1A or 1AH or 1S and 1T or ESLL 26; MATH 57 or 105 or 108.

Support Courses: (10 units)
JAPN 13A Intermediate Conversation I (4 units)
JAPN 13B Intermediate Conversation II (4 units)
JAPN 14A Advanced Conversation I (4 units)
JAPN 14B Advanced Conversation II (4 units)
JAPN 33 Introduction to Japanese Culture (4 units)
JAPN 53 Modern Japanese Society, Culture & Business Customs (3 units)
JAPN 63 Japanese Business Culture & Etiquette (1 unit)
JAPN 192 Community Service Learning for Japanese (1 unit)

LEADERSHIP & SERVICE

Program Type(s): Certificate of Proficiency
Units required for certificate: 21

Program Learning Outcomes:
- Students will have gained the core skills and values needed for development of leadership skills, including communication, decision-making, governance alternatives, using parliamentary procedure, being an effective member of a team and developing a budget.
- Students will demonstrate skills needed to effectively provide service to and impact the surrounding community, and will be prepared for future civic responsibility and participation in building communities.

Leadership & Service Certificate of Proficiency (21 units)
[Non-Transcriptable]

Core Courses (8 units):
CNSL 86 Introduction to Leadership (1 unit)
CNSL 87 Leadership: Theories & Practices (1 unit)
CNSL 88 Leadership: Theories, Styles & Realities (1 unit)
CNSL 89 Advanced Leadership Realities (1 unit)
CNSL 90A Introductory Leadership Independent Study (1 unit)
CNSL 90B Leadership Independent Study II (1 unit)
CNSL 90C Leadership Independent Study lll (1 unit)
SOSC 79 Introduction to Community Service (1 unit)

Support Courses (13 units):
Select ONE course from each category.

Communication
COMM 1A Public Speaking (5 units)
or COMM 1AH Honors Public Speaking (5 units)
COMM 2 Interpersonal Communication (5 units)
COMM 4 Group Discussion (5 units)
COMM 10 Gender, Communication & Culture (5 units)
COMM 12 Intercultural Communication (5 units)

Cultural Competency
ANTH 2A Cultural Anthropology (4 units)
COMM 10 Gender, Communication & Culture (5 units)
COMM 12 Intercultural Communication (5 units)
ENGL 5 Gay & Lesbian Literature (4 units)
or ENGL 5H Honors Gay & Lesbian Literature (4 units)
ENGL 12 African American Literature (4 units)
ENGL 31 Latino/a Literature (4 units)
ENGL 40 Asian American Literature (4 units)
or ENGL 40H Honors Asian American Literature (4 units)
HIST 10 History of California: The Multicultural State (4 units)
MUS 8 Music of Multicultural America (5 units)
or MUS 8H Honors Music of Multicultural America (5 units)
PHOT 8 Photography of Multicultural America (4 units)
or PHOT 8H Honors Photography of Multicultural America (4 units)
PSYC 21 Psychology of Women: Sex & Gender Differences (4 units)
or SOC 21 Psychology of Women: Sex & Gender Differences (4 units)
or WMN 21 Psychology of Women: Sex & Gender Differences (4 units)
PSYC 22 Psychology of Prejudice (4 units)
SOC 23 Race & Ethnic Relations (4 units)
SOSC 20 Cross-Cultural Perspectives for a Multicultural Society (4 units)
THTR 8 Multicultural Theatre Arts in Modern America (4 units)
WMN 5 Introduction to Women's Studies (4 units)
WMN 11 Women in Global Perspective (4 units)

Political Science or Economics
ECON 1A Principles of Macroeconomics (5 units)
ECON 1B Principles of Microeconomics (5 units)
POLI 1 Political Science: Introduction to American Government & Politics (5 units)
POLI 2 Comparative Government & Politics (4 units)
or POLI 2H Honors Comparative Government & Politics (4 units)
POLI 3 Introduction to Political Philosophy/Political Theory (5 units)
or POLI 3H Honors Introduction to Political Philosophy/Political Theory (5 units)
POLI 9 Political Economy (4 units)
or POLI 9H Honors Political Economy (4 units)
or ECON 9 Political Economy (4 units)
or ECON 9H Honors Political Economy (4 units)
POLI 15 International Relations/World Politics (4 units)
or POLI 15H Honors International Relations/World Politics (4 units)

MATHEMATICS

Program Type(s): Associate in Science Degree
Units required for major: 45

Program Learning Outcomes:
- The student will be able to clearly communicate mathematical ideas through graphs, tables of data, equations and verbal descriptions.
- The student will be able to construct appropriate mathematical models of natural phenomena, develop those models with appropriate mathematical techniques and interpret results of those models.

Associate Degree Requirements *

Core Courses: (45 units)
MATH 1A Calculus (5 units)
MATH 1B Calculus (5 units)
MATH 1C Calculus (5 units)
MATH 1D Calculus (5 units)
MATH 2A Differential Equations (5 units)
MATH 2B Linear Algebra (5 units)
MATH 22 Discrete Mathematics (5 units)

And TWO courses from ONE of the following options:

Option 1:
PHYS 2A General Physics (5 units)
PHYS 2B General Physics (5 units)
PHYS 2C General Physics (5 units)

*A minimum of 90 units required for the A.A./A.S. Degree, to include required courses, required electives, and graduation requirements, and these minimum proficiencies: ENGL 1A or 1AH or 1S and 1T or ESLL 26; MATH 57 or 105 or 108.

Option 2:
PHYS 4A General Physics (Calculus) (6 units)
PHYS 4B General Physics (Calculus) (6 units)
PHYS 4C General Physics (Calculus) (6 units)
PHYS 5A[52] General Physics (Calculus) Extended (5 units)
PHYS 5B[53] General Physics (Calculus) Extended (5 units)
PHYS 5C[54] General Physics (Calculus) Extended (5 units)

Option 3:
CHEM 1A General Chemistry (5 units)
CHEM 1B General Chemistry (5 units)
CHEM 1C General Chemistry & Qualitative Analysis (5 units)

Option 4:
C S 1A Object-Oriented Programming Methodologies in Java (5 units)
C S 1B Intermediate Software Design in Java (5 units)
C S 1C Advanced Data Structures & Algorithms in Java (5 units)
C S 2A Object-Oriented Programming Methodologies in C++ (5 units)
C S 2B Intermediate Software Design in C++ (5 units)
C S 2C Advanced Data Structures & Algorithms in C++ (5 units)

MATHEMATICS FOR TRANSFER

Program Type(s): Associate Degree Requirements *
Units required for major: 90

Program Learning Outcomes:
• Students will be able to clearly communicate mathematical ideas through graphs, tables of data, equations and verbal descriptions.
• Students will be able to construct appropriate mathematical models of natural phenomena, develop those models with appropriate mathematical techniques and interpret results of those models.

Associate Degree for Transfer Requirements:
The Foothill GE pattern may not be used for this degree. The requirement is full certification of either the CSU General Education Breadth Requirements or the Intersegmental General Education Transfer Curriculum (IGETC) (49–58 units).

Core Courses: (20 units)
MATH 1A Calculus (5 units)
MATH 1B Calculus (5 units)
MATH 1C Calculus (5 units)
MATH 1D Calculus (5 units)

Support Courses: (10–11 units)

Select ONE course each from List A and List B:
List A:
MATH 2A Differential Equations (5 units)
MATH 2B Linear Algebra (5 units)

List B:
MATH 2A[55] Differential Equations (5 units)
MATH 2B[56] Linear Algebra (5 units)
MATH 22 Discrete Mathematics (5 units)
MATH 10 Elementary Statistics (5 units)
PHYS 4A General Physics (Calculus) (6 units)
C S 1A Object-Oreinted Programming Methodologies in Java (5 units)
C S 2A Object-Oreinted Programming Methodologies in C++ (5 units)

52–54 The PHYS 5A, 5B & 5C sequence is equivalent to PHYS 4A & 4B.

55–56 MATH 2A or 2B may be used to satisfy List B requirement if it has not used to meet the requirement for List A.

MUSIC TECHNOLOGY

Program Type(s): Associate in Arts Degree, Certificate of Achievement, Certificate of Proficiency, Skills Certificate
May be transferrable to a four-year university

Units required for major: 47.5, certificate(s): 4–35.5

Program Learning Outcomes:
- Students who complete the traditional transfer course sequence will be able to demonstrate knowledge, skills and understanding in the three emphases identified by the National Association of Schools of Music (NASM): music history/literature, composition/theory, and performance.
- Students who complete the vocational program will also be able to demonstrate knowledge, skills and understanding in the areas of music business, technology and contemporary popular music literature and composition/engineering identified by the program's board of advisors.

Associate Degree Requirements *

Core Courses: (35.5 units)
MUS 9A Music & Media: Edison to Hendrix (4 units)
or MUS 9B Music & Media: Hendrix to Hip-Hop (4 units)
MUS 11A Jazz & Swing (4 units)
or MUS 11B Funk, Fusion & Hip-Hop (4 units)
MUS 50A Music Business (4 units)
or MUS 50B Entertainment Law & New Media (4 units)
MUS 66A Introduction to Digital Audio: Pro Tools (4 units)
or MUS 82A Pro Tools 101: Introduction to Pro Tools (4 units)
MUS 66B Reason & Pro Tools (4 units)
or MUS 66C Pro Tools & Virtual Instruments (4 units)
MUS 80A Recording Studio Basics (4 units)
or MUS 60A Producing in the Home Studio I (4 units)
MUS 81A Recording Studio Production Techniques (4 units)
or MUS 60B Producing in the Home Studio II (4 units)
MUS 81B Sound Design for Film & Video (3.5 units)
MUS 81C Mixing & Mastering with Pro Tools (4 units)

Support Courses: (12 units)
MDIA 1 Introduction to Film Studies (4 units)
or VART 1 Introduction to Film Studies (4 units)
MDIA 2A History of Film 1895–1945 (4 units)
or VART 2A History of Film 1895–1945 (4 units)
MDIA 2B History of Film 1945–Current (4 units)
MDIA 2C Current Trends in Film, TV & the Internet (4 Units)
MDIA 3 Introduction to Film & Media Criticism (4 units)
MDIA 5 American Cinema (4 units)
MDIA 6 Film & New Media Genres (4 units)
MDIA 9 Global Media (4 units)
MDIA 11 Introduction to Popular Culture (4 units)
MDIA 12 Popular Culture & United States History (4 units)
MDIA 20 Fundamentals of Media Production (4 units)
MDIA 30 Digital Video Editing I (4 units)
MDIA 31 Digital Video Editing II (4 units)
MDIA 40 Digital Sound, Video & Animation (4 units)
MDIA 51 Web Video (4 units)
MDIA 52 Scriptwriting for Film & Video (4 units)
MUS 6 Composing & Producing Electronic Music (4 units)
MUS 7F Music In Film (4 units)
MUS 9A Music & Media: Edison to Hendrix (4 units)
MUS 9B Music & Media: Hendrix to Hip-Hop (4 units)

*A minimum of 90 units required for the A.A./A.S. Degree, to include required courses, required electives, and graduation requirements, and these minimum proficiencies: ENGL 1A or 1AH or 1S and 1T or ESLL 26; MATH 57 or 105 or 108.

MUS 11A Jazz & Swing (4 units)
MUS 11B Funk, Fusion & Hip-Hop (4 units)
MUS 11C Salsa & Latin Jazz (4 units)
MUS 11D History of Electronic Music: 1867–1970 (4 units)
MUS 11E History of Electronic Music: 1970–Present (4 units)
MUS 11F Video Games & Popular Culture (4 units)
MUS 41 Live Music Performance Workshop (2 units)
MUS 50A Music Business (4 units)
MUS 50B Entertainment Law & New Media (4 units)
MUS 50D Introduction to the Video Game Business (3.5 units)
MUS 51 Basics of Music Publishing (3.5 units)
MUS 58A Songwriter's Workshop (3.5 units)
MUS 58B Modern Song Composition (3.5 units)
MUS 58C Advanced Song Structure (3.5 units)
MUS 60A Producing in the Home Studio I (4 units)
MUS 60B Producing in the Home Studio II (4 units)
MUS 60C Mastering, Marketing & Managing Your Music (4 units)
MUS 62 Sound Reinforcement & Live Recording (4 units)
MUS 66A Introduction to Digital Audio: Pro Tools (4 units)
MUS 66B Reason & Pro Tools (4 units)
MUS 66C Pro Tools & Virtual Instruments (4 units)
MUS 66D Making Music with the Apple IOS (4 units)
MUS 66E Producing Music with Ableton Live (4.5 units)
MUS 66F Producing Music with Logic Pro (4.5 units)
MUS 70R Independent Study in Music/Music Technology (1 unit)
MUS 71R Independent Study in Music/Music Technology (2 units)
MUS 72R Independent Study in Music/Music Technology (3 units)
MUS 73R Independent Study in Music/Music Technology (4 units)
MUS 80A Recording Studio Basics (4 units)
MUS 81A Recording Studio Production Techniques (4 units)
MUS 81B Sound Design for Film & Video (3.5 units)
or MDIA 81B Sound Design For Film & Video (3.5 units)
MUS 81C Mixing & Mastering with Pro Tools (4 units)
MUS 81D Pro Tools & Plug-Ins I (4 units)
MUS 81E Pro Tools & Plug-Ins II (4 units)
MUS 81F Music Video Production (4 units)
MUS 81G Advanced Mixing & Mastering with Pro Tools (4 units)
MUS 81J Surround Sound Production (4 units)
MUS 82A Pro Tools 101: Introduction to Pro Tools (4 units)
MUS 82B Pro Tools 110: Pro Tools Production I (4 units)
MUS 82C Pro Tools 201: Pro Tools Production II (4 units)
MUS 82D Pro Tools 210M: Music Production Techniques (4 units)
MUS 82E Pro Tools 210P: Post Production Techniques (4 units)
MUS 82G Pro Tools 310M: Advanced Music Production Techniques (4 units)
MUS 83A Introduction to Music Therapy (4 units)
MUS 84A Introduction to Game Audio (4 units)
MUS 84B Advanced Sound Design for Games (4 units)
MUS 84C Music Composition for Games (4 units)

Certificate of Achievement in Music Technology (35.5 units)
The certificate of achievement is awarded after completion of the core courses. General education courses are not required.

Certificate of Achievement in Pro Tools (36 units)
MUS 66A Introduction to Digital Audio: Pro Tools (4 units)
MUS 66B Reason & Pro Tools (4 units)
MUS 80A Recording Studio Basics (4 units)
or MUS 60A Producing in the Home Studio I (4 units)
MUS 81C Mixing & Mastering with Pro Tools (4 units)
MUS 81D Pro Tools & Plug-Ins I (4 units)
MUS 82A Pro Tools 101: Introduction to Pro Tools (4 units)
MUS 82B Pro Tools 110: Pro Tools Production I (4 units)
MUS 82C Pro Tools 201: Pro Tools Production II (4 units)
MUS 82D Pro Tools 210M: Music Production Techniques (4 units)

Certificate of Proficiency in Songwriting (22 units)
[Non-Transcriptable]
MUS10 Music Fundamentals (4 units)
MUS 58A Songwriter's Workshop (3.5 units)
MUS 58B Modern Song Composition (3.5 units)
MUS 58C Advanced Song Structure (3.5 units)
MUS 50A Music Business (4 units)
MUS 51 Basics of Music Publishing (3.5 units)

Certificate of Proficiency in Pro Tools Expert Music (20 units)
[Non-Transcriptable]
MUS 82A Pro Tools 101: Introduction to Pro Tools (4 units)
MUS 82B Pro Tools 110: Pro Tools Production I (4 units)
MUS 82C Pro Tools 201: Pro Tools Production II (4 units)
MUS 82D Pro Tools 210M: Music Production Techniques (4 units)
MUS 82G Pro Tools 310M: Advanced Music Production Techniques (4 units)

Certificate of Proficiency in Pro Tools Operator Music (16 units)
[Non-Transcriptable]
MUS 82A Pro Tools 101: Introduction to Pro Tools (4 units)
MUS 82B Pro Tools 110: Pro Tools Production I (4 units)
MUS 82C Pro Tools 201: Pro Tools Production II (4 units)
MUS 82D Pro Tools 210M: Music Production Techniques (4 units)

Certificate of Proficiency in Pro Tools Operator Post (16 units)
[Non-Transcriptable]
MUS 82A Pro Tools 101: Introduction to Pro Tools (4 units)
MUS 82B Pro Tools 110: Pro Tools Production I (4 units)
MUS 82C Pro Tools 201: Pro Tools Production II (4 units)
MUS 82E Pro Tools 210P: Post Production Techniques (4 units)

Certificate of Proficiency in Game Audio (15.5 units)
[Non-Transcriptable]
MUS 81B Sound Design for Film & Video (3.5 units)
MUS 82A Pro Tools 101: Introduction to Pro Tools (4 units)
MUS 82E Pro Tools 210P: Post Production Techniques (4 units)
MUS 84A Introduction to Game Audio (4 units)

Certificate of Proficiency in Music Business (15.5 units)
[Non-Transcriptable]
MUS 50A Music Business (4 units)
MUS 50B Entertainment Law & New Media (4 units)
MUS 51 Basics of Music Publishing (3.5 units)
MUS 60C Mastering, Marketing & Managing Your Music (4 units)

Skills Certificate in Pro Tools (8 units)
[Non-Transcriptable]
MUS 82A Pro Tools 101: Introduction to Pro Tools (4 units)
MUS 82B Pro Tools 110: Pro Tools Production I (4 units)

Skills Certificate in Music Technology (4 units)
MUS 82A Pro Tools 101: Introduction to Pro Tools (4 units)

*A minimum of 90 units required for the A.A./A.S. Degree, to include required courses, required electives, and graduation requirements, and these minimum proficiencies: ENGL 1A or 1AH or 1S and 1T or ESLL 26; MATH 57 or 105 or 108.

MUSIC: GENERAL

Program Type(s): Associate in Arts Degree, Certificate of Proficiency
Units required for major: 47, certificate: 25

Program Learning Outcomes:

- Through the study of music history/literature, students examine music masterpieces from multiple eras and cultures, synthesizing information and making judgments as they evaluate how music reflects individual composers' lives as well as the contemporary social/historical context in which the compositions were created and performed.
- Through music theory/composition, students analyze the structure of music and learn to create their own original works satisfying specific and complex compositional requirements.
- Through music performance, students learn how to apply and express their historical, theoretical, and artistic understandings in a presentation addressing an appropriate audience.
- Using this three-lens framework, students increase their community/global consciousness as they learn to appreciate how music is a potent tool for understanding individual and cultural uniqueness within the larger context of our common humanity.

Associate Degree Requirements *

Core Courses: (35 units)
MUS 2A Great Composers & Music Masterpieces of Western Civilization (5 units)
MUS 2B Great Composers & Music Masterpieces of Western Civilization (5 units)
MUS 2C Great Composers & Music Masterpieces of Western Civilization (5 units)
MUS 2D World Music: Roots to Contemporary Global Fusion (5 units)
MUS 3A Beginning Music Theory, Literature & Composition (5 units)
MUS 3B Intermediate Music Theory, Literature & Composition (5 units)
MUS 3C Advanced Music Theory, Literature & Composition (5 units)

Support Courses: (12 units)
MUS 1 Introduction to Music (4 units)
MUS 2F History of American Musical Theater (4 units)
MUS 4 Composing & Arranging with Sibelius (4 units)
MUS 7 Contemporary Music Styles: Rock, Pop & Jazz (4 units)
MUS 7D Contemporary Music Styles: The Beatles in the Culture of Popular Music (4 units)
MUS 7E History of the Blues (4 units)
MUS 7F Music in Film (4 units)
MUS 8 Music of Multicultural America (5 units)
or MUS 8H Honors Music of Multicultural America (5 units)
MUS 10 Music Fundamentals (4 units)
MUS 12A Beginning Class Piano (2 units)
MUS 12B Intermediate Class Piano (2 units)
MUS 12C Advanced Class Piano (2 units)
MUS 13A Class Voice I (4 units)
MUS 13B Class Voice II (4 units)
MUS 13C Class Voice III (4 units)
MUS 14A Beginning Classical Guitar (2 units)
MUS 14B Intermediate Classical Guitar (2 units)
MUS 14C Advanced Classical Guitar (2 units)
MUS 15A Beginning Acoustic Guitar Techniques (2 units)
MUS 15B Intermediate Acoustic Guitar Techniques (2 units)
MUS 15C Advanced Acoustic Guitar Techniques (2 units)

Certificate of Proficiency in Music History & Literature (25 units) [Non-Transcriptable]
MUS 2A Great Composers & Music Masterpieces of Western Civilization (5 units)
MUS 2B Great Composers & Music Masterpieces of Western Civilization (5 units)
MUS 2C Great Composers & Music Masterpieces of Western Civilization (5 units)
MUS 2D World Music: Roots to Contemporary Global Fusion (5 units)
MUS 8 Music of Multicultural America (5 units)
or MUS 8H Honors Music of Multicultural America (5 units)

NANOSCIENCE

Program Type(s): Associate in Science Degree, Certificate of Achievement, Certificate of Proficiency
Units required for major: 50, certificate(s): 10–30

Program Learning Outcomes:

- Students will apply foundational nanoscience principles to understanding and further learning about nanostructures, material properties, and engineering solutions, applying scientific literature, seminars, and webinars.
- Students will develop plausible approaches materials engineering solutions for industrial applications. These include applying characterization skills to elucidating structure, property relationships, process optimization and consistent material manufacturing.
- Students with internships and/or concurrent work experience will support fundamental research and development, process development, characterization (including quality assurance/quality control, failure analysis, etc.) and consistent/quality manufacturing practice in all sizes of high-technology firms.

Associate Degree Requirements *

Prerequisite:
CHEM 1A General Chemistry (5 units)

Core Courses: (10 units)
NANO 10 Introduction to Nanotechnology (5 units)
NANO 51 Applications of Nanotechnology (5 units)

Support Courses: (35–40 units)
Select ONE option:

Nanoscience Transfer Option (40 units)
CHEM 1B General Chemistry (5 units)
CHEM 1C General Chemistry & Qualitative Analysis (5 units)
MATH 1A Calculus (5 units)
MATH 1B Calculus (5 units)
MATH 1C Calculus (5 units)

And 15 units from the following:
BIOL 1A Principles of Cell Biology (6 units)
BIOL 1D Molecular Genetics (4 units)
ENGR 45 Properties of Materials (5 units)
NANO 52 Nanomaterials & Nanostructures (5 units)
NANO 53 Nanomaterials Characterization (5 units)
NANO 54 Nanofabrication Tools & Process (5 units)

Nanoscience Workforce Option (35 units)
NANO 52 Nanomaterials & Nanostructures (5 units)
NANO 53 Nanomaterials Characterization (5 units)
NANO 54 Nanofabrication Tools & Process (5 units)

*A minimum of 90 units required for the A.A./A.S. Degree, to include required courses, required electives, and graduation requirements, and these minimum proficiencies: ENGL 1A or 1AH or 1S and 1T or ESLL 26; MATH 57 or 105 or 108.

NANO 62 Nanomaterials Engineering: Structures, Processing & Characterization (5 units)
PHYS 2A[57] General Physics (5 units)
PHYS 2B General Physics (5 units)
PHYS 2C General Physics (5 units)

Certificate of Achievement in Nanoscience[58] (30 units)
CHEM 1A[59] General Chemistry (5 units) or equivalent
NANO 10 Introduction to Nanotechnology (5 units)
NANO 51 Applications of Nanotechnology (5 units)
NANO 52 Nanomaterials & Nanostructures (5 units)
NANO 53 Nanomaterials Characterization (5 units)
NANO 54 Nanofabrication Tools & Process (5 units)

Nanocharacterization Certificate of Proficiency[60] (15 units)
[Non-Transcriptable]
NANO 51 Applications of Nanotechnology (5 units)
or NANO 10 Introduction to Nanotechnology (5 units)
NANO 52 Nanomaterials & Nanostructures (5 units)
NANO 53 Nanomaterials Characterization (5 units)

Nanofabrication Certificate of Proficiency[61] (15 units)
[Non-Transcriptable]
NANO 51 Applications of Nanotechnology (5 units)
or NANO 10 Introduction to Nanotechnology (5 units)
NANO 52 Nanomaterials & Nanostructures (5 units)
NANO 54 Nanofabrication Tools & Process (5 units)

Nanostructures Certificate of Proficiency (10 units)
[Non-Transcriptable]
NANO 51 Applications of Nanotechnology (5 units)
or NANO 10 Introduction to Nanotechnology (5 units)
NANO 62 Nanomaterials Engineering: Structures, Processing & Characterization (5 units)

NON-CREDIT: GERIATRIC HOME AIDE

Program Type(s): Certificate of Completion
Units required for certificate: 104 hours

Program Learning Outcomes:
- The student will be prepared to administer safe care to ambulatory elderly patients in their own homes under the supervision to a registered nurse.
- The student will be prepared to document his/her care to ambulatory elderly patients in their own homes under the supervision of a registered nurse.

Geriatric Home Aide Certificate of Completion (104 hours)
NCSV 400 Geriatric Home Aide Basics (60 hours)
NCSV 401 Geriatric Home Aide–Nutrition (44 hours)

57 PHYS 2A is recommended if the student is preparing to transfer to a four-year institution.

58 Minimum proficiency requirements for this certificate: ENGL 1A, ENGL 1AH, ENGL 1S & 1T or ESLL 26 and MATH 57 or 105 or 108 completed with a letter grade of "C" or better.

59 This course is a prerequisite for the remaining courses in this certificate.

60–61 Minimum proficiency requirements for this certificate: ENGL 1A, ENGL 1AH, ENGL 1S & 1T or ESLL 26 and MATH 57 or 105 or 108 completed with a letter grade of "C" or better.

NON-CREDIT: JOB READINESS

Program Type(s): Certificate of Completion
Units required for certificate: 67 hours

Program Learning Outcomes:
- Students will demonstrate proficiency in job seeking skills, including writing resumes, cover letters, applications and interviewing techniques.
- Students will demonstrate appropriate workplace behaviors such as punctuality, interpersonal communication and customer service.

Job Readiness Certificate of Completion (67 Hours)
NCWP 400 Blueprint for Workforce Success (36 hours)
NCWP 401 Blueprint for Customer Service (18 hours)
NCWP 402 30 Ways to Shine as a New Employee (6 hours)
NCWP 403 Job Club (7 hours)

NON-CREDIT: MATHEMATICAL FOUNDATIONS

Program Type(s): Certificate of Completion
Units required for certificate: 60 hours

Program Learning Outcomes:
- Students will demonstrate numerical literacy and quantitative reasoning skills at an appropriate level for future progression in basic skills credit math courses.

Mathematical Foundations Certificate of Completion (60 hours)
NCBS 401A Mathematical Foundations for College Part I (20 hours)
NCBS 401B Mathematical Foundations for College Part II (40 hours)
NCBS 405 Supplemental Instruction (60–360 hours) (optional)

PARAMEDIC

Program Type(s): Associate in Science Degree, Certificate of Achievement
Units required for major: 70, certificate: 58

Program Learning Outcomes:
- Graduates will become knowledgable in multiple areas of anatomy and pathophysiology of various illness and injury which will help the paramedic to provide competent patient care.
- Graduates will have outstanding clinical assessment and skills.
- Graduates will meet or exceed the requirements for state licensure in California.

Associate Degree Requirements *

Core Courses: (58 units)
Fall
EMTP 60A Paramedic Cognitive & Affective IA (9 units)
EMTP 60B Paramedic Cognitive, Psychomotor & Affective IB (3 units)
AHS 50A Introduction to Allied Health Programs (1.5 unit)

Winter
EMTP 61A Paramedic Cognitive & Affective IIA (9 units)
EMTP 61B Paramedic Cognitive, Affective & Psychomotor IIB (3 units)
EMTP 63A Paramedic Hospital Specialty Rotations (1 unit)
AHS 50B Interprofessional Patient Competencies (0.5)

Spring
EMTP 62A Paramedic Cognitive & Affective IIIA (9 units)
EMTP 62B Paramedic Cognitive, Affective & Psychomotor IIIB (3 units)

*A minimum of 90 units required for the A.A./A.S. Degree, to include required courses, required electives, and graduation requirements, and these minimum proficiencies: ENGL 1A or 1AH or 1S and 1T or ESLL 26; MATH 57 or 105 or 108.

Summer
EMTP 63B Paramedic Hospital Emergency Department Rotations (3 units)
EMTP 64A Paramedic Ambulance Field Internship I (8 units)

Fall
EMTP 64B Paramedic Ambulance Field Internship II (8 units)

Paramedic Certificate of Achievement (58 units)
The certificate of achievement is awarded upon completion of the core courses. General education courses are not required.

PHARMACY TECHNICIAN

Program Type(s): Associate in Science Degree, Certificate of Achievement
Units required for major: 52, certificate: 52

Program Learning Outcomes:
- Graduates will demonstrate pharmaceutical knowledge, clinical skills and values necessary to practice as a competent pharmacy technician in both retail and hospital pharmacy settings.
- Graduates will demonstrate competency with entry-level clinical skills in accordance with ASHP accreditation requirements.

Associate Degree Requirements *

Core Courses: (52 units)
Fall
AHS 50A Introduction to Allied Health Programs (1.5 units)
PHT 50 Orientation to Pharmacy Technology (3 units)
PHT 51 Basic Pharmaceutics (4 units)
PHT 52A Inpatient Dispensing (3 units)
PHT 53 Ambulatory Pharmacy Practice (4 units)
PHT 54A Dosage Calculations A (3 units)
PHT 55A Pharmacology A (3 units)

Winter
AHS 50B Interprofessional Patient Competencies B (.5 unit)
PHT 52B Aseptic Technique & IV Preparation (4 units)
PHT 54B Dosage Calculations B (3 units)
PHT 55B Pharmacology B (3 units)
PHT 56A Dispensing & Compounding A (4 units)
PHT 60 Retail Clinical (3 units)
or PHT 62 Hospital Clinical (3 units)

Spring
PHT 55C Pharmacology C (3 units)
PHT 56B Dispensing & Compounding B (3 units)
PHT 61 Home Health Care Supplies (3 units)
PHT 63 Pharmacy Technician Certification Exam (PTCE) Review (1 unit)
PHT 60 Retail Clinical (3 units)
or PHT 62 Hospital Clinical (3 units)

Certificate of Achievement, Pharmacy Technician (52 units)
The certificate of achievement is awarded upon completion of the core courses. General education courses are not required. However prerequisite requirements must be met.

PHILOSOPHY

Program Type(s): Associate in Arts Degree
Units required for major: 33

Program Learning Outcomes:
- Students will be able to critically analyze and evaluate arguments regarding issues of metaphysics and epistemology.
- Students will be able to critically analyze and evaluate arguments regarding issues of ethics and political philosophy.

Associate Degree Requirements *

Core Courses: (13 units)
PHIL 2 Introduction to Social & Political Philosophy (4 units)
PHIL 4 Introduction to Philosophy (4 units)
PHIL 8 Ethics (5 units)

Support Courses: (20 units)
Select ONE course from the following:
PHIL 1 Critical Thinking & Writing (5 units)
PHIL 7 Introduction to Symbolic Logic (5 units)
PHIL 30 Introduction to Critical Thinking (4 units)

And 8 units from the following:
PHIL 20A History of Western Philosophy from Socrates through St. Thomas (4 units)
PHIL 20B History of Western Philosophy from the Renaissance through Kant (4 units)
PHIL 20C Contemporary Philosophy: 19th & 20th Century Thought (4 units)
PHIL 24 Comparative World Religions: East (4 units)
PHIL 25 Comparative World Religions: West (4 units)

And 8 units from the following: [62]
ANTH 2A Cultural Anthropology (4 units)
ART 2A History of Art: History of Western Art from Prehistory through Early Christianity (4.5 units)
or ART 2AH Honors History of Art: History of Western Art from Prehistory through Early Christianity (4.5 units))
ART 2B History of Western Art from the Middle Ages to the Renaissance (4.5 units)
or ART 2BH Honors History of Western Art from the Middle Ages to the Renaissance (4.5 units))
ART 2C History of Western Art from the Baroque to Post-Impressionism (4.5 units)
or ART 2CH Honors History of Western Art from the Baroque to Post-Impressionism (4.5 units)
ART 2F Introduction to Asian Art (4.5 units)
BUSI 70 Business & Professional Ethics (4 units)
HIST 4A History of Western Civilization to 800 AD (4 units)
HIST 4B History of Western Civilization: 700–1800 (4 units)
HIST 4C History of Western Civilization 1789–Present (4 units)
or HIST 4CH Honors History of Western Civilization 1789–Present (4 units)
HIST 9 History of Contemporary Europe (4 units)
or HIST 9H Honors History of Contemporary Europe (4 units)
HIST 18 Introduction to Middle Eastern Civilization (4 units)
HUMN 1A Humanities & the Modern Experience I (4 units)
HUMN 1B Humanities & the Modern Experience II (4 units)

62 Students may also use courses listed in the second section of support courses to fulfill the requirement for the third section of support courses.

*A minimum of 90 units required for the A.A./A.S. Degree, to include required courses, required electives, and graduation requirements, and these minimum proficiencies: ENGL 1A or 1AH or 1S and 1T or ESLL 26; MATH 57 or 105 or 108.

POLI 3 Introduction to Political Philosophy/Political Theory (5 units)
or POLI 3H Honors Introduction to Political Philosophy/Political Theory (5 units)
POLI 9 Political Economy (4 units)
or POLI 9H Honors Political Economy (4 units)
or ECON 9 Political Economy (4 units)
or ECON 9H Honors Political Economy (4 units)
PSYC 1 General Psychology (5 units)
PSYC 4 Introduction to Biopsychology (4 units)
SOC 1 Introduction to Sociology (5 units)
PHIL 70R Independent Study in Philosophy (1 unit)
PHIL 71R Independent Study in Philosophy (2 units)
PHIL 72R Independent Study in Philosophy (3 units)
PHIL 73R Independent Study in Philosophy (4 units)

PHILOSOPHY FOR TRANSFER

Program Type(s): Associate in Arts for Transfer

Units required for major: 90

Program Learning Outcomes:

- Students will be able to critically analyze and evaluate arguments regarding issues of metaphysics and epistemology.
- Students will be able to critically analyze and evaluate arguments regarding issues of ethics and political philosophy.

Associate Degree for Transfer Requirements:

The Foothill GE pattern may not be used for this degree. The requirement is full certification of the either the CSU General Education Breadth Requirements or the Intersegmental General Education Transfer Curriculum (IGETC) (49–58 units).

Core Courses: (9–10 units)

PHIL 7 Introduction to Symbolic Logic (5 units) (required)

And one of the following:

PHIL 4 Introduction to Philosophy (4 units)
PHIL 8 Ethics (5 units)

Support Courses: (20–21 units)

List A: Complete 2 courses

Any course not used from the core courses or any of the following:
PHIL 1 Critical Thinking (5 units)
PHIL 2 Introduction to Social & Political Philosophy (4 units)
PHIL 4[63] Introduction to Philosophy (4 units)
PHIL 8[64] Ethics (5 units)
PHIL 20A History of Western Philosophy from Socrates through St. Thomas (4 units)
PHIL 20B History of Western Philosophy from the Renaissance through Kant (4 units)
PHIL 30 Introduction to Critical Thinking (4 units)

List B: Complete 2 items

1. Any course not used in List A
2. HIST 4A History of Western Civilization to 800 AD (4 units)
3. HIST 4B[65] History of Western Civilization: 700–1800 (4 units) and HIST 4C History of Western Civilization: 1789–Present (4 units)
4. HIST 4B[66] History of Western Civilization: 700–1800 (4 units) and HIST 4CH Honors History of Western Civilization: 1789–Present (4 units)
5. PHIL 24 Comparative World Religions: East (4 units) or PHIL 25 Comparative World Religions: West (4 units)

List C: Complete 1 course

Any course not used in List A or List B or any of the following:
ENGL 16 Introduction to Literature (4 units)
ENGL 22 Women Writers (4 units)
HUMN 1A Humanities & the Modern Experience I (4 units)
HUMN 1B Humanities & the Modern Experience II (4 units)
HUMN 3 World Myths in Literature Arts & Film (4 units)
PHIL 20C Contemporary Philosophy: 19th & 20th Century Thought (4 units)

63–64 If not used to fulfill the Core requirement.

65–66 When using item 3 or 4 in this section, both courses must be completed to fulfill the requirement.

PHOTOGRAPHY

Program Type(s): Associate in Arts Degree, Certificate of Achievement, Skills Certificate

Units required for major: 40, certificate(s): 12–40

Program Learning Outcomes:

- Students will be able to produce images that demonstrate knowledge of photography's visual and expressive elements (light, color, and composition), using standard professional equipment and production processes.
- Students will be able to analyze how images reflect and shape our culture and assess the contributions made in the field by people from diverse cultures and backgrounds.

Associate Degree Requirements *

Core Courses: (36 units)

PHOT 1 Black & White Photography I (4 units)
or PHOT 5 Introduction to Photography (4 units)
PHOT 2 Black & White Photography II (4 units)
or PHOT 4B Digital Photography II (4 units)
PHOT 3 Black & White Photography III (4 units)
or PHOT 4C Digital Photography III (4 units)
PHOT 4A Digital Photography I (4 units)
PHOT 10 History of Photography (4 units)
or PHOT 10H Honors History of Photography (4 units)
PHOT 57A Photographic Portfolio Development (4 units)
PHOT 57B Professional Practices in Photography (4 units)
PHOT 72 Lightroom & Photographic Design (4 units)
PHOT 74 Studio Photography Techniques (4 units)
or PHOT 71 The Photographic Book (4 units)

Support Courses: (4 units)

ART 5A 2-D Foundations (4 units)
ART 6 Collage & Composition (3 units)
ART 20A Color I (3 units)
GID 90 Book Arts I (4 units)
PHOT 1 Black & White Photography I (4 units)
PHOT 2 Black & White Photography II (4 units)
PHOT 3 Black & White Photography III (4 units)
PHOT 4B Digital Photography II (4 units)
PHOT 4C Digital Photography III (4 units)
PHOT 5 Introduction to Photography (4 units)
PHOT 8 Photography of Multicultural America (4 units)
or PHOT 8H Honors Photography of Multicultural America (4 units)
PHOT 10 History of Photography (4 units)
or PHOT 10H Honors History of Photography (4 units)
PHOT 11 Contemporary Issues in Photography (4 units)
or PHOT 11H Honors Contemporary Issues in Photography (4 units)

*A minimum of 90 units required for the A.A./A.S. Degree, to include required courses, required electives, and graduation requirements, and these minimum proficiencies: ENGL 1A or 1AH or 1S and 1T or ESLL 26; MATH 57 or 105 or 108.

PHOT 13 Experimental Photography (4 units)
PHOT 20 Introduction to Color Photography (4 units)
PHOT 22 Photojournalism (4 units)
PHOT 51 Zone System Photography (4 units)
PHOT 68A Darkroom Topics in Photography (1 unit)
PHOT 68B Digital Topics in Photography (1 unit)
PHOT 68C Studio Lighting Topics in Photography (1 unit)
PHOT 68E Lecture Topics in Photography (1 unit)
PHOT 68F Exhibition Topics in Photography (1 unit)
PHOT 71 The Photographic Book (4 units)
PHOT 74 Studio Photography Techniques (4 units)
PHOT 78A Landscape Field Study in Photography (1 unit)
PHOT 78B Social Concerns Field Study in Photography (1 unit)
PHOT 78C Documentary Field Study in Photography (1 unit)
PHOT 78D Museum/Gallery Field Study in Photography (1 unit)

Certificate of Achievement in Photography[67] (40 units)
The certificate of achievement is awarded upon completion of the core and support courses. General education courses are not required.

Certificate of Achievement in Traditional Photography[68] (30 units)
PHOT 1 Black & White Photography I (4 units)
PHOT 2 Black & White Photography II (4 units)
PHOT 3 Black & White Photography III (4 units)
PHOT 4A Digital Photography I (4 units)
PHOT 10 History of Photography (4 units)
or PHOT 10H Honors History of Photography (4 units)
PHOT 20 Introduction to Color Photography (4 units)
PHOT 72 Lightroom & Photographic Design (4 units)
And 2 units from the support list above.

Certificate of Achievement in Digital Photography[69] (30 units)
PHOT 1 Black & White Photography I (4 units)
or PHOT 5 Introduction to Photography (4 units)
PHOT 4A Digital Photography I (4 units)
PHOT 4B Digital Photography II (4 units)
PHOT 4C Digital Photography III (4 units)
PHOT 10 History of Photography (4 units)
or PHOT 10H Honors History of Photography (4 units)
PHOT 71 The Photographic Book (4 units)
PHOT 72 Lightroom & Photographic Design (4 units)
And 2 units from the support list above.

Photographic Laboratory Technician Skills Certificate[70] (12 units)
[Non-Transcriptable]
This certificate requires the student to have completed 50 hours of work experience verified by an employer of volunteer supervisor.
PHOT 1 Black & White Photography I (4 units)
PHOT 2 Black & White Photography II (4 units)
PHOT 20 Introduction to Color Photography (4 units)
or PHOT 3 Black & White Photography III (4 units)

Photo Criticism Skills Certificate[71] (12 units)
[Non-Transcriptable]
PHOT 5 Introduction to Photography (4 units)
PHOT 8 Photography of Multicultural America (4 units)
or PHOT 8H Honors Photography of Multicultural America (4 units)
or PHOT 11 Contemporary Issues in Photography (4 units)
or PHOT 11H Honors Contemporary Issues in Photography (4 units)
PHOT 10 History of Photography (4 units)
or PHOT 10H Honors History of Photography (4 units)

67 Minimum proficiency requirements for this certificate are: ENGL 1A, ENGL 1AH, ENGL 1S & 1T or ESLL 26 and MATH 57 or 105 or 108 completed with a letter grade of "C" or better.

68–71 There are no English or mathematics proficiencies required for this certificate.

PHYSICAL EDUCATION

Program Type(s): Associate in Arts Degree
Units required for major: 34

Program Learning Outcomes:
- The student will complete this program with the ability to communicate the components of a physical education program to their professional staff.
- The student will demonstrate the necessary knowledge, skills, and values of a multi-disciplinary program, which satisfy core requirements for many physical education transfer majors, including the traditional concentrations in teaching and contemporary choices of fitness, dance and athletic emphasis.

Associate Degree Requirements *

Core Courses: (28 units)
KINS 1 Introduction to Kinesiology (4 units)
KINS 2 Sport in Society (4 units)
KINS 3 Theories & Techniques of Coaching Sports (4 units)
or DANC 10 Topics in Dance History (4 units)
KINS 4 Concepts of Physical Fitness & Wellness (4 units)
KINS 8A Theory & Concepts of Exercise Physiology I(4 units)
KINS 16B Emergency Athletic Injury Care (3 units)
BIOL 10 General Biology: Basic Principles (5 units)
or BIOL 14 Human Biology (5 units)

Support Courses: (6 units)
Select 6 units from:
any Physical Education (PHED) activity course
or any Adaptive Physical Education (PHDA) activity course
or any Dance (DANC) activity course

Elective Courses: (Recommended[72])
BIOL 40A Human Anatomy & Physiology I (5 units)
BIOL 40B Human Anatomy & Physiology II (5 units)
BIOL 40C Human Anatomy & Physiology III (5 units)
CHEM 25 Fundamentals of Chemistry (5 units)
or CHEM 30A Survey of Inorganic & Organic Chemistry (5 units)
DANC 10 Topics in Dance History (4 units)
KINS 9 Basic Nutrition for Sports & Fitness (4 units)
KINS 15 First Aid & CPR/AED (2 units)
KINS 16A Prevention of Athletic Injuries (3 units)
KINS 16C Treatment & Rehabilitation of Athletic Injuries (3 units)
KINS 51 Performance Enhancing Substances in Sport & Exercise (4 units)
PSYC 1 General Psychology (5 units)

72 These courses are recommended to fullfill the additional elective requirements to reach 90 units for the degree as they augment the major.

*A minimum of 90 units required for the A.A./A.S. Degree, to include required courses, required electives, and graduation requirements, and these minimum proficiencies: ENGL 1A or 1AH or 1S and 1T or ESLL 26; MATH 57 or 105 or 108.

PHYSICS

Program Type(s): Associate in Science Degree
Units required for major: 59

Program Learning Outcomes:
- Students will know basic physics principles.
- Students will be able to apply their knowledge to practical, theoretical and experimental problems.
- Students will be prepared to advance to the next step in careers in science, industry and education.

Associate Degree Requirements *

Core Courses: (59 units)
CHEM 1A General Chemistry (5 units)
CHEM 1B General Chemistry (5 units)
MATH 1B Calculus (5 units)
MATH 1C Calculus (5 units)
MATH 1D Calculus (5 units)
MATH 2A Differential Equations (5 units)
MATH 2B Linear Algebra (5 units)

And select ONE option:
Option 1:
PHYS 4A General Physics (Calculus) (6 units)
PHYS 4B General Physics (Calculus) (6 units)
PHYS 4C General Physics (Calculus) (6 units)
PHYS 4D General Physics (Calculus) (6 units)

Option 2:
PHYS 5A[73] General Physics (Calculus) Extended (5 units)
PHYS 5B[74] General Physics (Calculus) Extended (5 units)
PHYS 5C[75] General Physics (Calculus) Extended (5 units)
PHYS 4C General Physics (Calculus) (6 units)
PHYS 4D General Physics (Calculus) (6 units)

PHYSICS FOR TRANSFER

Program Type(s): Associate in Science for Transfer
Units required for major: 90

Program Learning Outcomes:
- Students will know basic physics principles.
- Students will be able to apply their knowledge to practical, theoretical and experimental problems.
- Students will be prepared to advance to the next step in careers in science, industry and education.

Associate Degree for Transfer Requirements:
The Foothill GE pattern may not be used for this degree. The requirement is full certification of the either the CSU General Education Breadth Requirements or the Intersegmental General Education Transfer Curriculum (IGETC) (49–58 units).

Core Courses: (44–47 units)
Complete the following courses:
MATH 1A Calculus (5 units)
MATH 1B Calculus (5 units)
MATH 1C Calculus (5 units)
MATH 1D Calculus (5 units)

73–75 The PHYS 5A, 5B & 5C sequence is equivalent to PHYS 4A & 4B.

And complete Option 1 or Option 2:
Option 1:
PHYS 4A General Physics (Calculus) (6 units)
PHYS 4B General Physics (Calculus) (6 units)
PHYS 4C General Physics (Calculus) (6 units)
PHYS 4D General Physics (Calculus) (6 units)

Option 2:
PHYS 5A General Physics (Calculus) Extended (5 units)
PHYS 5B General Physics (Calculus) Extended (5 units)
PHYS 5C General Physics (Calculus) Extended (5 units)
PHYS 4C General Physics (Calculus) (6 units)
PHYS 4D General Physics (Calculus) (6 units)

POLITICAL SCIENCE

Program Type(s): Associate in Arts Degree
Units required for major: 35

Program Learning Outcomes:
- Students will be able to demonstrate critical, analytical, research and writing skills in political science and its sub-fields using basic scientific tools underlying modern social science.
- Students will be able to analyze the major theoretical formulations and concepts of political science and its sub-fields and the philosophical basis of those formulations.

Associate Degree Requirements *

Core Courses: (18 units)
POLI 1 Political Science: Introduction to American Government & Politics (5 units)
POLI 2 Comparative Government & Politics (4 units)
or POLI 2H Honors Comparative Government & Politics (4 units)
POLI 3 Introduction to Political Philosophy/Political Theory (5 units)
or POLI 3H Honors Introduction to Political Philosophy/Political Theory (5 units)
POLI 15 International Relations/World Politics (4 units)
or POLI 15H Honors International Relations/World Politics (4 units)

Support Courses: (17 units)

Select 9 units from the following:
ECON 1A Principles of Macroeconomics (5 units)
HIST 9 History of Contemporary Europe (4 units)
or HIST 9H Honors History of Contemporary Europe (4 units)
HIST 17A History of the United States to 1816 (4 units)
or HIST 17B History of the United States from 1812 to 1914 (4 units)
or HIST 17C History of the United States 1900 to the Present (4 units)
POLI 9 Political Economy (4 units)
or POLI 9H Honors Political Economy (4 units)
or ECON 9 Political Economy (4 units)
or ECON 9H Honors Political Economy (4 units)

And 8 units[76] from the following:
ECON 25 Introduction to the Global Economy (4 units)
HIST 8 History of Latin America (4 units)
HIST 18 Introduction to Middle Eastern Civilization (4 units)
HIST 20 History of Russia & the Soviet Union (4 units)
GIST 11 Introduction to Mapping & Spatial Reasoning (4 units)
or GEOG 11 Introduction to Mapping & Spatial Reasoning (4 units)
SOC 15 Law & Society (4 units)

76 Students may also use courses listed in the first section of support courses to fulfill the requirement for the second section of support courses.

*A minimum of 90 units required for the A.A./A.S. Degree, to include required courses, required electives, and graduation requirements, and these minimum proficiencies: ENGL 1A or 1AH or 1S and 1T or ESLL 26; MATH 57 or 105 or 108.

POPULAR CULTURE

Program Type(s): Certificate of Proficiency
Units required for certificate: 16

Popular Culture Certificate of Proficiency (16 Units)
[Non-Transcriptable]

Core Courses: (12 units)
MDIA 11 Introduction to Popular Culture (4 units)
MDIA 12 Popular Culture & United States History (4 units)
SOC 8 Popular Culture (4 units)

Support Courses: (4 units)
BUSI 57 Principles of Advertising (4 units)
or ADVT 57 Principles of Advertising (4 units)
COMM 10 Gender, Communication & Culture (5 units)
GID 1 History of Graphic Design (4 units)
or ART 36 History of Graphic Design (4 units)
KINS 2 Sport in Society (4 units)
MDIA 2C Current Trends in Film, TV & the Internet (4 units)
MDIA 5 American Cinema (4 units)
MUS 7 Contemporary Musical Styles: Rock, Pop & Jazz (4 units)
MUS 9A Music & Media: Edison to Hendrix (4 units)
or MUS 9B Music & Media: Hendrix to Hip-Hop (4 units)

PRIMARY CARE ASSOCIATE PROGRAM

Program Type(s): Associate in Science Degree, Certificate of Achievement
Units required for major: 99.5, certificate: 99.5

Program Learning Outcomes:
- The student will demonstrate competency in skills required to provide primary care health services as a physician assistant, with physician supervision.
- The student will demonstrate knowledge of national and state regulations for the practice of the physician assistant profession.

Associate Degree Requirements *

Core Courses: (99.5 units)

Spring
PCA 50 Orientation to Primary Care Associate Program (1 unit)

Summer
PCA 51A Basic Science/Microbiology/Infectious Disease (2 units)
PCA 52A Anatomy/Physiology/Pathophysiology I (4 units)
PCA 53A Pharmacology I (3 units)
PCA 54A Pre-Clinical I (3 units)
PCA 56A Core Medicine I (6 units)
PCA 61A Professionalism/Cultural Medicine I (1 unit)
PCA 62A Behavioral Medicine I (1 unit)

Fall
PCA 52B Anatomy/Physiology/Pathophysiology II (3.5 units)
PCA 53B Pharmacology II (3 units)
PCA 54B Pre-Clinical II (2.5 units)
PCA 56B Core Medicine II (8.5 units)
PCA 61B Professionalism/Cultural Medicine II (1 unit)
PCA 62B Behavioral Medicine II (1.5 units)

Winter
PCA 53C Pharmacology III (1 unit)
PCA 54C Pre-Clinical III (2.5 units)
PCA 56C Core Medicine III (10 units)
PCA 62C Behavioral Medicine III (1 unit)
PCA 60A Preceptorship I (4 units)

Spring
PCA 56D Core Medicine IV (5 units)
PCA 60B Preceptorship II (7 units)

Summer
PCA 56E Core Medicine V (1.5 units)
PCA 60C Preceptorship III (7 units)

Fall
PCA 56F Core Medicine VI (1.5 units)
PCA 60D Preceptorship IV (7 units)

Winter
PCA 55D Professional/Cultural Medicine IV (3 units)
PCA 56G Core Medicine VII (2 units)
PCA 60E Preceptorship V (6 units)

Certificate of Achievement: Primary Care Associate (99.5 units)
The certificate of achievement is awarded upon completion of the program prerequisites and core courses taken in sequence. General education courses are not required.

PSYCHOLOGY

Program Type(s): Associate in Arts Degree
Units required for major: 35

Program Learning Outcomes:
- Students will be able to recognize the diversity of behavior of various populations and be able to explain, interpret, apply, and evaluate a broad base of concepts in the different fields of psychology.
- Students will be able to apply critical-thinking skills and psychological theories to real-world situations, and will be able to apply research methodology and data analysis in the process of answering questions about human behavior.

Associate Degree Requirements *

Core Courses: (15 units)
PSYC 1 General Psychology (5 units)
PSYC 7 Statistics for the Behavioral Sciences (5 units)
or SOC 7 Statistics for the Behavioral Sciences (5 units)
or MATH 10 Elementary Statistics (5 units)
PSYC 10 Research Methods & Designs (5 units)
or SOC 10 Research Methods & Designs (5 units)

Support Courses: (20 units)
Select 12 units from the following:
PSYC 4 Introduction to Biopsychology (4 units)
PSYC 14 Child & Adolescent Development (4 units)
PSYC 21 Psychology of Women: Sex & Gender Differences (4 units)
or SOC 21 Psychology of Women: Sex & Gender Differences (4 units)
or WMN 21 Psychology of Women: Sex & Gender Differences (4 units)
PSYC 22 Psychology of Prejudice (4 units)
PSYC 25 Introduction to Abnormal Psychology (4 units)
PSYC 30 Social Psychology (4 units)
PSYC 33 Introduction to Personality Psychology (4 units)
PSYC 40 Human Development (5 units)
PSYC 49 Human Sexuality (4 units)

*A minimum of 90 units required for the A.A./A.S. Degree, to include required courses, required electives, and graduation requirements, and these minimum proficiencies: ENGL 1A or 1AH or 1S and 1T or ESLL 26; MATH 57 or 105 or 108.

PSYC 50 Psychology of Crisis (5 units)
PSYC 55 Psychology of Sports (4 units)

And 8 units[77] from the following:
ANTH 2A Cultural Anthropology (4 units)
BIOL 14 Human Biology (5 units)
PHIL 4 Introduction to Philosophy (4 units)
PSYC 54H Honors Institute Seminar in Psychology (1 unit)
PSYC 70R Independent Studies in Psychology (1 unit)
PSYC 71R Independent Studies in Psychology (2 units)
PSYC 72R Independent Studies in Psychology (3 units)
PSYC 73R Independent Studies in Psychology (4 units)
SOC 40 Aspects of Marriage & Family (4 units)
SPED 62 Psychological Aspects of Disability (4 units)
WMN 5 Introduction to Women's Studies (4 units)

PSYCHOLOGY FOR TRANSFER

Program Type(s): Associate in Arts for Transfer
Units required for major: 90

Program Learning Outcomes:
- Students will be able to recognize the diversity of behavior of various populations and be able to explain, interpret, apply, and evaluate a broad base of concepts in the various fields of psychology.
- Students will be able to apply critical-thinking skills and psychological theories to real-world situations, and will be able to apply research methodology and data analysis in the process of answering questions about human behavior.

Associate Degree for Transfer Requirements:
The Foothill GE pattern may not be used for this degree. The requirement is full certification of the either the CSU General Education Breadth Requirements or the Intersegmental General Education Transfer Curriculum (IGETC) (49–58 units).

Core Courses: (19–20 units)
PSYC 1 General Psychology (5 units)
PSYC 7 Statistics for the Behavioral Sciences (5 units)
or SOC 7 Statistics for the Behavioral Sciences (5 units)
or MATH 10 Elementary Statistics (5 units)
PSYC 10 Research Methods & Designs (5 units)
or SOC 10 Research Methods & Designs (5 units)

And ONE from the following:
BIOL 10 General Biology: Basic Principles (5 units)
BIOL 14 Human Biology (5 units)
PSYC 4 Introduction to Biopsychology (4 units)

Support Courses: (8–10 units)
Select ONE course each from List A and B; any course that was notselected from List A may also be used to satisfy List B.
List A:
ENGL 1A Composition & Reading (5 Units)
or ENGL 1AH Honors Composition & Reading (5 units)
ENGL 1B Composition, Critical Reading & Thinking (5 units)
or ENGL 1BH Honors Composition, Critical Reading & Thinking (5 units)
MATH 1A Calculus (5 units)
PHIL 1 Critical Thinking & Writing (5 units)
PSYC 14 Child & Adolescent Development (4 units)
PSYC 30 Social Psychology (4 units)
PSYC 40 Human Development (5 units)
SOC 1 Introduction to Sociology (5 units)

List B:
ANTH 1 Introduction to Physical Anthropology (4 units)
or ANTH 1H Honors Introduction to Physical Anthropology (4 units)
ANTH 2A Cultural Anthropology (4 units)
PSYC 21 Psychology of Women: Sex & Gender Differences (4 units)
PSYC 22 Psychology of Prejudice (4 units)
PSYC 25 Introduction to Abnormal Psychology (4 units)
PSYC 33 Introduction to Personality Psychology (4 units)
PSYC 49 Human Sexuality (4 units)
PSYC 50 Psychology of Crisis (5 units)
PSYC 55 Psychology of Sports (4 units)

77 Students may also use courses listed in the first section of support courses to fulfill the requirement for the second section of support courses.

RADIOLOGIC TECHNOLOGY

Program Type(s): Associate in Science Degree
Units required for major: 99

Program Learning Outcomes:
- Graduates will demonstrate entry-level competency skills in accordance with national and state regulatory agencies.
- Graduates will value and implement proper radiation safety for patients, self, and others.

Associate Degree Requirements *

Core Courses: (99 units)

FIRST YEAR
Summer
R T 50 Orientation to Radiation Science Technologies (2 units)
R T 53 Orientation to Radiologic Technology (1 unit)

Fall
AHS 50A Introduction to Allied Health Programs (1.5 units)
R T 51A Fundamentals of Radiologic Technology I (4 units)
R T 52A Principles of Radiologic Technology I (3 units)
R T 53A Applied Radiographic Technology I (3 units)
R T 53AL Applied Radiographic Technology Laboratory I (1 unit)
R T 54A Basic Patient Care for Imaging Technology (2 units)

Winter
AHS 50B Interprofessional Patient Competencies (.5 unit)
R T 51B Fundamentals of Radiologic Technology II (4 units)
R T 52B Principles of Radiologic Technology II (3 units)
R T 53B Applied Radiologic Technology II (3 units)
R T 53BL Applied Radiologic Technology Laboratory II (1 unit)
R T 54B Law & Ethics in Medical Imaging (2 units)

Spring
R T 51C Fundamentals of Radiologic Technology III (4 units)
R T 52C Principles of Radiologic Technology III (3 units)
R T 53C Applied Radiologic Technology III (3 units)
R T 53CL Applied Radiologic Technology Laboratory III (1 unit)
R T 54C Radiographic Pathology (3 units)
PSYC 1 General Psychology (5 units)

*A minimum of 90 units required for the A.A./A.S. Degree, to include required courses, required electives, and graduation requirements, and these minimum proficiencies: ENGL 1A or 1AH or 1S and 1T or ESLL 26; MATH 57 or 105 or 108.

Summer (8 weeks)
R T 53D Applied Radiologic Technology IV (5.5 units)
R T 64 Fluoroscopy (4 units)
R T 72 Venipuncture (1.5 units)

SECOND YEAR
Fall
R T 52D Digital Image Acquisition & Display (2.5 units)
R T 62A Advanced Modalities in Imaging (3 units)
R T 63A Radiographic Clinical Practicum I (6.5 units)

Winter
R T 61B Radiology Research Project (1 unit)
R T 62B Special Procedures & Equipment (3 units)
R T 63B Radiographic Clinical Practicum II (6.5 units)
R T 65 Mammography (3 units)

Spring
R T 62C Professional Development in Radiology (3 units)
R T 63 Advanced Radiographic Principles (3 units)
R T 63C Radiographic Clinical Practicum III (6.5 units)

RESPIRATORY THERAPY

Program Type(s): Associate in Science Degree
Units required for major: 105

Program Learning Outcomes:
- Graduates will have acquired the necessary knowledge, skills and values for the practice of respiratory therapy.
- Graduates will be able to demonstrate appropriate critical-thinking skills, time-management skills, communication skills and technical skills necessary to provide competent respiratory care in multidisciplinary care settings.

Associate Degree Requirements *

Core Courses: (105 units)

FIRST YEAR
Fall
AHS 50A Introduction to Allied Health Programs (1.5 units)
RSPT 50A Respiratory Therapy Procedures (4.5 units)
RSPT 51A Introduction to Respiratory Anatomy & Physiology (2 units)
RSPT 52 Applied Science for Respiratory Therapy (3 units)
RSPT 54 Orientation to Respiratory Care (2 units)
RSPT 55A Mediated Studies in Respiratory Therapy I (.5 unit)
BIOL 40A Human Anatomy & Physiology I (5 units)

Winter
AHS 50B Interprofessional Patient Competencies (.5 unit)
RSPT 50B Introduction to Procedures & Hospital Orientation (6 units)
RSPT 53A Introduction to Respiratory Therapy Pharmacology (2 units)
RSPT 55B Mediated Studies in Respiratory Therapy II (.5 unit)
BIOL 40B Human Anatomy & Physiology II (5 units)
BIOL 41 Microbiology (6 units)

Spring
RSPT 50C Therapeutics & Introduction to Mechanical Ventilation (4.5 units)
RSPT 51B Respiratory Physiology (3 units)
RSPT 51C Patient Assessment & Pulmonary Disease (4.5 units)
RSPT 55C Mediated Studies in Respiratory Therapy III (.5 unit)
BIOL 40C Human Anatomy & Physiology III (5 units)

Summer (6 weeks)
RSPT 55D Mediated Studies in Respiratory Therapy IV (.5 unit)
RSPT 61A Adult Mechanical Ventilation (4 units)
RSPT 70A Clinical Rotation I (2 units)

SECOND YEAR
Fall
RSPT 53B Advanced Respiratory Therapy Pharmacology (2 units)
RSPT 55E Mediated Studies in Respiratory Therapy V (.5 unit)
RSPT 60A Cardiology for Respiratory Therapists (2 units)
RSPT 61B Perinatal Respiratory Care (3 units)
RSPT 70B Clinical Rotation II (5 units)
PSYC 1 General Psychology (5 units)

Winter
RSPT 55F Mediated Studies in Respiratory Therapy VI (.5 unit)
RSPT 60B Advanced Cardiac Life Support (2 units)
RSPT 61C Home & Rehabilitative Respiratory Care (2 units)
RSPT 61D Pediatric Respiratory Care (2 units)
RSPT 63A Advanced Pathophysiology & Patient Management (3 units)
RSPT 65 Computer Patient Simulations (.5 unit)
RSPT 70C Clinical Rotation III (5 units)

Spring
AHS 50C Interprofessional Competencies for Collaborative Practice (.5 units)
RSPT 55G Mediated Studies in Respiratory Therapy VII (.5 unit)
RSPT 60C Pulmonary Diagnostics (3 units)
RSPT 62 Management, Resume & National Board Examination (1 unit)
RSPT 70D Clinical Rotation IV (5 units)

SOCIOLOGY

Program Type(s): Associate in Arts Degree
Units required for major: 30

Program Learning Outcomes:
- Students will be able to demonstrate a working knowledge of the core concepts of sociology: social structure, culture, social stratification and inequality, race, ethnicity, and gender; and globalization.
- Students will be able to apply their understanding of sociology to their professional, personal and civic lives.

Associate Degree Requirements *

Core Courses: (17 units)
SOC 1 Introduction to Sociology (5 units)

And 12 units from the following:
SOC 8 Popular Culture (4 units)
SOC 10 Research Methods & Designs (5 units)
or PSYC 10 Research Methods & Designs (5 units)
SOC 11 Introduction to Social Welfare (5 units)
SOC 14 Sociology of Crime (4 units)
SOC 15 Law & Society (4 units)
SOC 19 Alcohol & Drug Abuse (4 units)
SOC 20 Major Social Problems (4 units)
SOC 23 Race & Ethnic Relations (4 units)
SOC 28 Sociology of Gender (4 units)
SOC 30 Social Psychology (4 units)
SOC 40 Aspects of Marriage & Family (4 units)
SOC 57 Child Advocacy (4 units)

*A minimum of 90 units required for the A.A./A.S. Degree, to include required courses, required electives, and graduation requirements, and these minimum proficiencies: ENGL 1A or 1AH or 1S and 1T or ESLL 26; MATH 57 or 105 or 108.

Support Courses: (13 units)
ANTH 2A Cultural Anthropology (4 units)
CHLD 51A Affirming Diversity in Education (4 units)
CHLD 88 Child, Family & Community (4 units)
ECON 1A Principles of Macroeconomics (5 units)
ECON 9 Political Economy (4 units)
or ECON 9H Honors Political Economy (4 units)
or POLI 9 Political Economy (4 units)
or POLI 9H Honors Political Economy (4 units)
ENGR 39 Energy, Society & the Environment (5 units)
GEOG 2 Human Geography (4 units)
GERN 10 Sociology of Aging (3 units)
GERN 15 Issues in Death, Dying & Bereavement Across Cultures (3 units)
GERN 56 Aging & Diversity (3 units)
HIST 8 History of Latin America (4 units)
HIST 9 History of Contemporary Europe (4 units)
or HIST 9H Honors History of Contemporary Europe (4 units)
HIST 10 History of California: The Multicultural State (4 units)
HIST 17C History of the United States from 1914 to the Present (4 units)
MATH 10 Elementary Statistics (5 units)
PHIL 1 Critical Thinking & Writing (5 units)
PSYC 22 Psychology of Prejudice (4 units)
SOC 54H Honors Institute Seminar in Sociology (1 unit)
SOC 70R Independent Study in Sociology (1 unit)
SOC 71R Independent Study in Sociology (2 units)
SOC 72R Independent Study in Sociology (3 units)
SOC 73R Independent Study in Sociology (4 units)
WMN 5 Introduction to Women's Studies (4 units)
WMN 21 Psychology of Women: Sex & Gender Differences (4 units)
or SOC 21 Psychology of Women: Sex & Gender Differences (4 units)
or PSYC 21 Psychology of Women: Sex & Gender Differences (4 units)

SOCIOLOGY FOR TRANSFER

Program Type(s): Associate in Arts for Transfer
Units required for major: 90

Program Learning Outcomes:
- Students will be able to demonstrate a working knowledge of the core concepts of sociology (social structure; culture; social stratification and inequality; race, ethnicity, and gender; and globalization).
- Students will be able to apply their understanding of sociology to their professional, personal and civic lives.

Associate Degree for Transfer Requirements:
The Foothill GE pattern may not be used for this degree. The requirement is full certification of the either the CSU General Education Breadth Requirements or the Intersegmental General Education Transfer Curriculum (IGETC) (49–58 units).

Core Courses: (23–25 units)
SOC 1 Introduction to Sociology (5 units)

And select TWO courses each from List A and B:
List A:
SOC 20 Major Social Problems (4 units)
PSYC 7 Statistics for the Behavioral Sciences (5 units)
or SOC 7 Statistics for the Behavioral Sciences (5 units)
or MATH 10 Elementary Statistics (5 units)
PSYC 10 Research Methods & Designs (5 units)
or SOC 10 Research Methods & Designs (5 units)

List B:
SOC 20[78] Major Social Problems (4 units)
PSYC 10[79] Research Methods & Designs (5 units)
or SOC 10[80] Research Methods & Designs (5 units)
MATH 10[81] Elementary Statistics (5 units)
SOC 14 Sociology of Crime (4 units)
SOC 23 Race & Ethnic Relations (4 units)
SOC 28 Sociology of Gender (4 units)
SOC 30 Social Psychology (4 units)
or PSYC 30 Social Psychology (4 units)
SOC 40 Aspects of Marriage & Family (4 units)

Support Courses: (4–5 units)
Select ONE course from the following:
ANTH 2A Cultural Anthropology (4 units)
ECON 25 Introduction to the Global Economy (4 units)
GEOG 2 Human Geography (4 units)
PHIL 1 Critical Thinking & Writing (5 units)
PSYC 1 General Psychology (5 units)
PSYC 49 Human Sexuality (4 units)

SPANISH

Program Type(s): Associate in Arts Degree
Units required for major: 40

Program Learning Outcomes:
- The student will be able to communicate with native speakers of Spanish, using the appropriate language for any given situation.
- The student will, by presenting research, demonstrate knowledge of Hispanic society, culture, and politics.

Associate Degree Requirements *
Core Courses:[82] (30 units)
SPAN 1 Elementary Spanish I (5 units)
SPAN 2 Elementary Spanish II (5 units)
SPAN 3 Elementary Spanish III (5 units)
SPAN 4 Intermediate Spanish I (5 units)
SPAN 5 Intermediate Spanish II (5 units)
SPAN 6 Intermediate Spanish III (5 units)

Support Courses: (10 units)
SPAN 10A Spanish for Heritage Speakers (5 units)
SPAN 13A Intermediate Conversation I (4 units)
SPAN 13B Intermediate Conversation II (4 units)
SPAN 14A Advanced Conversation I (4 units)
SPAN 14B Advanced Conversation II (4 units)
SPAN 25A Advanced Composition & Reading I (4 units)
SPAN 25B Advanced Composition & Reading II (4 units)

78–81 May be used to satisfy List B if not completed as part of List A.

82 For students who can demonstrate proficiency equivalent to one year of college Spanish, SPAN 1, 2 and 3 may be waived. However, if you are waived out of SPAN 1-2-3 (15 units), you must complete 15 units from the support courses below to satisfy the 30-unit requirement.

*A minimum of 90 units required for the A.A./A.S. Degree, to include required courses, required electives, and graduation requirements, and these minimum proficiencies: ENGL 1A or 1AH or 1S and 1T or ESLL 26; MATH 57 or 105 or 108.

STUDIO ARTS FOR TRANSFER

Program Type(s): Associate in Arts for Transfer
Units required for major: 90

Program Learning Outcomes:
- Graduates will be equipped with the fundamental formal two- and three-dimensional foundation-level technical skills, materials, concepts, and methods.
- Graduates will gain strong awareness of cultural art traditions through the examination and critical evaluation of culturally significant works of art
- Graduates will be able to critique and analyze two- and three-dimensional creative projects using the current principles, theories and language of art and design.

Associate Degree for Transfer Requirements:
The Foothill GE pattern may not be used for this degree. The requirement is full certification of the either the CSU General Education Breadth Requirements or the Intersegmental General Education Transfer Curriculum (IGETC) (49–58 units).

Core Courses: (21 units)
ART 2B History of Western Art from the Middle Ages to the Renaissance (4.5 units)
or ART 2BH Honors History of Western Art from the Middles Ages to the Renaissance (4.5 units)
ART 2C History of Western Art from the Baroque to Post-Impressionism (4.5 units)
or ART 2CH Honors History of Western Art from the Baroque to Post-Impressionism (4.5 units)
ART 5A 2-D Foundations (4 units)
ART 5B 3-D Foundations (4 units)
ART 4A Fundamentals in Drawing (4 units)

Support Courses: (12 units)
Complete ONE course from List A:
List A
ART 2A History of Art: History of Western Art from Prehistory through Early Christianity (4.5 units)
or ART 2AH Honors History of Art: History of Western Art from Prehistory through Early Christianity (4.5 units)
ART 2B History of Western Art from the Middle Ages to the Renaissance (4.5 units)
or ART 2BH Honors History of Western Art from the Middles Ages to the Renaissance (4.5 units)
ART 2F Introduction to Asian Art (4.5 units)
ART 2D African, Oceanic & Native American Art (4.5 units)
ART 3 Modern Art & Contemporary Thought (4.5 units)

And complete 12 units from three areas in List B:
List B

Drawing Area:
ART 4D[83] Figure Drawing (4 units)
and ART 4E Head & Hands Drawing (4 units)
ART 4B[84] Intermediate Drawing (4 units)
and ART 4C Representational Drawing (4 units)

Painting Area:
ART 19A Oil Painting I (4 units)
or ART 19B Acrylic Painting I (4 units)
ART 19C Oil Painting II (4 units)

83–84 Both courses must be completed to fulfill the requirement.

Color Area:
ART 20[85] Color I (3 units)
and ART 20B Color II (3 units)

Ceramics Area:
ART 45A Beginning Ceramics Handbuilding (4 units)

Sculpture Area:
ART 44 Ceramic Sculpture (4 units)

Other Studio Arts Area:
ART 47A Watercolor I (4 units)
ART 47B Watercolor II (4 units)

Printmaking Area:
GID 38 Print Arts I (4 units)

Digital Art Area:
GID 41 Digital Art & Graphics (4 units)

Photography Area:
PHOT 1 Black & White Photography (4 units)
or PHOT 5 Introduction to Photography (4 units)

THEATRE ARTS

Program Type(s): Associate in Arts Degree, Career Certificate
Units required for major: 54, certificate: 24

Program Learning Outcomes:
- Students will be able to proceed to further educational opportunities or entry-level workforce employment in their prescribed area of the performing arts with a minimal adjustment period.
- Students will be able to employ skill sets of collaboration relevant to multiple arenas of alliance or teamwork within the performing arts arena.

Associate Degree Requirements *

Core Courses: (16 units)
THTR 2A History of Dramatic Literature–Classical to Moliere (4 units)
THTR 2B History of Dramatic Literature–Moliere to Modern (4 units)
THTR 20A Acting I (4 units)
THTR 31 Management for the Theatre & Stage (4 units)

Support Courses: (38 Units)
Select 4 units from the following:
THTR 1 Introduction to Theatre (4 units)
THTR 2F History of American Musical Theatre (4 units)
THTR 8 Multicultural Theatre Arts in Modern America (4 units)
THTR 12A Stage & Screen (4 units)
THTR 26 Introduction to Fashion History & Costume Design (4 units)

And 4 units from the following:
THTR 7 Introduction to Directing (4 units)
THTR 20B Acting II (4 units)
THTR 21A Scenery & Property Construction (4 units)
THTR 25 Introduction to Fashion & Costume Construction (4 units)
THTR 27 Lighting Design & Technology (4 units)
THTR 40A Basic Theatrical Make-Up (4 units)

85 Both courses must be completed to fulfill the requirement.

*A minimum of 90 units required for the A.A./A.S. Degree, to include required courses, required electives, and graduation requirements, and these minimum proficiencies: ENGL 1A or 1AH or 1S and 1T or ESLL 26; MATH 57 or 105 or 108.

And 20 units[86] from the following:
THTR 20C Acting III (4 units)
THTR 38D Stage Combat (2 units)
THTR 40B Theatrical Make-Up for Production (4 units)
THTR 43A Script Analysis (4 units)
THTR 43C Foundations in Classical Acting (6 units)
THTR 43E Improvisation (4 units)
THTR 48A Vocal Production & Speech (4 units)
THTR 48B Singing Technique for Musical Theatre (4 units)
THTR 48C Musical Theatre Repertoire for Singers (4 units)
THTR 56 Characterization (5 units)
THTR 57 Actor Marketing Strategies (2 units)
THTR 63A Film & Television Acting Workshop (4 units)
THTR 81 Contemporary Issues in Performance Seminar (4 unit)

And 10 units[87] from the following:
THTR 44A Production Projects I (4 units)
THTR 44B Production Projects II (4 Units)
THTR 46A Theatre Development Workshop I (2 units)
THTR 46B Theatre Development Workshop II (2 units)
THTR 46C Theatre Development Workshop III (2 units)
THTR 46D Theatre Development Workshop IV (2 units)
THTR 47A Introduction to Musical Theatre Production (6 units)
THTR 47B Intermediate Music Theatre Production Workshop (6 units)
THTR 47C Advanced Music Theatre Production Workshop (6 units)
THTR 49A Production Performance I (6 units)
THTR 49B Production Performance II (6 units)
THTR 49C Production Performance III (6 units)
THTR 49D Production Performance IV (6 units)
THTR 99A Technical Theatre in Production I (4 units)
THTR 99B Technical Theatre in Production II (4 units)
THTR 99C Technical Theatre in Production III (4 units)
THTR 99D Technical Theatre in Production IV (4 units)
THTR 99E Technical Theatre Management in Production (6 units)
THTR 99F Technical Theatre Management in Production II (6 units)

Actor Training Career Certificate (24 units)
[Non-Transcriptable]

Core Courses: (4 units)
THTR 2B History of Dramatic Literature–Moliere to Modern (4 units)

And 20 units from the following:
THTR 43E Improvisation (4 units)
THTR 48A Vocal Production & Speech (4 units)
THTR 48B Singing Technique for Musical Theatre (4 units)
THTR 48C Musical Theatre Repertoire for Singers (4 units)
THTR 56 Characterization (5 units)
THTR 63A Film & Television Acting Workshop (4 units)
THTR 81 Contemporary Issues in Performance Seminar (4 unit)

86–87 Students may also use courses listed in the third section of support courses to fulfill the requirement for the fourth section of support courses.

THEATRE TECHNOLOGY

Program Type(s): Associate in Arts Degree, Certificate of Achievement, Career Certificate
Units required for major: 48, certificate(s): 24–48

Program Learning Outcomes:

- Students will be able to explore further educational or workforce experience in technical theatre with a minimal fundamental adjustment period.
- Students will function effectively in a variety of roles within a collaborative technical theatre environment.
- Students will develop skills for evaluating their own and others' contributions to successful outcomes in a high-pressure, collaborative environment.

Associate Degree Requirements *

Core Courses: (36 units)
ART 4A Fundamentals in Drawing (4 units)
GID 33 Graphic Design Studio I (4 units)
THTR 1 Introduction to Theatre (4 units)
or THTR 8 Multicultural Theatre Arts in Modern America (4 units)
THTR 20A Acting I (4 units)
THTR 21A Scenery & Property Construction (4 units)
THTR 25 Introduction to Fashion & Costume Construction (4 units)
THTR 27 Lighting Design & Technology (4 units)
THTR 31 Management for Theatre & Stage (4 units)
THTR 42 Introduction to Design (4 units)
or THTR 32 CAD Drafting for Theatre, Film & Television (4 units)

Support Courses: (12 units)
THTR 2A History of Dramatic Literature–Classical to Moliere (4 units)
or THTR 2B History of Dramatic Literature–Moliere to Modern (4 units)
THTR 21B Intermediate Scenery & Property Construction (4 units)
THTR 21C Advanced Scenery & Properties Construction (4 units)
THTR 26 Introduction to Fashion History & Costume Design (4 units)
THTR 32 CAD Drafting for Theatre, Film & Television (4 units)
THTR 40A Basic Theatrical Make-Up (4 units)
THTR 43A Script Analysis (4 units)
THTR 99A Technical Theatre in Production I (4 units)
THTR 99B Technical Theatre in Production II (4 units)
THTR 99E Technical Theatre Management in Production (6 units)
THTR 99F Technical Theatre Management in Production II (6 units)
ART 5A 2-D Foundations (4 units)
or ART 5B 3-D Foundations (4 units)
MUS 62 Sound Reinforcement & Live Recording (4 units)
or MUS 80A Recording Studio Basics (4 units)

Certificate of Achievement in Theatre Technology (48 units)
This certificate is awarded upon completion of the core and support courses. General education courses are not required.

Career Certificate in Theatre Technology (24 units)
[Non-Transcriptable]
THTR 21A Scenery & Property Construction (4 units)
THTR 25 Introduction to Fashion & Costume Construction (4 units)
THTR 27 Lighting Design & Technology (4 units)
THTR 31 Management for Theatre & Stage (4 units)
THTR 32 CAD Drafting for Theatre, Film & Television (4 units)
or GID 33 Graphic Design Studio I (4 units)
MUS 62 Sound Reinforcement & Live Recording (4 units)
or MUS 80A Recording Studio Basics (4 units)

*A minimum of 90 units required for the A.A./A.S. Degree, to include required courses, required electives, and graduation requirements, and these minimum proficiencies: ENGL 1A or 1AH or 1S and 1T or ESLL 26; MATH 57 or 105 or 108.

Career Certificate In Theatre Production Organization (24 units) [Non-Transcriptable]
THTR 21A Scenery & Property Construction (4 units)
THTR 31 Management for Theatre & Stage (4 Units)
THTR 42 Introduction to Design (4 units)

And at least 12 units from the following:
THTR 99A Technical Theatre in Production I (4 units)
THTR 99B Technical Theatre in Production II (4 units)
THTR 99E Technical Theatre Management in Production (6 units)
THTR 99F Technical Theatre Management in Production II (6 units)

TRANSFER STUDIES—CSU GE

Program Type(s): Certificate of Achievement
Units required for certificate: 58

Certificate of Achievement in Transfer Studies[88]–CSU GE

AREA A: Communication in the English Language & Critical Thinking (minimum 12 quarter units)
CSU admission requires completion of one course from each of the following areas: A1, A2 and A3.
A1. Oral Communication: COMM 1A, 1AH, 1B, 1BH, 2, 3, 4.
A2. Written Communication: ENGL 1A, 1AH, 1B, 1BH, ENGL 1S & 1T (if 1S & 1T are selected to satisfy this area, both 1S & 1T must be completed) or ESLL 26.
A3. Critical Thinking: ENGL 1B, 1BH, 1C, 1CH; PHIL 1, 7, 30.

AREA B: Natural Sciences & Mathematics (12–15 quarter units)
Complete one course from category B1, B2, and B4. One Physical or Biological Science must include a laboratory experience (noted with asterisk).

B1. Physical Science: ASTR 10A, 10B, 10BH, 10L*; CHEM 1A*, 1B*, 1C*, 12A*, 12B*, 12C*, 20*, 25*, 30A*, 30B*; GEOG 1*; PHYS 2A*, 2B*, 2C*, 4A*, 4B*, 4C*, 4D*, 5A*, 5B*, 5C*, 6, 12, 27.
B2. Biological & Life Science: ANTH 1, 1H, 1HL*, 1L*; BIOL 1A*, 1B*, 1C*, 1D, 9, 9L*, 10*, 12, 13*, 14*, 15*, 23*, 40A*, 40B*, 40C*, 41*, 45; HORT 10*.
B4. Mathematics/Quantitative Reasoning: (Completion of one course is required for CSU admission) C S 18; MATH 1A, 1B, 1C, 1D, 2A, 2B, 10, 11, 12, 22, 42, 44, 48A, 48B, 48C, 57; PSYC 7; SOC 7.

AREA C: Arts, Literature, Philosophy & Foreign Language[89] (12–15 quarter units)
Completion of a minimum of three courses, to include at least one course from the Arts and one course from the Humanities.
C1. Arts (Art, Dance, Music, Theater): ART 1, 2A, 2AH, 2B, 2BH, 2C, 2CH, 2D, 2E, 2F, 2G, 2J, 3, 4A, 6; DANC 10; MDIA 1, 2C, 3; MUS 1, 2A, 2B, 2C, 2D, 3A, 3B, 3C, 7, 7D, 7E, 7F, 8, 8H, 9A, 9B, 10, 11A, 11B, 11C, 11D, 11E; PHIL 11; PHOT 1, 8, 8H, 10, 10H, 11, 11H; THTR 1, 2A, 2B, 2F, 8, 12A, 20A, 26; WMN 15.

88 Courses completed for this certificate of achievement must be on the approved list during the year in which they were taken. Consult a counselor for more information.

89 Students who did not complete ENGL 1B for Area A3 above must complete ENGL 1B as one of the Area C courses. Courses may not be counted in more than one area.

C2. Humanities (Literature, Philosophy, Foreign Languages): COMM 12; CRWR 6, 39A, 39B, 41A, 41B; ENGL 1B, 1BH, 5, 5H, 7, 7H, 8, 11, 11H, 12, 14, 16, 17, 18A, 24, 31, 40, 40H, 41, 46A, 46B, 46C, 47A, 47B, 48A, 48B, 48C; HIST 4A, 4B, 4C, 4CH; HUMN 1A, 1B, 3, 3H, 4, 4H; JAPN 1, 2, 3, 4, 5, 6, 25A, 25B, 33, 35; MDIA 2A, 2B, 3, 11, 12; PHIL 2, 4, 8, 20A, 20B, 20C, 24, 25; SPAN 1, 2, 3, 4, 5, 6, 10A, 25A, 25B; THTR 2A, 2B.

AREA D: Social, Political & Economic Institutions (12–15 quarter units)
Two CSU graduation requirements: minimum of three courses.

Requirement 1: POLI 1 and either HIST 17A or 17B or 17C (satisfies the F1 CSU American Institutions requirement)
Requirement 2: One course, selected from D–1 through D–0

D1. Anthropology & Archaeology: ANTH 2A, 2B, 3, 4, 5, 6, 8, 8L, 8LX, 8LY, 12, 14, 15, 20, 22, 52.
D2. Economics: ECON 1A, 1B, 9, 9H, 18, 25; GEOG 5; POLI 9, 9H.
D3. Ethnic Studies: (Some CSU campuses may require additional courses after transfer to meet this requirement.) ANTH 2B, 4, 6, 20; CHLD 51A; COMM 12; ENGL 12, 31; HIST 10; MUS 8, 8H; PHIL 24, 25; PHOT 8, 8H; PSYC 21, 22; SOC 21, 23; SOSC 20; WMN 21.
D4. Gender Studies: ART 2E; COMM 10; ENGL 22; PSYC 21; SOC 21, 28; WMN 5, 11, 15, 21.
D5. Geography: GEOG 2, 5, 9, 10.
D6. History: HIST 4A, 4B, 4C, 4CH, 8, 9, 9H, 10, 16, 16H, 17A, 17B, 17C, 18, 20.
D7. Interdisciplinary Social or Behavioral Science: CHLD 1, 2, 51A; HIST 18; KINS 2; SOC 8; SOSC 20; SPED 62.
D8. Political Science, Government, & Legal Institutions: ECON 9, 9H; POLI 1, 2, 2H, 3, 3H, 9, 9H, 15, 15H; SPED 64.
D9. Psychology: CHLD 50A; PSYC 1, 4, 10, 14, 21, 22, 25, 30, 33, 40, 49, 55; SOC 10, 21, 30; WMN 21.
D0. Sociology & Criminology: PSYC 10, 21, 30; SOC 1, 1H, 8, 10, 11, 14, 15, 20, 21, 23, 28, 30, 40, 57; WMN 21.

AREA E: Lifelong Understanding & Self-Development (4–5 quarter units)
E. BIOL 8; CNSL 52, 72; CRLP 70; DANC 1A, 1B, 1C, 2A, 2B, 3A, 3B, 4A, 4B, 4C, 5, 6, 7, 8, 9, 11A, 11B, 11C,12A, 12B, 12C, 13A, 13B, 14, 15, 16, 17, 18A, 18B (Note: DANC counts as PE activity); HLTH 21; any ATHL, PHDA, PHED activity course (limited to two units); KINS 4, 9, 15; PSYC 50; SOC 19, 40; SPED 52, 62.

TRANSFER STUDIES—IGETC

Program Type(s): Certificate of Achievement
Units required for certificate: 49

Certificate of Achievement in Transfer Studies–IGETC[90]

AREA 1: English Communication
For UC: Complete one course from Group A and one course from Group B
For CSU: Complete one course from Group A, Group B and Group C
Group A: English Composition: ENGL 1A or 1AH or 1S & 1T (if 1S & 1T are selected to satisfy this area, both 1S & 1T must be completed). (4–5 quarter units)
Group B: Critical Thinking/English Composition: ENGL 1B, 1BH, 1C, 1CH; PHIL 1. (4-5 quarter units)

90 Courses completed for this certificate of achievement must be on the approved list during the year in which they were taken. Consult a counselor for more information.

*A minimum of 90 units required for the A.A./A.S. Degree, to include required courses, required electives, and graduation requirements, and these minimum proficiencies: ENGL 1A or 1AH or 1S and 1T or ESLL 26; MATH 57 or 105 or 108.

Group C: Oral Communication (required for CSU only): COMM 1A, 1AH, 1B, 1BH, 2, 3, 4. (5 quarter units)

AREA 2: Mathematical Concepts & Quantitative Reasoning (4–5 quarter units)

Complete a minimum of one course:
C S 18; MATH 1A, 1B, 1C, 1D, 2A, 2B, 10, 11, 12, 22, 44, 48C; PSYC 7; SOC 7.

AREA 3: Arts & Humanities (12–15 units)
Complete at least three courses: one course from the Arts and one course from Humanities, plus one additional course from either Arts or Humanities.
Arts: ART 1, 2A, 2AH, 2B, 2BH, 2C, 2CH, 2D, 2E, 2F, 2G, 2J, 3; DANC 10; MDIA 1, 2A, 3; MUS 1, 2A, 2B, 2C, 2D, 2F, 3A, 3B, 3C, 7, 7D, 7E, 7F, 8, 8H, 9A, 9B, 10, 11A, 11B, 11C; PHIL 11; PHOT 8, 8H, 10, 10H, 11, 11H; THTR 1, 2A, 2B, 2F, 8, 12A, 26; VART 2A, 2B, 2C, 3; WMN 15.
Humanities: ENGL 5, 5H, 7, 7H, 8, 11, 11H, 12, 14, 16, 17, 18A, 24, 31, 40, 40H, 41, 46A, 46B, 46C, 47A, 47B, 48A, 48B, 48C; HIST 4A, 4B, 4C, 4CH; HUMN 1A, 1B, 3, 3H, 4, 4H; JAPN 4, 5, 6, 25A, 25B, 33, 35; MDIA 11, 12; PHIL 2, 4, 8, 20A, 20B, 20C, 24, 25; SPAN 4, 5, 6, 10A, 25A, 25B; THTR 2A, 2B.

AREA 4: Social & Behavioral Sciences[91] (12–15 quarter units)
Complete at least three courses from two different subjects.
ANTH 2A, 2B, 3, 4, 5, 6, 8, 12, 14, 15, 20, 22; ART 2E; CHLD 1, 2; COMM 10, 12; ECON 1A, 1B, 9, 9H, 18, 25; GEOG 2, 5, 9, 10; HIST 4A, 4B, 4C, 4CH, 8, 9, 9H, 10, 16, 16H, 17A, 17B, 17C, 18, 20; KINS 2; PHOT 8, 8H; POLI 1, 2, 2H, 3, 3H, 9, 9H, 15, 15H; PSYC 1, 4, 10, 14, 21, 22, 25, 30, 33, 40, 49, 55; SOC 1, 1H, 8, 10, 11, 14, 15, 20, 21, 23, 28, 30, 40; SOSC 20; WMN 5, 11, 15, 21.

AREA 5: Physical & Biological Sciences (9–12 quarter units)
Complete at least two courses, one Physical Science course and one Biological Science course; at lease one must include a lab (courses in italics include lab). NOTE: Either UC or CSU may limit credit (consult a Foothill College counselor for clarification).
Physical Sciences: ASTR 10A, 10B, 10BH, *10L;* CHEM *1A, 1B, 1C, 12A, 12B, 12C, 20, 25, 30A, 30B;* GEOG *1;* PHYS *2A, 2B, 2C, 4A, 4B, 4C, 4D, 5A, 5B, 5C,* 6, 12, 27.
Biological Sciences: ANTH 1, *1L;* BIOL *1A, 1B, 1C,* 1D, 9, *9L, 10,* 12, *13, 14, 15, 23, 40A, 40B, 40C, 41,* 45; HORT *10*.

AREA 6: Language Other Than English (UC requirement only)
Proficiency equivalent to two years of high school study in the same language with a grade of "C" or better or completion of one of the following courses. If Foothill College courses are not used to satisfy this requirement, students must provide official documentation of completion elsewhere: JAPN 2, 3, 4, 5, 6; SPAN 2, 3, 4, 5, 6.

91 American Institutions CSU Graduation Requirement: For graduation from CSU, students must complete two courses in American history. The following Foothill courses may be used to satisfy this requirement. Students may complete these courses in partial fulfillment of Area 4 AND satisfy the American Institutions requirement. Students should complete POLI 1 and one of the following: HIST 17A, 17B, 17C.

VETERINARY TECHNOLOGY

Program Type(s): Associate in Science Degree, Career Certificate

Units required for major: 87.5, certificate: 13

Program Learning Outcomes:

- The student will demonstrate competency in the necessary knowledge, skills, and values required for the practice of veterinary technology in a wide scope of practice settings.
- The graduates will demonstrate entry-level clinical skills competency in accordance with accreditation requirements.

Associate Degree Requirements *

Core Courses: (87.5 units)[92]

FIRST YEAR

Fall
AHS 50A Introduction to Allied Health Programs (1.5 units)
V T 50A Current Topics in Veterinary Technology I (.5 unit)
V T 53A Medical Terminology (1 unit)
V T 54A Comparative Veterinary Anatomy & Physiology for the Veterinary Technician (5 units)
V T 55 Animal Management & Clinical Skills I (4 units)

Winter
V T 50B Current Topics in Veterinary Technology II (.5 unit)
V T 53B Medical Calculations (1 unit)
V T 60 Veterinary Office Practice (2 units)
V T 56 Animal Management & Clinical Skills II (4 units)
CHEM 30A Survey of Inorganic & Organic Chemistry (5 units)

Spring
V T 50C Current Topics in Veterinary Technology III (.5 unit)
V T 53C Introduction to Large Animal Care (1 unit)
V T 54B Comparative Veterinary Anatomy & Physiology for the Veterinary Technician (5 units)
V T 86 Laboratory Animal Technology (4 units)
V T 89 Clinical Internship I (3 units)

Summer
BIOL 41 Microbiology (6 units)

SECOND YEAR

Fall
V T 50D Current Topics in Veterinary Technology IV (.5 unit)
V T 70 Fundamentals of Veterinary Diagnostic Imaging (4 units)
V T 81 Clinical Pathology Methods (5 units)
V T 83 Pharmacology for Technicians (4 units)
V T 91 Clinical Internship II (3 units)

Winter
V T 50E Current Topics in Veterinary Technology V (.5 unit)
V T 61 Animal Diseases (5 units)
V T 84 Anesthesiology for Technicians (5 units)
V T 92 Clinical Internship III (3 units)

Spring
V T 50F Current Topics in Veterinary Technology VI (.5 unit)
V T 72 Principles of Veterinary Dentistry (2 units)
V T 85 Veterinary Emergency & Critical Care (4 units)
V T 93 Clinical Internship IV (4 units)
V T 95 Veterinary Technician Proficiency (2 units)
V T 95L Veterinary Technician Proficiency Laboratory (1 unit)

92 All courses must be taken in sequence and completed with a grade of "C" of better.

*A minimum of 90 units required for the A.A./A.S. Degree, to include required courses, required electives, and graduation requirements, and these minimum proficiencies: ENGL 1A or 1AH or 1S and 1T or ESLL 26; MATH 57 or 105 or 108.

Online Veterinary Assisting Career Certificate[93] (13 units)
[Non-Transcriptable]
The Online Veterinary Assisting Certificate Program is separate from the two-year Veterinary Technology Program and consists of the following four courses:
V T 52A Veterinary Assisting I (5 units)
V T 52B Veterinary Assisting II (5 units)
V T 88A Clinical Preceptorship I (1.5 units)
V T 88B Clinical Preceptorship II (1.5 units)

WOMEN'S STUDIES

Program Type(s): Associate in Arts Degree
Units required for major: 33

Program Learning Outcomes:
- The student will be able to identify connections between specific people, groups, events and ideas and larger sociological, psychological, historical and gender studies specific themes, developments and topics.
- The student will be able to critically analyze a variety of primary and secondary sources and draw valid sociological, psychological, historical, and gender studies interpretations from them.

Associate Degree Requirements *

Core Courses: (17 units)
COMM 10 Gender, Communication & Culture (5 units)
WMN 5 Introduction to Women's Studies (4 units)
WMN 11 Women in Global Perspective (4 units)
WMN 21 Psychology of Women: Sex & Gender Differences (4 units)
or SOC 21 Psychology of Women: Sex & Gender Differences (4 units)
or PSYC 21 Psychology of Women: Sex & Gender Differences (4 units)

Support Courses: (16 units)
PSYC 14 Child & Adolescent Development (4 units)
PSYC 22 Psychology of Prejudice (4 units)
SOC 30 Social Psychology (4 units)
or PSYC 30 Social Psychology (4 units)
SOC 40 Aspects of Marriage & Family (4 units)
SOSC 20 Cross-Cultural Perspectives for a Multicultural Society (4 units)
WMN 15 A History of Women in Art (4.5 units)
or ART 2E A History of Women in Art (4.5 units)
WMN 70R Independent Study in Women's Studies (1 unit)
WMN 71R Independent Study in Women's Studies (2 units)
WMN 72R Independent Study in Women's Studies (3 units)
WMN 73R Independent Study in Women's Studies (4 units)

93 Student must have a high school diploma or a valid G.E.D. certificate and must read and write proficiently in English and perform mathematical computations at the high school graduate level.

*A minimum of 90 units required for the A.A./A.S. Degree, to include required courses, required electives, and graduation requirements, and these minimum proficiencies: ENGL 1A or 1AH or 1S and 1T or ESLL 26; MATH 57 or 105 or 108.

Course Listings

Course Listing Numbering System

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Course Numbering System

The following course numbering system provides a detailed explanation regarding course number designations. When in doubt about the transferability of a course, always consult a counselor. You are responsible for reviewing prerequisites and repeatability as noted in course descriptions. Where there is a conflict between the catalog statements and published curriculum sheets, the latter will take precedence. New courses and programs maybe added throughout the year and for more information, please see the online catalog.

- Courses approved for transfer to the University of California (UC) are usually numbered **1–49.** There are some exceptions to this rule; therefore, you should always consult with a counselor to verify course transferability. For more information, access **www.foothill.edu** or **www.assist.org.** The term degree applicable signifies courses which apply to the associate degree and/or baccalaureate transfer degree.
- Courses designated **1–99** are baccalaureate in nature and are generally transferable to the California State University (CSU).
- Courses numbered **100 and above** are not transferable.
- Courses numbered **200–299** are prerequisites for required courses that lead to the associate degree and non-degree applicable credit courses.
- Courses numbered **300–399** are workshop, review and other courses offered to meet special collegiate needs of a community nature.
- Courses numbered **400–499** are non-credit, non-graded courses in consumer education, adaptive learning or other areas that do not apply to the associate degree.
- Community services courses are fee-based, and are scheduled and publicized separately from the state-supported courses identified in this catalog.

ACCOUNTING

Business and Social Sciences (650) 949-7322 www.foothill.edu/bss/

ACTG 1A FINANCIAL ACCOUNTING I 5 Units
Advisory: Eligibility for MATH 220 and ENGL 110 or ESLL 26.
5 hours lecture. (60 hours total per quarter)
Study of accounting as an information system, examining why it is important and how it is used by investors, creditors, and others to make decisions. The course covers the accounting information system, including recording and reporting of business transactions with a focus on the accounting cycle, ethics in accounting, the application of generally accepted accounting principles, international financial reporting standards, the financial statements, and financial statement analysis. Includes issues relating to asset, liability, and equity valuation, revenue and expense recognition, cash flow, internal controls, and ethics. Financial Accounting is covered over a 2-course sequence: ACTG 1A and ACTG 1B. **FHGE: Non-GE; Transferable: UC/CSU**

ACTG 1B FINANCIAL ACCOUNTING II 5 Units
Prerequisite: ACTG 1A.
Advisory: Eligibility for MATH 220 and ENGL 110 or ESLL 26.
5 hours lecture. (60 hours total per quarter)
Continuation of ACTG 1A focusing on accounting as an information system, examining why it is important and how it is used by investors, creditors, and others to make decisions. Long-term assets, short- and long-term liabilities, equity valuation, revenue and expense recognition, statement of cash flows, financial statement analysis, internal controls, and ethics. **FHGE: Non-GE; Transferable: UC/CSU**

ACTG 1C MANAGERIAL ACCOUNTING 5 Units
Prerequisite: ACTG 1B.
Advisory: MATH 10 or high school algebra.
5 hours lecture. (60 hours total per quarter)
Study of accounting information system for internal uses for decision-making, planning, directing operations and controlling. Process costing, job-order costing, activity-based costing, standard costing, cost behavior and cost-volume profit analysis, budgeting, performance evaluation, capital investment analysis, and ethics. **FHGE: Non-GE; Transferable: UC/CSU**

ACTG 51A INTERMEDIATE ACCOUNTING I 4 Units
Prerequisite: ACTG 1B.
4 hours lecture. (48 hours total per quarter)
Review of financial accounting standards, accounting information processing systems and the resulting financial statements. Selected topics related to present value applications, valuation techniques, and revenue recognition. Also covered, accounting for cash, receivables, and inventory. **FHGE: Non-GE; Transferable: CSU**

ACTG 51B INTERMEDIATE ACCOUNTING II 4 Units
Prerequisite: ACTG 1B.
4 hours lecture. (48 hours total per quarter)
Accounting for Property, Plant & Equipment, intangible assets, current liabilities, long-term liabilities, and equity. **FHGE: Non-GE; Transferable: CSU**

ACTG 51C INTERMEDIATE ACCOUNTING III 4 Units
Prerequisite: ACTG 1B.
4 hours lecture. (48 hours total per quarter)
Accounting for Investments, income taxes, pensions and post-retirement benefits, leases, and accounting changes and error analysis; also covered, the cash flows statement, and full disclosure in financial Reporting. **FHGE: Non-GE; Transferable: CSU**

ACTG 52 ADVANCED ACCOUNTING 5 Units
Prerequisite: ACTG 51A.
Advisory: Eligibility for MATH 220 and ESLL 26.
5 hours lecture. (60 hours total per quarter)
Presents financial accounting theories and practices related to business combinations and consolidated financial reporting. This includes the development of complex business structures and forms of business combinations; consolidated financial reporting for intercorporate acquisitions and operations; and the accounting for transactions of affiliated companies. Also includes accounting and reporting issues in the multinational business environment. Accounting theory and practice related to the formation, operation and liquidation of partnerships is covered. **FHGE: Non-GE; Transferable: CSU**

ACTG 53 FINANCIAL STATEMENT ANALYSIS 5 Units
Prerequisite: ACTG 1B.
Advisory: ACTG 51A, MATH 220 and ESLL 26.
5 hours lecture. (60 hours total per quarter)
The student will develop a set of core skills essential to financial statement analysis. It will cover strategic ratio analysis, cash flow analysis, forecasting, proforma financial statements, and firm valuation using discounted cash flow and residual income techniques. The course emphasizes the practical application of the material using a combination of lecture and hands-on examples.
FHGE: Non-GE; Transferable: CSU

ACTG 58 AUDITING 5 Units
Prerequisite: ACTG 51A.
Advisory: Eligibility for MATH 220 and ESLL 26.
5 hours lecture. (60 hours total per quarter)
Study of the contemporary auditing environment, auditing profession, and the principle, and practices of financial statement audit. Topics include auditing, attestation and assurance services, Generally Accepted Auditing Standards (GAAS), attestation standards, professional ethics, Sarbanes-Oxley Act 2002 regulatory requirements, internal controls and audit risk, audit planning, procedures, evidence, documentation and report writing. **FHGE: Non-GE; Transferable: CSU**

ACTG 59 FRAUD EXAMINATION 5 Units
Prerequisite: ACTG 51A.
Advisory: Eligibility for MATH 220 and ESLL 26.
5 hours lecture. (60 hours total per quarter)
This course covers important topics associated with modern forensic accounting and fraud examination. Topics include an examination of the various types of occupational fraud, as well as the techniques to prevent and detect fraud in organizations. In addition, students will learn principals of fraud examination including who and why individuals commit fraud. **FHGE: Non-GE; Transferable: CSU**

ACTG 60 ACCOUNTING FOR SMALL BUSINESS 5 Units
Advisory: Eligibility for MATH 220 and ESLL 26.
5 hours lecture. (60 hours total per quarter)
Pre-professional accounting course introducing the theory of double-entry bookkeeping/accounting. Emphasis on basic accounting cycle, elementary accounting principles and procedures, and financial records. **FHGE: Non-GE; Transferable: CSU**

ACTG 64A COMPUTERIZED ACCOUNTING PRACTICE USING QUICKBOOKS 4 Units
Prerequisite: ACTG 1A or equivalent experience.
Advisory: Not open to students with credit in CIS 64A.
4 hours lecture. (48 hours total per quarter)
Focus on using QuickBooks to record financial data. Reviewing the accounting cycle, processing business transactions and preparing financial statements.
FHGE: Non-GE; Transferable: CSU

ACTG 64B COMPUTERIZED ACCOUNTING PRACTICE USING EXCEL 4 Units
Prerequisite: ACTG 1B or equivalent experience.
Advisory: Not open to students with credit in CIS 64B.
4 hours lecture. (48 hours total per quarter)
Practice in using an electronic spreadsheet program to organize and process financial and managerial accounting data. Includes research on the Internet. **FHGE: Non-GE; Transferable: CSU**

ACTG 65 PAYROLL & BUSINESS TAX ACCOUNTING 4 Units
Prerequisite: ACTG 1A.
Advisory: Eligibility for MATH 220 and ESLL 26.
4 hours lecture. (48 hours total per quarter)
Presentation of basic payroll procedures used in business today. Provides practice in recording procedures and preparation of tax returns. **FHGE: Non-GE; Transferable: CSU**

ACTG 66 COST ACCOUNTING 5 Units
Prerequisite: ACTG 1C or equivalent experience.
Advisory: Eligibility for MATH 220 and ESLL 26.
5 hours lecture. (60 hours total per quarter)
Fundamentals of activity-based costing, job-order, process cost, and standard cost accounting systems. **FHGE: Non-GE; Transferable: CSU**

ACTG 67 TAX ACCOUNTING 5 Units
Advisory: Eligibility for MATH 220 and ESLL 26.
5 hours lecture. (60 hours total per quarter)
Current federal and california income tax law as it relates to individuals, emphasizing practical application, tax planning and tax form preparation. **FHGE: Non-GE; Transferable: CSU**

ACTG 68A ADVANCED TAX ACCOUNTING I 4 Units
Prerequisite: ACTG 67.
Advisory: Eligibility for MATH 220 and ESLL 26.
4 hours lecture. (48 hours total per quarter)
Current federal income tax law as it relates to sole proprietorship and partnership. **FHGE: Non-GE; Transferable: CSU**

ACTG 68B ADVANCED TAX ACCOUNTING II 4 Units
Prerequisite: ACTG 67.
Advisory: Eligibility for MATH 220 and ESLL 26.
4 hours lecture. (48 hours total per quarter)
Current federal income tax law as it relates to corporations, estate, trust, and gift taxes. **FHGE: Non-GE; Transferable: CSU**

ACTG 68C ADVANCED TAX ACCOUNTING III 3 Units
Prerequisite: ACTG 67.
Advisory: Eligibility for MATH 220 and ESLL 26.
3 hours lecture. (36 hours total per quarter)
Current federal income tax administration and procedures and review of Enrolled Agent Exam. **FHGE: Non-GE; Transferable: CSU**

ACTG 70R INDEPENDENT STUDY IN ACCOUNTING 1 Unit
ACTG 71R 2 Units
ACTG 72R 3 Units
ACTG 73R 4 Units
3–12 hours per week. (36–144 hours total per quarter)
Provides an opportunity for the student to expand their studies in Accounting beyond the classroom by completing a project or an assignment arranged by agreement between the student and instructor. The student is required to contract with the instructor to determine the scope of assignment and the unit value assigned for successful completion. Students may take a maximum of 6 units of Independent Study per department. **FHGE: Non-GE; Transferable: CSU**

ACTG 75 ACCOUNTING FOR GOVERNMENT & NOT-FOR-PROFIT 5 Units
Prerequisite: ACTG 1B.
Advisory: Eligibility for MATH 220 and ESLL 26.
5 hours lecture. (60 hours total per quarter)
Study of governmental and not-for-profit accounting. Topics include financial reporting; federal, state and local government accounting; budgetary accounting; general and special revenue funds; proprietary funds; trust and agency funds; fixed assets and long term debt; and nonprofit accounting for entities such as public colleges, universities and health care providers. **FHGE: Non-GE; Transferable: CSU**

ACTG 76 ETHICS IN ACCOUNTING 5 Units
Prerequisite: ACTG 1A.
Advisory: Eligibility for MATH 220 and ESLL 26.
5 hours lecture. (60 hours total per quarter)
Study of professional ethics for accounting from a business perspective in context of financial statement frauds such as Enron. Topics include nature of accounting, ethical behavior in accounting, ethical theory, rules of the code of conduct, ethics of tax accounting and ethics of the auditing function. **FHGE: Non-GE; Transferable: CSU**

ADAPTIVE LEARNING: COMPUTER ACCESS CENTER

Counseling and Student Services (650) 949-7017 www.foothill.edu/al/

ALCA 201 COMPUTER ACCESS EVALUATION 1 Unit
Formerly: ALCA 101.
Advisory: Not open to students with credit in ALCA 101.
3 hours laboratory. (36 hours total per quarter)
Survey course designed to provide students with an overview of current assistive technologies including Dragon Naturally Speaking, Kurzweil, Inspiration etc. Course content includes an evaluation of technology needs, tutorials, and hands-on practice for various software and hardware. **FHGE: Non-GE**

ADAPTIVE LEARNING: COMMUNITY BASED

Counseling and Student Services (650) 949-7017 www.foothill.edu/al/

ALCB 201 BEGINNING LIP READING .5 Unit
1.5 hours lecture-laboratory. (18 hours total per quarter)
Intended for adults with acquired, congenital or progressive hearing impairment. Includes basic sounds of the English language and how production of basic speech sounds appears on the lips and face of the speaker. Mechanics of the ear and sound will be presented. Physiological problems related to hearing will be discussed as well as some technological solutions. Practical experience in lip reading. **FHGE: Non-GE**

ALCB 202 INTERMEDIATE LIP READING & MANAGING YOUR HEARING LOSS .5 Unit
1.5 hours lecture-laboratory. (18 hours total per quarter)
Intended to meet the needs of the hearing impaired adult with acquired hearing impairment. **FHGE: Non-GE**

ALCB 203 ADVANCED LIP READING & MANAGING YOUR HEARING LOSS .5 Unit
Prerequisites: ALCB 201, 202 or equivalent skills.
1.5 hours lecture-laboratory. (18 hours total per quarter)
Advanced instruction in lip reading techniques for the hearing impaired adult. **FHGE: Non-GE**

ALCB 222 JOB SEARCH SKILLS 3 Units
6 hours lecture-laboratory. (72 hours total per quarter)
Preparation and skills necessary for re-entry into the job market. Emphasis on technological changes impacting the job search. Includes use of Internet and networking sites for making connections for job search. **FHGE: Non-GE**

ALCB 223 CAREER RESOURCES 2 Units
6 hours laboratory. (72 hours total per quarter)
Career Resources is an introduction and hands-on use of resources available to research and find employment in the Bay Area. Resources include daily on-line job postings, fax, internet, telephones, corporate events, casual labor, job fairs and career library. Intended for the disabled student. **FHGE: Non-GE**

ALCB 224 EMPLOYMENT ISSUES 1 Unit
2 hours lecture-laboratory. (24 hours total per quarter)
The computer and job search classes at the Next Step Center. Exploration of work-related issues, situations and decision-making skills related to employment and job retention. Emphasis on problems facing the re-entry worker and the disabled. **FHGE: Non-GE**

ALCB 230 INTRODUCTION TO THE COMPUTER 2 Units
4 hours lecture-laboratory. (48 hours total per quarter)
Introduction to the computer designed for the student with little or no computer experience. Emphasis on word processing, keyboarding and use of internet. **FHGE: Non-GE**

ALCB 231 CAREER PLANNING & PERSONAL ASSESSMENT .5 Unit
1.5 hours laboratory. (18 hours total per quarter)
Intended to help students develop a personal profile that identifies sociological, psychological and physiological perspectives for success in work, education and personal life. **FHGE: Non-GE**

ALCB 403Y CHANGING GENERATIONS 0 Units
Unlimited Repeatability. (24 hours total)
Intended to offer an opportunity for young and old to share a relationship.
FHGE: Non-GE

ALCB 406Y WORLD NEWS DISCUSSION 0 Units
Unlimited Repeatability. (24 hours total)
Intended for the disabled to study world news by examining turning points in history, comparing and contrasting them with current world events to enhance memory retention and self-esteem. **FHGE: Non-GE**

ALCB 407Y SOCIAL CHANGE 0 Units
Unlimited Repeatability. (24 hours total)
Intended for the disabled to improve memory and understanding of changes in society to increase awareness of the impact of these changes and increase social interaction.
FHGE: Non-GE

ALCB 408Y ART APPRECIATION 0 Units
Unlimited Repeatability. (24 hours total)
Intended for the disabled student to acquire an appreciation of artists and their work. Provides opportunity for social interaction and intellectual stimulation made possible through shared knowledge of artists and their work. **FHGE: Non-GE**

ALCB 409Y MUSIC APPRECIATION 0 Units
Unlimited Repeatability. (24 hours total)
Intended for the disabled student to acquire appreciation of composers and their work. Emphasis on identification and recall of auditory input. **FHGE: Non-GE**

ALCB 413 RELAXATION TECHNIQUES 0 Units
Unlimited Repeatability. (12 hours total)
This course develops the ability of students to identify their key stressors and put into action innovative and individualized strategies to manage stress. Students become familiar with the psychobiology of stress and how it undermines health and well-being. **FHGE: Non-GE**

ALCB 413Y RELAXATION TECHNIQUES 0 Units
Unlimited Repeatability. (24 hours total)
Intended for the disabled student to acquire information about and develop techniques for achieving relaxation by releasing mental and physical tension. **FHGE: Non-GE**

ALCB 414Y STRESS MANAGEMENT 0 Units
Unlimited Repeatability. (24 hours total)
Intended for the disabled student to recognize stress symptoms and become aware of signals which cause triggers in stress. Learn stress management skills from passive to active take-charge role. **FHGE: Non-GE**

ALCB 421Y AROUND THE WORLD IN TRAVEL STUDY 0 Units
Unlimited Repeatability. (24 hours total)
Intended for the disabled student to recall personal travel. Focuses on the discussion of geography, history, religions and arts of other cultures to increase knowledge and social interaction, and improve memory retention. **FHGE: Non-GE**

ALCB 431Y ANALYSIS OF CURRENT EVENTS 0 Units
Unlimited Repeatability. (24 hours total)
Intended for the disabled student to acquire information about current events with an emphasis on comparing and contrasting current with past events to enhance memory retention and self-esteem. **FHGE: Non-GE**

ALCB 451Y DRAWING & PAINTING 0 Units
Unlimited Repeatability. (24 hours total)
Intended for the disabled student to improve expressive capability, manipulatory skills and eye-hand coordination, increase self-esteem and increase social interaction through the use of painting, drawing and sketching materials, tools, and techniques to create two-dimensional art in a group setting. **FHGE: Non-GE**

ALCB 456Y CRAFTS 0 Units
Unlimited Repeatability. (24 hours total)
Intended for the disabled student to improve expressive capability, manipulatory skills and eye-hand coordination, increase self-esteem and increase social interaction through the use of seasonal, leather, wood, fabric, yarn and paper materials to create crafts projects in a group setting. **FHGE: Non-GE**

ALCB 462Y VERBAL EXPRESSION 0 Units
Unlimited Repeatability. (24 hours total)
Intended for the disabled student to teach techniques in verbal communication specifically to improve family, social and work-related situations. **FHGE: Non-GE**

ALCB 463Y CREATIVE WRITING 0 Units
Unlimited Repeatability. (24 hours total)
Intended for the disabled student to present written autobiographical, fictional and non-fictional experiences which are shared orally for both appreciation and constructive input to enhance self-esteem, memory retention and writing ability.
FHGE: Non-GE

ALCB 465Y CREATIVE SELF-EXPRESSION 0 Units
Unlimited Repeatability. (24 hours total)
Intended for the disabled student to provide directed experiences in self-expression. Emphasis on various activities designed to enhance physical and cognitive creative expression and enable the student to develop independent creative activities through adapted drama, music, art and writing. **FHGE: Non-GE**

ADAPTIVE LEARNING: LEARNING DISABILITY

Counseling and Student Services (650) 949-7017 www.foothill.edu/al/

ALLD 206 PARAGRAPH REMEDIATION 2 Units
Corerequisites: ENGL 209 and 110.
6 hours laboratory. (72 hours total per quarter)
A paragraph development class with an emphasis on writing concisely with correct grammar. Provides support and instruction to students in remedial English courses who struggle with basic reading and writing skills. Focus on research, reading comprehension, content development, and writing structure. Intended for students enrolled in ENGL 209 or ENGL 110. **FHGE: Non-GE**

ALLD 207 BASIC MATH REMEDIATION 1 Unit
Advisory: Pass/No Pass.
3 hours laboratory. (36 hours total per quarter)
A remedial math class with an emphasis on basic math skills, intended for students with disabilities. Provides support and instruction to students who struggle with math calculation and problems solving skills ranging from basic to higher level. Intended for students currently enrolled in a Foothill math class. Students will receive guided practice in specific compensatory and study strategies. The focus will be on utilizing skills and strategies in conjunction with academic course material. Students will be able to identify learning preferences and strengths as they pertain to mathematics.
FHGE: Non-GE

ALLD 210 UNDERSTANDING LEARNING DIFFERENCES 3 Units
Formerly: ALLD 601
Advisory: Not open to students with credit in ALLD 601.
3 hours lecture. (36 hours total per quarter)
Focuses on learning differences, learning theory and strategies related to specific learning challenges. Creation of individual learning portfolio to identify learning style, strengths and weaknesses. Covers understanding of learning differences, methods of retention and output of knowledge. Cognitive and achievement testing will be provided as appropriate to identify student individual learning profile. **FHGE: Non-GE**

ALLD 211 ENHANCING COLLEGE SUCCESS 1 Unit
1 hour lecture. (12 hours total per quarter)
Define the characteristics of a successful college student, and practice developing behaviors and attitudes that increase academic success, including familiarity with campus resources. Basic aspects of various learning differences, including learning disabilities and attention deficit/hyperactive disorders and their impact on learning. Emphasis is on awareness and acceptance of individual learning differences. Demonstrate advocacy for learning requirements with instructional faculty. Evaluate and reinforce successful learning tools in areas such as time management, memory, processing information, and learning styles. Placement by Disability Resource Center counselors, counselors or faculty is accepted. Prior Learning Disabilities testing is not required. **FHGE: Non-GE**

ADAPTIVE LEARNING: TRANSITION TO WORK

Counseling and Student Services (650) 949-7017 www.foothill.edu/al/

ALTW 201 BASIC ENGLISH FOR THE DISABLED STUDENT 2 Units
2 hours lecture. (24 hours total per quarter)
The Transition to Work Program is for students with disabilities who are not ready to take regular college classes. The basic English class emphasis is grammar, sentence and paragraph structure with practical applications. **FHGE: Non-GE**

ALTW 202 BASIC MATH SKILLS FOR THE DISABLED STUDENT 2 Units
2 hours lecture. (24 hours total per quarter)
Basic math skills for the disabled student. Emphasis on basic math functions, money handling and practical applications. **FHGE: Non-GE**

ALTW 203 LEARNING STYLES & STRATEGIES FOR THE DISABLED STUDENT 2 Units
2 hours lecture. (24 hours total per quarter)
The Transition to Work Learning Strategies class enables the students to explore and identify their learning styles, values, personality traits and develop a personal profile that helps them with their vocational choices. The course is intended for students with disabilities. **FHGE: Non-GE**

ALTW 204 COMMUNICATION SKILLS FOR THE DISABLED STUDENT 1 Unit
2 hours lecture-laboratory. (24 hours total per quarter)
Practical exercises in communication skills in order to increase confidence in interpersonal interactions and enhance self esteem. **FHGE: Non-GE**

ALTW 205 OFFICE SKILLS FOR THE DISABLED STUDENT 3 Units
3 hours lecture. (36 hours total per quarter)
Practical office skills needed for successful employment. Focuses on filing systems, records management, and mail handling. Intended for the disabled student.
FHGE: Non-GE

ALTW 206 BEGINNING WORD PROCESSING FOR THE DISABLED STUDENT 3 Units
Formerly: ALTW 112.
Advisory: Not open to students with credit in ALTW 112.
6 hours lecture-laboratory. (72 hours total per quarter)
Introduction to the computer and its uses for the student with little or no computer experience. Emphasis on word processing. Intended for the disabled student.
FHGE: Non-GE

ALTW 207 RESOURCES IN THE COMMUNITY FOR THE DISABLED STUDENT 2 Units
2 hours lecture. (24 hours total per quarter)
Overview of community resources for the disabled student. **FHGE: Non-GE**

ALTW 208 JOB TRAINING/INTERNSHIP FOR THE DISABLED STUDENT 1.5 Units
4.5 hours laboratory. (54 hours total per quarter)
Practical skills needed for successful employment. Emphasis on on-the-job training experiences; discussion and evaluation of one's performance. **FHGE: Non-GE**

ALTW 209 SOCIAL SKILLS FOR THE DISABLED STUDENT 1 Unit
2 hours lecture-laboratory. (24 hours total per quarter)
Enhancement of self-esteem and socialization skills in order to increase confidence in personal and social interactions. **FHGE: Non-GE**

ALTW 210 OFFICE APPLICATIONS FOR THE DISABLED STUDENT 2 Units
4 hours lecture-laboratory, 1 hour internship. (60 hours total per quarter)
Practical office applications needed for successful employment. Focuses on business etiquette, office equipment and adaptations. Intended for the disabled student.
FHGE: Non-GE

ALTW 211 INTRODUCTION TO EXCEL FOR THE DISABLED STUDENT 3 Units
6 hours lecture-laboratory. (72 hours total per quarter)
This class teaches Excel to students with little computer experience. Emphasis on spreadsheets, charts and tables. Intended for the disabled student. **FHGE: Non-GE**

ALTW 212 JOB SEARCH SKILLS: THE RESUME FOR THE DISABLED STUDENT 1 Unit
2 hours lecture-laboratory. (24 hours total per quarter)
Focuses on resume writing techniques and filling out practice job applications.
FHGE: Non-GE

ALTW 213 WORK ATTITUDES & BEHAVIOR FOR THE DISABLED STUDENT 1 Unit
2 hours lecture-laboratory. (24 hours total per quarter)
Designed to help the students develop appropriate work behavior and attitudes. Focuses on attitudes, fears and expectations as they relate to work. **FHGE: Non-GE**

ALTW 214 JOB SEARCH SKILLS: THE INTERVIEW FOR THE DISABLED STUDENT 1 Unit
2 hours lecture-laboratory. (24 hours total per quarter)
Focuses on interviewing techniques and the special problems faced by the disabled seeking employment. The informational interview procedure will be explored through lectures and role-play. **FHGE: Non-GE**

ALTW 216 DISABILITY & THE LAW FOR THE DISABLED STUDENT 2 Units
2 hours lecture. (24 hours total per quarter)
Understanding basic citizens' rights and responsibilities. Emphasis on the Americans with Disabilities Act (ADA). **FHGE: Non-GE**

ALTW 217 INTERMEDIATE COMPUTER APPLICATIONS FOR THE DISABLED STUDENT 3 Units
6 hours lecture-laboratory. (72 hours total per quarter)
Combined use of word processing, Excel spreadsheets and PowerPoint for presentations. Intended for the Transition to Work student. **FHGE: Non-GE**

ALTW 218 CURRENT EVENTS FOR THE DISABLED STUDENT 1 Unit
2 hours lecture-laboratory. (24 hours total per quarter)
Survey of current events for the disabled student. **FHGE: Non-GE**

ALTW 219 USING THE INTERNET FOR THE DISABLED STUDENT 1 Unit
2 hours lecture-laboratory. (24 hours total per quarter)
This is a hands-on introduction to the use of internet tools such as Google Apps and Etudes for students with disabilities. **FHGE: Non-GE**

ADVERTISING

Business and Social Sciences (650) 949-7322 www.foothill.edu/bss/

ADVT 57 PRINCIPLES OF ADVERTISING 4 Units
Advisory: Not open to students with credit in BUSI 57.
4 hours lecture. (48 hours total per quarter)
Introduction to the relationship between advertising and society, the consumer and business. Analysis of markets and direction of advertising campaigns toward them. Selection of media. Evaluation and proper use of the creative aspects of advertising. Actual creation of an advertising campaign and pro forma budget. **FHGE: Non-GE; Transferable: CSU**

ALLIED HEALTH SCIENCES

Biological and Health Sciences (650) 949-7249 www.foothill.edu/bio/

AHS 50A INTRODUCTION TO ALLIED HEALTH PROGRAMS 1.5 Units
Formerly: AHS 50
Prerequisites: ENGL 1A, 1AH, 1S & 1T or ESLL 26 and MATH 105.
Advisory: Application and admission to an allied health program; not open to students with credit in AHS 50.
1.5 hour lecture. (18 hours total per quarter)
Introduction to Foothill College Allied Health Programs for the incoming first year student. Overview of HIPAA and patient privacy, Academic Honor Code, student rights and responsibilities, strategies for student success, stress and time management, professionalism and ethical behavior in the health care environment and individual program policies and procedures for allied health students. Introduction to peer reviewed literature in the professional discipline, analyzing a research study, writing a full research essay of a peer reviewed research study and understanding of the data analysis of the research. Intended for students who have applied and been accepted into Allied Health Programs. **FHGE: Non-GE; Transferable: CSU**

AHS 50B INTERPROFESSIONAL PATIENT COMPETENCIES .5 Unit
6 hours total. (6 hours total per quarter)
Intended for students currently enrolled in one of the Allied Health Programs. This is the second of three courses focusing on interprofessional education (IPE). This course will include an overview on the pediatric patient, the geriatric patient, communication issues in healthcare settings and understanding the skills and scope of practice of other healthcare professionals. **FHGE: Non-GE; Transferable: CSU**

AHS 50C INTERPROFESSIONAL COMPETENCIES FOR COLLABORATIVE PRACTICE .5 Unit
6 hours total. (6 hours total per quarter)
Intended for students currently enrolled in one of the Allied Health Programs. This is the third of three courses focusing on interprofessional education (IPE). This course will include an overview on the healthcare team, professional communication issues in healthcare settings and values and ethics for interprofessional practice. **FHGE: Non-GE; Transferable: CSU**

AHS 55 COMMUNITY HEALTH PROMOTION 2 Units
Advisory: This course requires clinical field experiences that may take place outside of the U.S. The cost of travel is borne by the student.
I hour lecture, 3 hours laboratory. (48 hours total per quarter)
Introduction to community approaches to disease prevention and health promotion with an emphasis on a holistic approach, risk and resilience, social capital, and social change to promote community health in communities with limited access to care. Students have the opportunity to shadow licensed doctors, dentists and other health care professionals in urgent and preventive medical/dental services. Intended for students pursuing an allied health or medical career. **FHGE: Non-GE; Transferable: CSU**

AHS 200 ORIENTATION TO HEALTH CARE CAREERS 3 Units
3 hours lecture. (36 hours total per quarter)
Orientation to health care programs preparing students to differentiate among the health care professions and to enter the profession of their choice. Defining the American health care system. Discussion of health care economics, delivery of and changes to the health care system, professionalism, ethics, expectations of the health care professional incuding interpersonal skills. The importance of HIPAA regulations including confidentaity, legal issues, death and dying, medical terminology, infection control, governmental regulations, cultural diversity, and academic skills, related to allied health careers and the consumer. **FHGE: Non-GE**

ANTHROPOLOGY

Business and Social Sciences (650) 949-7322 www.foothill.edu/bss/

ANTH 1 INTRODUCTION TO PHYSICAL ANTHROPOLOGY 4 Units
4 hours lecture. (48 hours total per quarter)
Survey and investigation of the basic processes of evolution and their application to the development of modern humans. Impact of natural selection and genetics on development of new species. Evolutionary processes behind the physical and behavioral development of primates. History of the human lineage by reconstructing the fossil record, using investigations by paleoanthropologists, geologists, biologists, and archaeologists. Relationship between contemporary biology and behavior, facilitating an understanding of the effect of them upon future humankind.
FHGE: Natural Sciences; Transferable: UC/CSU

ANTH 1H HONORS INTRODUCTION TO PHYSICAL ANTHROPOLOGY 4 Units
Prerequisite: Honors Institute participant.
Advisory: Demonstrated proficiency in English by placement into ENGL 1A as determined by score on the English placement test or through an equivalent placement process; not open to students with credit in ANTH 1.
4 hours lecture. (48 hours total per quarter)
Survey and investigation of the basic processes of evolution and their application to the development of modern humans. Impact of natural selection and genetics on development of new species. Evolutionary processes behind the physical and behavioral development of primates. History of the human lineage by reconstructing the fossil record, using investigations by paleoanthropologists, geologists, biologists, and archaeologists. Relationship between contemporary biology and behavior, facilitating an understanding of the effect of them upon future humankind. As an honors course, it is a full thematic seminar with advanced teaching methods focusing on major writing, reading, and research assignments, student class lectures, group discussions and interactions. **FHGE: Non-GE; Transferable: UC/CSU**

ANTH 1HL HONORS PHYSICAL ANTHROPOLOGY LABORATORY 1 Unit
Prerequisite: Honors Institute participant.
Corequisite: Completion of, or concurrent enrollment in ANTH 1H.
Advisory: Demonstrated proficiency in English by placement into ENGL 1A as determined by score on the English placement test or through an equivalent placement process; not open to students with credit in ANTH 1L.
1 hour lecture-laboratory, 2 hours laboratory. (36 hours total per quarter)
Introductory laboratory course focusing on scientific methodology to explore/experiment with topics from Anthropology lecture sections. Topics include Mendelian genetics, population genetics, human variability, forensics, medical anthropology, epidemiology, hominid dietary patterns, non-human primates, primate dental and skeletal anatomy, fossil hominids, chronometric dating, environmental challenges

to hominids, environmental impact of hominid behavior, general methodologies utilized in physical anthropological research, and the general study of hominids as bio-culturally adapting animals. As an honors course, it is a full thematic seminar with advanced teaching methods focusing on major writing, reading, and research assignments, student class lectures, group discussions and interactions. Material covered will be enhanced and research techniques and methodologies explored in greater depth than in the non-honors version of this course. **FHGE: Non-GE; Transferable: UC/CSU**

ANTH 1L PHYSICAL ANTHROPOLOGY LABORATORY 1 Unit
Corequisite: Completion of, or concurrent enrollment in ANTH 1.
1 hour lecture-laboratory, 2 hours laboratory. (36 hours total per quarter)
Introductory laboratory course focusing on scientific methodology to explore/experiment with topics from Anthropology lecture sections. Topics include Mendelian genetics, population genetics, human variability, forensics, medical anthropology, epidemiology, hominid dietary patterns, non-human primates, primate dental and skeletal anatomy, fossil hominids, chronometric dating, environmental challenges to hominids, environmental impact of hominid behavior, general methodologies utilized in physical anthropological research, and the general study of hominids as bio-culturally adapting animals. **FHGE: Natural Sciences; Transferable: UC/CSU**

ANTH 2A CULTURAL ANTHROPOLOGY 4 Units
4 hours lecture. (48 hours total per quarter)
Introduction to the study of human culture and the concepts, theories, and methods used in the comparative study of sociocultural systems. Subjects include subsistence, political organization, language, kinship, religion, social inequality, ethnicity, gender, and culture change. Discussion of anthropological perspectives to contemporary issues. **FHGE: Social & Behavioral Sciences; Transferable: UC/CSU**

ANTH 2B PATTERNS OF CULTURE 4 Units
4 hours lecture. (48 hours total per quarter)
Comparative study of patterns in culture. Introduction to ethnographic research and applications of different methods and theories for studying and interpreting societies. **FHGE: Social & Behavioral Sciences; Transferable: UC/CSU**

ANTH 3 PREHISTORY: THE SEARCH FOR LOST CIVILIZATIONS 4 Units
4 hours lecture. (48 hours total per quarter)
Survey of world prehistory as reconstructed by archaeologists. Human culture history from Stone Age beginnings to establishment and collapse of the world's first major civilizations. Covers societies from Asia and Africa to Europe and the Americas. Introduction to archaeological methods and interpretation. First use of tools, social complexity, urbanization, domestication of plants and animals, and the rise and fall of civilizations. **FHGE: Social & Behavioral Sciences; Transferable: UC/CSU**

ANTH 4 FIRST PEOPLES OF NORTH AMERICA 4 Units
4 hours lecture. (48 hours total per quarter)
Survey of Native American societies and cultures, north of Mexico, from a cultural perspective. Includes social organization, economics, technology and belief systems. Historic and current relationship between the federal government and the Native Americans. Contemporary issues of Native American communities. **FHGE: Non-GE; Transferable: UC/CSU**

ANTH 5 MAGIC, SCIENCE & RELIGION 4 Units
4 hours lecture. (48 hours total per quarter)
Explores the ways in which people have attempted to gain mastery over the natural and supernatural worlds beginning with prehistoric times and concluding with modern day society and the contemporary world. Cross-cultural study of the beliefs about the nature of reality, spirituality, death, magic, science and healing. **FHGE: Social & Behavioral Sciences; Transferable: UC/CSU**

ANTH 6 PEOPLES OF AFRICA 4 Units
4 hours lecture. (48 hours total per quarter)
Historical and contemporary cultural diversity of Africa emphasizing its social, political and economic organizational structures. Focus on the three religious influences by which African peoples and their resources have been exploited. Problems of acculturation and urbanization as they relate to modernization and expansion of international trade and development. **FHGE: Non-GE; Transferable: UC/CSU**

ANTH 8 INTRODUCTION TO ARCHAEOLOGY 4 Units
4 hours lecture. (48 hours total per quarter)
Introduction to the historical development, theory and techniques of archaeological research and fieldwork. Development of comparative approach to the study of ancient cultures. Focus on cultural resource management, survey and selection of field sites, dating, excavation, artifact classification, interpretation of data and written analysis. **FHGE: Social & Behavioral Sciences; Transferable: UC/CSU**

ANTH 8L ARCHAEOLOGY LABORATORY 1 Unit
ANTH 8LX 2 Units
ANTH 8LY 3 Units
Advisory: UC transferability is limited to 3 units maximum for ANTH 8L, 8LX & 8LY.
3 hours laboratory for each unit of credit. (36–108 hours total per quarter)
Laboratory methods and techniques of archaeology, including cataloging, care and analysis of artifacts, bone recognition, and archaeological excavation. **FHGE: Non-GE; Transferable: UC/CSU**

ANTH 12 APPLIED ANTHROPOLOGY 4 Units
4 hours lecture. (48 hours total per quarter)
Applied anthropology focuses on the use of anthropological theories and perspectives in real-world contexts of practice or problem-solving. Course provides students with tools designed to help understand and solve problems arising as a result of culture change, modernization and globalization. Major areas of study include development anthropology and the use of technology in field settings, anthropology and health care, anthropology and advocacy, such as in social work settings, anthropology and law, organizational and business anthropology, and land and resource management. **FHGE: Social & Behavioral Sciences; Transferable: UC/CSU**

ANTH 13 INTRODUCTION TO FORENSIC ANTHROPOLOGY 4 Units
4 hours lecture. (48 hours total per quarter)
Introduction to the application of anthropology as a science to the medical-legal process and its emphasis on the identification of human skeletal remains. Uses the scientific methodology to cover basic human osteoology and odontology, assessment of age at time of death, sex, ancestry, trauma analysis, pathology, crime scene analysis, animal scavenging, and identification procedures. Focuses on the varying applications of science in the modern world in which forensic anthropology is utilized ranging from crime scene investigation, missing person identification, human rights, and humanitarian investigations. **FHGE: Non-GE; Transferable: UC/CSU**

ANTH 13L FORENSIC ANTHROPOLOGY LABORATORY 1 Unit
Corequisite: Completion of, or concurrent enrollment in ANTH 13.
1 hour lecture-laboratory, 2 hours laboratory. (36 hours total per quarter)
Introductory laboratory course focusing on scientific methodology to reinforce topics from Forensic Anthropology lecture sections using hands-on technical training. Focuses on the medico-legal process utilized in forensics with an emphasis on the identification of human skeletal remains and evidence description. Contains exercises in identifying basic human osteoology/odontology elements and morphological features. Will include standardized procedures for the assessment of age at time of death, sex, ancestry, trauma analysis, pathology, physical characteristics including height and weight, crime scene analysis, animal scavenging, and identification procedures. Focuses on how laboratory conclusions are utilized in courtroom proceedings during expert witness testimony. **FHGE: Non-GE; Transferable: UC/CSU**

ANTH 14 LINGUISTIC ANTHROPOLOGY 4 Units
4 hours lecture. (48 hours total per quarter)
Introduces students to the anthropological study of language and non-verbal human communication. Using a cross-cultural perspective, students will examine the relationship between culture and the ways in which humans communicate. Topics include language structure, acquisition, diversity, and change. **FHGE: Social & Behavioral Sciences; Transferable: UC/CSU**

ANTH 15 MEDICAL ANTHROPOLOGY: METHODS & PRACTICE 4 Units
Formerly: ANTH 50.
Advisory: Not open to students with credit in ANTH 50.
4 hours lecture. (48 hours total per quarter)
Introduction to Medical Anthropology, a subfield of the discipline of anthropology that seeks to understand and highlight how health, illness and healing practices are culturally constructed and mediated. Students will investigate global, cross-cultural and local issues related to health, sickness, healing, epidemiology, aging and dying from an applied and biocultural perspective, using anthropological theory and ethnographic fieldwork methods. Students will be exposed to diverse cultural interpretations of health, sickness and healing, the importance of viewing medical systems as social systems, understanding the socio-cultural context of medical decision making and therapy management, the principles of cultural competency, and the recurrent and ongoing problems of socioeconomic inequality and ecological disruptions that have an impact upon the differential distribution and treatment of human diseases. **FHGE: Social & Behavioral Sciences; Transferable: UC/CSU**

ANTH 20 NATIVE PEOPLES OF CALIFORNIA 4 Units
4 hours lecture. (48 hours total per quarter)
Study of the many cultures of the different native inhabitants of California from the prehistoric period to the present time. Covers an introduction to the diversity and complexity of aboriginal California. Includes the environmental adaptation, material culture, social structure, ideology, and response to change. Examines the impact of the other Native, European, Asian and African groups on those cultures as well as the contributions of Native Californians to the cultures of the Americas.
FHGE: Social & Behavioral Sciences; Transferable: UC/CSU

ANTH 22 THE AZTEC, MAYA & THEIR PREDECESSORS 4 Units
4 hours lecture. (48 hours total per quarter)
Survey of the origin, spread, and decline of pre-Columbian civilizations in Central America with a focus on the Maya and Aztec. Applies understandings of archaeology and cultural anthropology to examine the dynamics economic, social, political, cultural, and religious systems of Mesoamerica over time. Covers the colonization process by the Spanish and current day indigenous issues in Mesoamerica.
FHGE: Social & Behavioral Sciences; Transferable: UC/CSU

ANTH 51 ARCHAEOLOGY SURVEY 2 Units
Formerly: ANTH 11B.
Advisory: Not open to students with credit in ANTH 11B.
Corequisite: Completion of, or concurrent enrollment in ANTH 8.
6 hours laboratory. (72 hours total per quarter)
Introduction to field survey in archaeology. Emphasis on site identification, survey techniques and recording skills. All work is conducted at field sites. **FHGE: Non-GE; Transferable: CSU**

ANTH 52 ARCHAEOLOGICAL FIELD METHODS 4 Units
Formerly: ANTH 11.
Prerequisite: Instructor permission necessary for enrollment.
Advisory: Completion of, or concurrent enrollment in ANTH 8 recommended; outdoor archaeology activities may be strenuous; not open to students with credit in ANTH 11.
1 hour lecture, 9 hours field work. (120 hours total per quarter)
Introduction to archaeological field methods at an archaeological site either in the Bay Area or in another country. Locating different types of archaeological sites with field survey. Methods of field excavation. Study of local artifact types and lab techniques for artifact cleaning and identification. Selection of archaeological site, mapping, excavation, and preparation of artifacts, written analysis. Working and living with members of an indigenous culture. **FHGE: Non-GE; Transferable: CSU**

ANTH 67A CULTURES OF THE WORLD: ECUADOR 4 Units
4 hours lecture. (48 hours total per quarter)
Investigation of a specific culture of the world, in this case Ecuador, in which the student group is conducting research. Covers archaeological and historical past of these cultures. Explores the diversity within each culture. Uncovers the dynamics of power relationships within the culture in ancient and modern contexts. Examines politics, economics, religion, and social development in the culture area.
FHGE: Non-GE; Transferable: CSU

ANTH 67B CULTURES OF THE WORLD: BELIZE 4 Units
4 hours lecture. (48 hours total per quarter)
Investigation of a specific culture of the world, in this case Belize, in which the student group is conducting research. Covers archaeological and historical past of these cultures. Explores the diversity within each culture. Uncovers the dynamics of power relationships within the culture in ancient and modern contexts. Examines politics, economics, religion, and social development in the culture area.
FHGE: Non-GE; Transferable: CSU

ANTH 70R INDEPENDENT STUDY IN ANTHROPOLOGY 1 Unit
ANTH 71R 2 Units
ANTH 72R 3 Units
ANTH 73R 4 Units
3–12 hours per week. (36–144 hours total per quarter)
Provides an opportunity for the student to expand their studies in Anthropology beyond the classroom by completing a project or an assignment arranged by agreement between the student and instructor. The student is required to contract with the instructor to determine the scope of assignment and the unit value assigned for successful completion. Students may take a maximum of 6 units of Independent Study per department. **FHGE: Non-GE; Transferable: CSU**

APPRENTICESHIP: ELECTRICIAN

Business and Social Sciences (650) 949-7208
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APEL 112 RESIDENTIAL ELECTRICAL AIR CONDITIONING & REFRIGERATION; TELEPHONE SYSTEMS 3 Units
Prerequisite: Per California Code of Regulations, this course is limited to students admitted to the Electrical Apprenticeship Program.
Advisory: Not open to students with credit in APRT 112.
75 hours total.
An introduction to air conditioning and refrigeration systems used in residential applications; telephone systems. Students will study the wiring, circuitry and controls in these systems. Continued study of the National Electrical Code as it relates to current and load calculations. Review of A/C and D/C theory. **FHGE: Non-GE**

APEL 113 RESIDENTIAL ELECTRICAL SYSTEMS: BASIC SECURITY, SOLAR POWER, HOME AUTOMATION & LIFE SAFETY 3 Units
Prerequisite: Per California Code of Regulations, this course is limited to students admitted to the Electrical Apprenticeship Program.
Advisory: Not open to students with credit in APRT 113.
75 hours total.
A study of residential electrical systems and installation practices. Home automation including home theater. Fundamentals of solar power systems and recommended practices. Life safety systems. Expanded study of the National Electrical Code as it relates to communication circuits, and water applications such as pools and fountains.
FHGE: Non-GE

APEL 120 ORIENTATION TO THE ELECTRICAL TRADE 4 Units
Prerequisites: Per California Code of Regulations, this course is limited to students admitted to the Electrical Apprenticeship Program.; MATH 105, 108 or equivalent.
Advisory: Not open to students with credit in APRT 120.
96 hours total.
Orientation to the commercial/industrial electrical industry with an introduction to electrical theory, tools, materials, wiring methods, and job skills. Review of mathematics as applied in the electrical construction trades. **FHGE: Non-GE**

APEL 120A ORIENTATION TO THE ELECTRICAL TRADE, CPR & FIRST AID 5 Units
Prerequisites: Per California Code of Regulations, this course is limited to students admitted to the San Francisco Inside Wireman Electrical Program.; MATH 105, 108 or equivalent.
Advisory: Not open to students will credit in APEL 120.
120 hours total.
Orientation to the commercial/industrial electrical industry with an introduction to electrical theory, tools, materials, wiring methods, and job skills. Review of mathematics

as applied in the electrical construction trades. Industry applications, hands on labs. CPR, First Aid, Job Orientation topics: Sexual Harassment & Drug Abuse. **FHGE: Non-GE**

APEL 121 ELECTRON THEORY; BASIC BLUEPRINT READING; DC THEORY; NATIONAL ELECTRICAL CODE INTRODUCTION 4 Units

Prerequisite: Per California Code of Regulations, this course is limited to students admitted to the Electrical Apprenticeship Program.
Advisory: Not open to students with credit in APRT 121.
Corerequisite: Completion of, or concurrent enrollment in APEL 120 or equivalent.
96 hours total.
Introduction to the National Electrical Code (NEC), DC theory, principles of magnetism and electromagnetism, basic blueprint reading. Discussion of job skills and wiring methods. **FHGE: Non-GE**

APEL 121A ELECTRON THEORY; AC & DC ELECTRICAL THEORY; NATIONAL ELECTRICAL CODE INTRODUCTION; PARALLEL & COMBINATION CIRCUITS 5 Units

Prerequisite: Per California Code of Regulations, this course is limited to students admitted to the San Francisco Inside Wireman Electrical Program.
Advisory: Not open to students with credit in APRT 121.
120 hours total.
Introduction to the National Electrical Code (NEC), applied codeology towards the National Electrical Code. Discuss and demonstrate basic AC and DC electrical generation. Ohm's Law, Understand DC parallel and combination circuits. Basic three-phase AC. **FHGE: Non-GE**

APEL 122 CODEOLOGY; TEST EQUIPMENT; PIPE BENDING; BLUEPRINTS 4 Units

Prerequisite: Per California Code of Regulations, this course is limited to students admitted to the Electrical Apprenticeship Program.
Advisory: Not open to students with credit in APRT 122.
Corequisite: Completion of, or concurrent enrollment in APEL 120.
96 hours total.
Study of the National Electrical Code, DC and AC generators, and basic fundamentals of using blueprints. Instruction on usage of test equipment and pipe bending tools. Orientation to job responsibility and safety. Review of wiring methods on-the-job. **FHGE: Non-GE**

APEL 122A CODEOLOGY; NEC CODE; TEST EQUIPMENT; PIPE BENDING; BLUEPRINTS 5 Units

Prerequisite: Per California Code of Regulations, this course is limited to students admitted to the San Francisco Inside Wireman Electrical Program.
Advisory: Not open to students with credit in APRT 122.
120 hours total.
Study of the National Electrical Code, applied codeology, and basic fundamentals of using blueprints. Instruction on usage of test equipment and pipe bending tools. **FHGE: Non-GE**

APEL 123 AC THEORY; TRANSFORMERS; INTERMEDIATE NATIONAL ELECTRICAL CODE 4 Units

Prerequisite: Per California Code of Regulations, this course is limited to students admitted to the Electrical Apprenticeship Program. Advisory: Not open to students with credit in APRT 123.
Corequisite: Completion of, or concurrent enrollment in APEL 122.
96 hours total.
Study of AC theory, transformer fundamental design and function. Expanded study of the National Electrical Code. **FHGE: Non-GE**

APEL 123A GROUNDING & BONDING, OVERCURRENT PROTECTION, CODE & PRACTICES, BLUEPRINTS, CODEOLOGY SKILLS 5 Units

Prerequisite: Per California Code of Regulations, this course is limited to students admitted to the San Francisco Inside Wireman Electrical Program.
120 hours total.
Intended for apprentices to become trained in electrical grounding and bonding. Focus will be on learning the electrical code and overcurrent protective devices (OCPD). Apprentices will demonstrate their ability to read residential, commercial, and industrial blueprints and to perform circuit layouts. This course meets the requirements of electrical safety standards for 3rd year apprentices who are pursuing their certificate. **FHGE: Non-GE**

APEL 124 DC/AC THEORY REVIEW; ELECTRONICS; INDUSTRIAL BLUEPRINTS 4 Units

Prerequisite: Per California Code of Regulations, this course is limited to students admitted to the Electrical Apprenticeship Program.
Advisory: Not open to student with credit in APRT 124.
96 hours total.
Review of DC/AC theory. Study of electronics principles and applications, and industrial blueprint reading. **FHGE: Non-GE**

APEL 124A DC/AC THEORY REVIEW; ELECTRONICS; INDUSTRIAL BLUEPRINTS; TRANSFORMERS, GROUNDING; ELECTRICAL SYSTEMS 5 Units

Prerequisite: Per California Code of Regulations, this course is limited to students admitted to the San Francisco Inside Wireman Electrical Program.
Advisory: Not open to students with credit in APRT 124.
120 hours total.
Review of AC/DC theory. Study of electronics principles and applications, and industrial blueprint reading. Transformer installation, grounding & electrical systems. **FHGE: Non-GE**

APEL 125 NEC GROUNDING; OVERCURRENT PROTECTION; TRANSFORMER CONNECTIONS 4 Units

Prerequisite: Per California Code of Regulations, this course is limited to students admitted to the Electrical Apprenticeship Program.
Advisory: Not open to students with credit in APRT 125.
96 hours total.
Lessons in grounding and bonding, overcurrent protection and load calculations. Identification of different transformer connections. **FHGE: Non-GE**

APEL 125A FIRE ALARM SYSTEMS, EMERGENCY COMMUNICATION SYSTEMS, PUBLIC EMERGENCY SYSTEMS 5 Units

Prerequisite: Per California Code of Regulations, this course is limited to students admitted to the Electrical Apprenticeship Program.
120 hours total.
Introduction to fire alarm systems and their components. Student will be required to demonstrate knowledge in alarm system interfaces, safety control functions, advanced detection topics, emergency communications system, public emergency systems and supervising stations. Comprehension of residential fire alarm systems, telephone and security basics is covered in detail. This course meets the requirements of electrical safety standards for 3rd year apprentices who are pursuing their certificate. **FHGE: Non-GE**

APEL 126 MOTORS; MOTOR CONTROL; LIGHTING PROTECTION 4 Units

Prerequisite: Per California Code of Regulations, this course is limited to students admitted to the Electrical Apprenticeship Program.
Advisory: Not open to students with credit in APRT 126.
96 hours total.
A study of different motor types and controls with emphasis on protecting the motors and the buildings they are in with lightning protection systems. Reading and interpretation of schematic drawings. **FHGE: Non-GE**

APEL 127 DIGITAL ELECTRONICS; MOTOR SPEED CONTROL; ADVANCED NATIONAL ELECTRICAL CODE 4 Units
Prerequisite: Per California Code of Regulations, this course is limited to students admitted to the Electrical Apprenticeship Program.
Advisory: Not open to students with credit in APRT 127.
96 hours total.
The use of Boolean algebra in the development of logic circuits and logic control. Introduction to the principles of motor speed control. Review of AC theory. Expanded coverage of the National Electrical Code. **FHGE: Non-GE**

APEL 128 PROGRAMMABLE LOGIC CONTROLLERS; LOW VOLTAGE SYSTEMS & HIGH VOLTAGE SYSTEMS 4 Units
Prerequisites: Per California Code of Regulations, this course is limited to students admitted to the Electrical Apprenticeship Program.
Advisory: Not open to students with credit in APRT 128.
96 hours total.
Introduction to programmable controllers, alarm systems, telephone wiring, instrumentation, and high voltage testing. **FHGE: Non-GE**

APEL 129 NATIONAL ELECTRICAL CODE REVIEW 4 Units
Prerequisite: Per California Code of Regulations, this course is limited to students admitted to the Electrical Apprenticeship Program.
Advisory: Not open to students with credit in APRT 129.
96 hours total.
Review of the National Electrical Code and preparation for the California State Certification Test. Jobsite management. System testing. Fiber Optics. Heating, air conditioning and refrigeration systems. **FHGE: Non-GE**

APEL 135 RESIDENTIAL ELECTRICAL ORIENTATION; SAFETY & CODE INTRODUCTION 3 Units
Prerequisite: Per California Code of Regulations, this course is limited to students admitted to the Electrical Apprenticeship Program.
Advisory: Not open to students with credit in APRT 135.
75 hours total.
Orientation to the electrical industry with a residential emphasis; on-the-job safety; identification of tools and materials; review of basic math. Introduction to the National Electrical Code. **FHGE: Non-GE**

APEL 136 RESIDENTIAL ELECTRICAL D/C THEORY; BLUEPRINT READING 3 Units
Prerequisite: Per California Code of Regulations, this course is limited to students admitted to the Electrical Apprenticeship Program.
Advisory: Not open to student with credit in APRT 136.
75 hours total.
Introduction to D/C electrical theory and circuitry as it relates to residential installations; conductors used in electrical wiring. Course also introduces blueprint reading including architectural and engineering symbols and scale.
FHGE: Non-GE

APEL 137 RESIDENTIAL ELECTRICAL A/C THEORY & CIRCUITRY 3 Units
Prerequisite: Per California Code of Regulations, this course is limited to students admitted to the Electrical Apprenticeship Program.
Advisory: Not open to students with credit in APRT 137.
75 hours total.
Introduction to A/C electrical theory and circuitry as they relate to residential installations; job costing and industrial standards. Further study of the National Electrical Code focusing on codeology. Expanded development of blueprint reading skills. **FHGE: Non-GE**

APEL 138 RESIDENTIAL WIRING LAYOUT & INSTALLATION 3 Units
Prerequisite: Per California Code of Regulations, this course is limited to students admitted to the Electrical Apprenticeship Program.
Advisory: Not open to students with credit in APRT 138.
75 hours total.
A study of electrical wiring methods, circuitry, and conduit installation in residential applications. Students will also practice wiring layout for residential housing. Continued study of the National Electrical Code as it relates to circuits, grounding and cable assemblies. **FHGE: Non-GE**

APPRENTICESHIP: IRONWORKERS

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APIW 100 INTRODUCTION TO IRONWORKING 3 Units
Prerequisite: Per California Code of Regulations, this course is limited to students admitted to the Ironworkers Apprenticeship Program.
Advisory: Not open to students with credit in APPR 170.
64 hours total.
Overview of Ironworker's skill and knowledge areas needed to make the newly indentured apprentice a safe and productive worker from the earliest period of job dispatch. Includes a review of basic math principles. OSHA safety.
FHGE: Non-GE

APIW 101 MIXED BASE 2 Units
Prerequisite: Per California Code of Regulations, this course is limited to students admitted to the Ironworkers Apprenticeship Program.
Advisory: Not open to students with credit in APPR 171.
40 hours total.
Introduction to blueprint reading and continuation of basic trade mathematics.
FHGE: Non-GE

APIW 102 REINFORCING IRON I 2 Units
Prerequisite: Per California Code of Regulations, this course is limited to students admitted to the Ironworkers Apprenticeship Program.
Advisory: Not open to students with credit in APPR 172.
40 hours total.
Instruction in reinforced concrete principles, applications, and processes. Study of the forces at work when iron and concrete are combined as a building material. **FHGE: Non-GE**

APIW 103 RIGGING I 2 Units
Prerequisite: Per California Code of Regulations, this course is limited to students admitted to the Ironworkers Apprenticeship Program.
Advisory: Not open to students with credit in APPR 173.
40 hours total.
Introduction to rigging operations such as wire rope, chains, slings, cranes, helicopters, ladders and scaffolds used in the ironworkers' trade. Rigging safety, knot recognition and strength identification, and knot application to rigging are included. **FHGE: Non-GE**

APIW 104 IRONWORKER HISTORY & TRADE SCIENCE 2 Units
Prerequisite: Per California Code of Regulations, this course is limited to students admitted to the Ironworkers Apprenticeship Program.
Advisory: Not open to students with credit in APPR 174.
40 hours total.
Acquaints the student with the history of the ironworking trade. Study of the State and Federal laws giving the apprenticeship program in California its legal authority, the manner in which each law affects the workers, and the privileges and obligations of the workers in the trade. Procedures for dispatch of workers and the effect of wages and benefits on workers' compensation insurance will also be covered. **FHGE: Non-GE**

APIW 105 WELDING I 2 Units
Prerequisite: Per California Code of Regulations, this course is limited to students admitted to the Ironworkers Apprenticeship Program.
Advisory: Not open to students with credit in APPR 175.
40 hours total.

Introduction to welding and welding concepts for construction job sites. Basic welding safety and basic welding terms, definitions, positions, and cutting operations are included. **FHGE: Non-GE**

APIW 106 STRUCTURAL I 2 Units
Prerequisite: Per California Code of Regulations, this course is limited to students admitted to the Ironworkers Apprenticeship Program.
Advisory: Not open to students with credit in APPR 176.
40 hours total.
Introduction to high steel construction. Emphasis will be on erection of beams and skeletons, fastening structural steel, manufacture of iron and steel, safety positions, finishing operations. Scaffold user course. Sub-part R safety training. **FHGE: Non-GE**

APIW 107 WELDING II 2 Units
Prerequisite: Per California Code of Regulations, this course is limited to students admitted to the Ironworkers Apprenticeship Program.
Advisory: Not open to students with credit in APPR 177.
40 hours total.
Intermediate Welding. A further study of welding safety and welding concepts for construction job sites. Welding processes, shielded metal-arc, gas shielded-arc, and oxy-acetylene welding, symbols, and certification qualifications are included. **FHGE: Non-GE**

APIW 108 STRUCTURAL II 2 Units
Prerequisite: Per California Code of Regulations, this course is limited to students admitted to the Ironworkers Apprenticeship Program. Advisory: Not open to students with credit in APPR 178.
40 hours total.
Advanced safety, principles, and applications of scaffolding, Scaffold Erector/ Dismantler Certification included. The course also covers the erection of bridges, towers, wind turbines, clear span, amusement park structures and how to use composite materials in structural erection. Installation of metal decking and sheeting is included. **FHGE: Non-GE**

APIW 109 POST-TENSIONING I 2 Units
Prerequisite: Per California Code of Regulations, this course is limited to students admitted to the Ironworkers Apprenticeship Program.
Advisory: Not open to students with credit in APPR 179.
40 hours total.
History of post-tensioning, modern efforts and safety advantages. Special materials, preparation and stressing of post-tensioning systems. Special applications of post-tensioning systems. Discussion of thread-bar post-tensioning systems. **FHGE: Non-GE**

APIW 110 ARCHITECTURAL I 2 Units
Prerequisite: Per California Code of Regulations, this course is limited to students admitted to the Ironworkers Apprenticeship Program.
Advisory: Not open to students with credit in APPR 182A.
40 hours total.
A study of the procedures and practices employed by the ironworker in architectural and ornamental ironworking with emphasis on the principles, theory and application of ornamental hand tools, power-actuated tools, anchors, and fasteners. Application of window walls, curtain walls, sealants, glazing, and window and curtain wall systems. **FHGE: Non-GE**

APIW 111 ARCHITECTURAL II 2 Units
Prerequisite: Per California Code of Regulations, this course is limited to students admitted to the Ironworkers Apprenticeship Program.
Advisory: Not open to students with credit in APPR 182B.
40 hours total.
A continued study of the procedures and practices employed by the ironworker in architectural and ornamental ironworking with emphasis on those elements of construction that do not make a load-bearing contribution to the skeletal structure; such as stairs, fire escapes, ladders, conveyor systems, doors, elevators, windows, railings and other metal features of modern construction. Study of the erection of flagpoles, playground equipment, rail and chain link fences. Care and use of the tools and accessories used in all installations. **FHGE: Non-GE**

APIW 112 LEAD HAZARD TRAINING 2 Units
Prerequisite: Per California Code of Regulations, this course is limited to students admitted to the Ironworkers Apprenticeship Program.
Advisory: Not open to students with credit in APRT 185.
40 hours total.
A study of the history of lead and the health hazards of lead exposure in the Ironworking trade. Teaches those elements of knowledge, coordination and skill needed for safety, stressing the use of proper protective equipment and work methods. OSHA regulations, sampling methods and legal rights of workers. First Aid/CPR Training , American Red Cross. **FHGE: Non-GE**

APIW 113 SMALL STRUCTURE ERECTION 2 Units
Prerequisite: Per California Code of Regulations, this course is limited to students admitted to the Ironworkers Apprenticeship Program.
Advisory: Not open to students with credit in APPR 188.
40 hours total.
An introduction to small structure erection of prefab and precast concrete buildings. Study of charts, tables, blueprints, anchors, framing and fasteners. Particular emphasis given to the rigging, handling and installing of precast concrete members. **FHGE: Non-GE**

APIW 114 WELDING III 2 Units
Prerequisite: Per California Code of Regulations, this course is limited to students admitted to the Ironworkers Apprenticeship Program.
40 hours total.
Advanced welding. A further study of welding safety and welding concepts for construction job sites. Welding processes, shielded metal-arc, flux-core arc welding, gas shielded-arc, and TiG welding, symbols, and certification qualifications are included. **FHGE: Non-GE**

APIW 115 CRANES 2 Units
Prerequisite: Per California Code of Regulations, this course is limited to students admitted to the Ironworkers Apprenticeship Program.
40 hours total.
Provides the Iron Worker student with training in how to erect and dismantle mobile cranes, describe principles of crane operation, identify quadrants of crane operation, read crane load charts, identify crane capacity factors, plan pre-lift planning and set up, describe mobile crane operating procedures, and erect, climb, dismantle and transport tower cranes. **FHGE: Non-GE**

APIW 116 FOREMAN TRAINING 2 Units
Prerequisite: Per California Code of Regulations, this course is limited to students admitted to the Ironworkers Apprenticeship Program.
40 hours total.
Prepares the student with the roles and responsibilities of the Foreman. In addition, students learn how to create an effective work team, communicate effectively, apply problem-solving skills, document and maintain records, maintain labor-management relations, plan and schedule work, implement a safety program and ensure the quality of work. **FHGE: Non-GE**

APIW 117 GENERAL SAFETY/OSHA 30/COMET 2 Units
Prerequisite: Per California Code of Regulations, this course is limited to students admitted to the Ironworkers Apprenticeship Program.
40 hours total.
Provides the Iron Worker student with thirty (30) hours of training required by the Occupational Health and Safety Act (OSHA). This course applies toward the 30-hour construction Industry course completion card. The COMET portion within this course requires a minimum of 8 classroom hours and provides apprentices with useful information about the challenges facing the Ironworker union and provides thought provoking questions and suggestions for how to navigate the world of construction in the 21st century. **FHGE: Non-GE**

APPRENTICESHIP: PIPE TRADES

Business and Social Sciences **(650) 949-7142**
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APPT 121 INTRODUCTION TO RESIDENTIAL PLUMBING, SAFETY & TOOLS 2.5 Units
Prerequisite: Per California Code of Regulations, this course is limited to students admitted to the Residential Plumbing Apprenticeship Program. Advisory: Current employment in the pipe trades industry.
54 hours total.
An introduction to basic residential plumbing standards, employment information and procedures, history and heritage of plumbing, organization and construction safety. Necessary trade skills include cutting and threading, use and care of tools, and soldering and brazing are taught along with construction terminology and plumbing definitions. **FHGE: Non-GE**

APPT 122 RESIDENTIAL DRAINAGE SYSTEMS 2.5 Units
Prerequisite: Per California Code of Regulations, this course is limited to students admitted to the Residential Plumbing Apprenticeship Program. Advisory: Current employment in the pipe trades industry.
54 hours total.
Overview of the installation and design criteria of residential drainage, waste and vent systems, with emphasis and study of the applied theory, design and installation criteria. Includes application of local codes. **FHGE: Non-GE**

APPT 123 RESIDENTIAL GAS & WATER INSTALLATIONS 2.5 Units
Prerequisite: Per California Code of Regulations, this course is limited to students admitted to the Residential Plumbing Apprenticeship Program. Advisory: Current employment in the pipe trades industry.
54 hours total.
Overview of the installation and design criteria of residential hot and cold water, and fuel gas installations. Includes piping materials and hanger systems, material handling and environmental concerns. **FHGE: Non-GE**

APPT 124 MATHEMATICS FOR RESIDENTIAL PLUMBING 2.5 Units
Formerly: APRT 195
Prerequisite: Per California Code of Regulations, this course is limited to students admitted to the Residential Plumbing Apprenticeship Program. Advisory: Current employment in the pipe trades industry; not open to students with credit in APRT 195.
54 hours total.
A review of basic math concepts and operation, followed by instruction in pipe measurements, formulas, and off-set calculations. Use of common electronic calculators will be included. **FHGE: Non-GE**

APPT 125 RESIDENTIAL BLUEPRINT READING 4.5 Units
Prerequisite: Per California Code of Regulations, this course is limited to students admitted to the Residential Plumbing Apprenticeship Program. Advisory: Current employment in the pipe trades industry.
108 hours total.
Familiarize with the various blueprints, drawings and sketches used in residential construction. Plan types, details and symbols will be covered, as well as common construction terms and methods. Working from a set of building plans, students will create isometric drawings of plumbing systems. **FHGE: Non-GE**

APPT 126 RESIDENTIAL PIPING LAYOUT & INSTALLATION; RESIDENTIAL FIXTURES 4.5 Units
Prerequisite: Per California Code of Regulations, this course is limited to students admitted to the Residential Plumbing Apprenticeship Program. Advisory: Current employment in the pipe trades industry.
108 hours total.
Introduction to the various methods of inserting and sleeving in residential construction. Students will practice the layout and installation of residential copper pipe and tube systems. Hands-on practice of plumbing fixture installation, service and repair will be provided. **FHGE: Non-GE**

APPT 127 RESIDENTIAL PLUMBING CODE 2.5 Units
Prerequisite: Per California Code of Regulations, this course is limited to students admitted to the Residential Plumbing Apprenticeship Program. Advisory: Current employment in the pipe trades industry.
54 hours total.
A comprehensive overview of the Plumbing Code. Students will examine each chapter of the code book and practice proper application through worksheets, system design, and sizing exercises. **FHGE: Non-GE**

APPT 128 RESIDENTIAL GAS INSTALLATIONS; SERVICE WORK 2.5 Units
Formerly: APRT 183
Prerequisite: Per California Code of Regulations, this course is limited to students admitted to the Residential Plumbing Apprenticeship Program. Advisory: Current employment in the pipe trades industry; not open to students with credit in APRT 183.
54 hours total.
Introduction to safe practices for working in excavations and confined spaces. Instructions and hands-on practice will be provided in underground polyethylene gas installations and residential service work. **FHGE: Non-GE**

APPT 129 SPECIAL TOPICS 2.5 Units
Prerequisite: Per California Code of Regulations, this course is limited to students admitted to the Plumbing/Steamfitting & Pipefitting/Air Conditioning Refrigeration Technology Apprenticeship Program.
Advisory: Not open to students with credit in APPR 109.
54 hours total.
A study of special topics: Study pipe trade related software and computer assisted drawing. Develop advanced welding skills. Introduce concepts of digital controls. Certify in repair of back flow control devices. Further examine management techniques for planning and organizing projects. **FHGE: Non-GE**

APPT 130 REVIEW & TURNOUT 2.5 Units
Prerequisite: Per California Code of Regulations, this course is limited to students admitted to the Plumbing/Steamfitting & Pipefitting/Air Conditioning Refrigeration Technology Apprenticeship Program.
Advisory: Not open to students with credit in APPR 130.
54 hours total.
A comprehensive overview of the entire plumbing, steamfitting,and refrigeration courses of instruction and preparation for completion examinations. Presentation of the latest current code and safety information. Planning and performing hands on piping projects. Perform hands on trouble shooting projects for air conditioning systems. **FHGE: Non-GE**

APPT 131 P-101 BASIC PLUMBING SKILLS 4.5 Units
Prerequisite: Per California Code of Regulations, this course is limited to students admitted to the Plumbing Technology Apprenticeship Program. Advisory: Not open to students with credit in APPR 110.
108 hours total.
Orientation to the apprenticeship program, JATC policies and procedures. UA history and heritage will also be covered at this time. Safety training is introduced next, with instruction in general construction safety. This is followed up with necessary trade skills including, use & care of tools, pipe & tube installations and soldering & brazing. **FHGE: Non-GE**

APPT 132 P-102 APPLIED & RELATED THEORY 4.5 Units
Prerequisite: Per California Code of Regulations, this course is limited to students admitted to the Plumbing Technology Apprenticeship Program. Advisory: Not open to students with credit in APPR 102.
108 hours total.
Review of basic math before introducing new concepts including pipe measuring and calculation of simple offsets. Students will learn fundamental scientific principles related to the installation and design of basic plumbing systems. Installation and design of fuel gas piping and drainage systems will also be studied. **FHGE: Non-GE**

APPT 133 P-201 BEGINNING DRAWING & DESIGN 4.5 Units
Prerequisite: Per California Code of Regulations, this course is limited to students admitted to the Plumbing Technology Apprenticeship Program. Advisory: Not open to students with credit in APPR 112.
108 hours total.
Drawing fundamentals to instruction in isometric drawing. Students learn the proper design and sizing of simple waste, water and gas systems. An in-depth study of water supply systems will also be included. Students will also learn to read and interpret simple residential building plans, designing and coordinating plumbing systems within the structure. **FHGE: Non-GE**

APPT 134A P-202A RIGGING; LAYOUT 2.5 Units
Prerequisite: Per California Code of Regulations, this course is limited to students admitted to the Plumbing Technology Apprenticeship Program. Advisory: Not open to students with credit in APPR 113.
54 hours total.
Instruction in identification and tying various types of knots, study hands on safe practices of rigging and hoisting piping materials. Instruction in the use of a transit, builder's level, laser level and other measuring instruments in the layout and installation of piping systems. Establish the invert elevations and coordination of piping systems by means of profile drawings. **FHGE: Non-GE**

APPT 134B INDUSTRIAL SAFETY 2.5 Units
Prerequisite: Per California Code of Regulations, this course is limited to students admitted to the Plumbing/Steamfitting & Pipefitting Technology Apprenticeship Program.
54 hours total.
Study in the requirements for emergency response to and handling of hazardous materials. Laws of chemical hazards, electrical hazards, personal protective equipment, and confined spaces, monitoring equipment, and Federal and Cal-OSHA Standards for the construction industry will be covered. **FHGE: Non-GE**

APPT 135A P-301A PLUMBING FIXTURES 2.5 Units
Prerequisite: Per California Code of Regulations, this course is limited to students admitted to the Plumbing Technology Apprenticeship Program. Advisory: Not open to students with credit in APPR 116.
54 hours total.
Instruction in plumbing fixtures and appliances. Names and design features of various plumbing fixtures will be discussed. Proper installation, maintenance and repair of fixtures and appliances will be studied. **FHGE: Non-GE**

APPT 135B P-301B PLUMBING CODES 2.5 Units
Prerequisite: Per California Code of Regulations, this course is limited to students admitted to the Plumbing Technology Apprenticeship Program. Advisory: Not open to students with credit in APPR 119.
54 hours total.
Learn and demonstrate the procedures for coordinating the testing and inspection of plumbing systems and applicable codes that a plumbing systems test must meet. Knowledge of general regulations, including accessibility and ADA requirements will also be discussed. **FHGE: Non-GE**

APPT 136 P-302 ADVANCED TRADE MATH FOR PLUMBERS 4.5 Units
Prerequisite: Per California Code of Regulations, this course is limited to students admitted to the Plumbing Technology Apprenticeship Program. Advisory: Not open to students with credit in APPR 118.
108 hours total.
Extensive use of piping formulas to solve typical piping layout calculations. Students will calculate compound offsets and accurately determine center to center and end to end piping measurements for plumbing systems. **FHGE: Non-GE**

APPT 137A P-401A WATER SYSTEMS 2.5 Units
Prerequisite: Per California Code of Regulations, this course is limited to students admitted to the Plumbing Technology Apprenticeship Program.
54 hours total.
Development and operation of domestic and industrial water supply and distribution systems for installation and operation. An overview of water sources, methods used to plan and configure supply, purification and distribution systems, for operation and maintenance. **FHGE: Non-GE**

APPT 137B P-401B APPLIED WELDING 2.5 Units
Prerequisite: Per California Code of Regulations, this course is limited to students admitted to the Plumbing Technology Apprenticeship Program. Advisory: Not open to students with credit in APPR 117.
54 hours total.
Instruction and practice in oxy-fuel cutting, oxy-fuel welding and arc welding of steel plate and pipe. Safety and accuracy in measuring, lay-out and torch handling is emphasized. **FHGE: Non-GE**

APPT 138 P-402 ADVANCED DRAWING & BLUEPRINT READING 4.5 Units
Prerequisite: Per California Code of Regulations, this course is limited to students admitted to the Plumbing Technology Apprenticeship Program. Advisory: Not open to students with credit in APPR 114.
108 hours total.
Interpretation of orthographic and isometric drawings and building plans that make up working drawings for the proper installation of piping systems. Standard graphic symbols used to represent piping, fittings and valves on construction drawings will be covered, as well as various construction methods and materials, specifications and submittals. Hands on exercises in the creation and coordination of shop drawings. **FHGE: Non-GE**

APPT 139A INDUSTRIAL INSTALLATIONS 2.5 Units
Prerequisite: Per California Code of Regulations, this course is limited to students admitted to the Plumbing/Steamfitting & Pipefitting Technology Apprenticeship Program.
Advisory: Not open to students with credit in APPT 139.
54 hours total.
Process piping and high purity water piping systems (HPW) and will cover hazards associated with these installations. Water treatment and clean steam parameters for the pharmaceutical and biotech manufacturing industries will also be presented. Pneumatic control systems will be covered including the identification, and installation of regulators and valves, pneumatic tubing and use of air compressors and refrigerated air-dryers. Control systems will also be discussed. Hands-on experience with tube bending. **FHGE: Non-GE**

APPT 139B MEDICAL GAS INSTALLATIONS 2.5 Units
Prerequisite: Per California Code of Regulations, this course is limited to students admitted to the Plumbing/Steamfitting & Pipefitting Technology Apprenticeship Program.
54 hours total.
Installation procedures of medical gas and vacuum systems. Apprentices will learn about station outlets/inlets, manufactured assemblies and pressure/vacuum indicators. Brazing requirements will be described and proper techniques will be demonstrated. Practice brazing techniques in order to prepare for the brazing qualification exam. **FHGE: Non-GE**

APPT 141 SF 101 BASIC STEAMFITTING SKILLS 4.5 Units
Prerequisite: Per California Code of Regulations, this course is limited to students admitted to the Steamfitting & Pipefitting Technology Apprenticeship Program.
Advisory: Not open to students with credit in APPR 123.
108 hours total.
Orientation to the apprenticeship program, JATC policies and procedures.UA history and heritage will also be covered at this time. Safety training is introduced next, with instruction in general construction safety. This is followed up with necessary trade skills, including, use & care of tools, pipe & tube installations and soldering & brazing. **FHGE: Non-GE**

APPT 142 SF 102 RELATED MATH, DRAWING & RIGGING 4.5 Units
Prerequisite: Per California Code of Regulations, this course is limited to students admitted to the Steamfitting & Pipefitting Technology Apprenticeship Program.
Advisory: Not open to students with credit in APPR 124.
108 hours total.
Review of basic math before introducing new concepts including pipe measuring and calculation of simple offsets. Students will then learn drawing fundamentals before moving to instruction in isometric drawing. Instruction in identification and tying various types of knots, study hands on safe practices of rigging and hoisting piping materials. **FHGE: Non-GE**

APPT 143 SF 201 STEAMFITTER CUTTING & WELDING 4.5 Units
Prerequisite: Per California Code of Regulations, this course is limited to students admitted to the Steamfitting & Pipefitting Technology Apprenticeship Program.
Advisory: Not open to students with credit in APPR 122.
108 hours total.
Instruction and practice in oxy-fuel cutting, oxy-fuel welding and arc welding of steel plate and pipe. Safety and accuracy in measuring, lay-out and torch handling is emphasized. **FHGE: Non-GE**

APPT 144A SF 202A SCIENCE; ELECTRICITY & AIR CONDITIONING 2.5 Units
Prerequisite: Per California Code of Regulations, this course is limited to students admitted to the Steamfitting & Pipefitting Technology Apprenticeship Program.
Advisory: Not open to students with credit in APPR 126.
54 hours total.
Foundation for subsequent courses through instruction in the fundamentals of science, electrical theory and circuitry, and the principles of refrigeration and air conditioning. **FHGE: Non-GE**

APPT 145 SF 301 ADVANCED TRADE MATH FOR STEAMFITTERS 4.5 Units
Prerequisite: Per California Code of Regulations, this course is limited to students admitted to the Steamfitting & Pipefitting Technology Apprenticeship Program.
Advisory: Not open to students with credit in APPR 121.
108 hours total.
Extensive use of piping formulas to solve typical piping layout calculations. Students will calculate compound offsets and accurately determine center to center and end to end piping measurements. **FHGE: Non-GE**

APPT 146 SF 302 STEAM TECHNOLOGY 4.5 Units
Prerequisite: Per California Code of Regulations, this course is limited to students admitted to the Steamfitting & Pipefitting Technology Apprenticeship Program.
Advisory: Not open to students with credit in APPR 127.
108 hours total.
Basic properties and concepts of steam. Instruction on steam traps, installation techniques and general operation. One-pipe systems will be compared to two-pipe systems. Importance of steam piping, proper pipe sizing, expansion joints and connections. Heat transfer devices and steam boilers will also be discussed with focus on types and proper installation and connection methods. **FHGE: Non-GE**

APPT 147A SF 401A HYDRONIC SYSTEMS 2.5 Units
Prerequisite: Per California Code of Regulations, this course is limited to students admitted to the Steamfitting & Pipefitting Technology Apprenticeship Program.
Advisory: Not open to students with credit in APPR 125.
54 hours total.
Basic principles of various hydronic systems including equipment selection, pipe sizing, piping connections and proper installation methods. Start, test and balance procedures. **FHGE: Non-GE**

APPT 147B SF 401B INDUSTRIAL RIGGING 2.5 Units
Prerequisite: Per California Code of Regulations, this course is limited to students admitted to the Steamfitting & Pipefitting Technology Apprenticeship Program.
Advisory: Not open to students with credit in APRT 180.
54 hours total.
Appropriate knots required for specific rigging operations. Rigging safety protocol will be reviewed which will include health and safety legislation and the responsibilities of specified rigging personnel. Crane signals and will practice rigging skills both through observation and hands-on activities. **FHGE: Non-GE**

APPT 148 SF 402 ADVANCED DRAWING & BLUEPRINT READING 4.5 Units
Prerequisite: Per California Code of Regulations, this course is limited to students admitted to the Steamfitting & Pipefitting Technology Apprenticeship Program.
Advisory: Not open to students with credit in APPR 120.
108 hours total.
Study of technical drawings, piping drawings, building plans, specifications and submittals. Interpretation of three view, plan view, elevation view and isometric drawings will be discussed. Hands-on exercises in the process of creating coordinated drawings beginning with sketching principles, calculating and drawing, and finishing with drawing coordination and system design. **FHGE: Non-GE**

APPT 151 RF 101 BASIC REFRIGERATION SERVICE SKILLS 4.5 Units
Prerequisite: Per California Code of Regulations, this course is limited to students admitted to the Air Conditioning & Refrigeration Technology Apprenticeship Program.
Advisory: Not open to students with credit in APPR 131.
108 hours total.
Orientation to the apprenticeship program, JATC policies and procedures UA history and heritage will also be covered at this time. Safety training is introduced next, with instruction in general construction safety and hazardous materials awareness. Necessary trade skills including, pipe & tube installations and soldering & brazing. **FHGE: Non-GE**

APPT 152 RF 102 BASIC ELECTRICITY & REFRIGERATION 4.5 Units
Prerequisite: Per California Code of Regulations, this course is limited to students admitted to the Air Conditioning & Refrigeration Technology Apprenticeship Program.
Advisory: Not open to students with credit in APPR 132.
108 hours total.
Laws pertaining to basic electrical theory and their application to mechanical equipment service. Refrigeration theory and application of the vapor compression cycle will also be covered. **FHGE: Non-GE**

APPT 153 RF 201 MECHANICAL SYSTEMS 4.5 Units
Prerequisite: Per California Code of Regulations, this course is limited to students admitted to the Air Conditioning & Refrigeration Technology Apprenticeship Program.
Advisory: Not open to students with credit in APPR 133C.
108 hours total.
Basic and advanced refrigeration concepts. Extensive study of the design, assembly, and operation of compression systems. It will include liquid and vapor control, metering devices, system components, and piping design. **FHGE: Non-GE**

APPT 154 RF 202 ELECTRIC CONTROLS FUNDAMENTALS 4.5 Units
Prerequisite: Per California Code of Regulations, this course is limited to students admitted to the Air Conditioning & Refrigeration Technology Apprenticeship Program.
Advisory: Not open to students with credit in APPR 134.
108 hours total.
Fundamentals of electrical controls related to HVAC and refrigeration equipment. Students will assemble and wire actual electrical components and controls. **FHGE: Non-GE**

APPT 155 RF 301 ADVANCED ELECTRIC CONTROLS 4.5 Units
Prerequisite: Per California Code of Regulations, this course is limited to students admitted to the Air Conditioning & Refrigeration Technology Apprenticeship Program.
Advisory: Not open to students with credit in APPR 140.
108 hours total.
Advanced principles of electric controls used for mechanical equipment in the HVAC industry. Study control diagrams and further develop skills and service procedures used to troubleshoot electrical problems in HVACR equipment. **FHGE: Non-GE**

APPT 156 RF 302 HVAC PNEUMATIC & ELECTRONIC CONTROL SYSTEMS 4.5 Units
Formerly: APPR 135
Prerequisite: Per California Code of Regulations, this course is limited to students admitted to the Air Conditioning & Refrigeration Technology Apprenticeship Program.
Advisory: Not open to students with credit in APPR 135.
108 hours total.
Introduction to HVAC fundamentals, energy sources and control system principals. Focus on pneumatic, electrical, electronic and building automation control systems and components. **FHGE: Non-GE**

APPT 157 RF 401 INDUSTRIAL REFRIGERATION & AIR-CONDITIONING SERVICE 4.5 Units
Prerequisite: Per California Code of Regulations, this course is limited to students admitted to the Air Conditioning & Refrigeration Technology Apprenticeship Program.
Advisory: Not open to students with credit in APPR 107.
108 hours total.
Servicing industrial Refrigeration and Air conditioning systems. Alignment and repair of circulating pumps and compressors will be covered as well as industrial valve applications and repair. Rigging procedures, refrigerant handling and basic office computer skills will also be covered in computer lab. **FHGE: Non-GE**

APPT 158 RF 402 ADVANCED REFRIGERATION & CHILLERS 4.5 Units
Prerequisite: Per California Code of Regulations, this course is limited to students admitted to the Air Conditioning & Refrigeration Technology Apprenticeship Program.
Advisory: Not open to students with credit in APPR 108.
108 hours total.
Study of the operation and design of positive displacement water chillers and commercial boilers and boiler room equipment. Single-stage and multi-stage centrifugal water chillers will also be covered. Methods of evaluating chiller performance and develop troubleshooting skills. **FHGE: Non-GE**

APPT 159 RF 501 START, TEST & BALANCE; HVAC SYSTEMS 4.5 Units
Prerequisite: Per California Code of Regulations, this course is limited to students admitted to the Air Conditioning & Refrigeration Technology Apprenticeship Program.
Advisory: Not open to students with credit in APPR 149A.
108 hours total.
Use of balancing instruments and devices for HVACR systems. The theory and operation of mechanical systems, equipment and testing instruments will be covered. This course stresses the necessity of comprehending the design and intent for the mechanical project, the proper use of testing apparatus and the production of professional reports. **FHGE: Non-GE**

APPT 161 SAFETY/TOOLS/HERITAGE/SERVICE 4 Units
Prerequisite: Per California Code of Regulations, this course is limited to students admitted to the Plumbing & Pipefitting Apprenticeship Program.
99 hours total.
First year course of the Plumber & Pipefitter Apprenticeship program. Provides students with a working knowledge of plumbing industry materials and standards. Learn use and care of Pipetrade tools, practice safety, and heritage of the United Association. **FHGE: Non-GE**

APPT 162 MATHEMATICS/SCIENCE FOR THE PLUMBING TRADE 4.5 Units
Prerequisite: Per California Code of Regulations, this course is limited to students admitted to the Plumbing & Pipefitting Apprenticeship Program.
102 hours total.
First year of the Plumber & Pipefitter Apprenticeship program. Provide students with a working knowledge of mathematics and science as it applies to the plumbing industry. **FHGE: Non-GE**

APPT 163 CODE/WATER SUPPLY SYSTEMS 4 Units
Prerequisite: Per California Code of Regulations, this course is limited to students admitted to the Plumbing & Pipefitting Apprenticeship Program.
99 hours total.
First year of the Plumber & Pipefitter Apprenticeship program. Provide students with a working knowledge of Plumbing Code I and water supply systems. **FHGE: Non-GE**

APPT 164 DRAWING I FOR THE PLUMBING TRADE 4.5 Units
Prerequisite: Per California Code of Regulations, this course is limited to students admitted to the Plumbing & Pipefitting Apprenticeship Program.
102 hours total.
Third year course of the Plumber & Pipefitter Apprenticeship program. Provide students with a working knowledge of plumbing and piping layouts, drainage systems, piping and fixture supports as it applies to mechanical drawings. **FHGE: Non-GE**

APPT 165 DRAWING II FOR THE PLUMBING TRADE 4 Units
Prerequisite: Per California Code of Regulations, this course is limited to students admitted to the Plumbing & Pipefitting Apprenticeship Program.
99 hours total.
Second year course of the Plumber & Pipefitter Apprenticeship program. Provide students with a working knowledge of Technical Drawings, Isometric Drawings and the creation of Building Plans as it applies to the Plumbing trade. **FHGE: Non-GE**

APPT 166 WELDING/OXY-ACETYLENE TRAINING 4.5 Units
Prerequisite: Per California Code of Regulations, this course is limited to students admitted to the Plumbing & Pipefitting Apprenticeship Program.
102 hours total.
Third year course of the Plumber & Pipefitter Apprenticeship program. Provide students with a working knowledge of welding principles, as it relates to Metal ARC welding, Gas ARC welding, TIG Welding, MIG Welding and Oxygen / Acetylene burning and welding. **FHGE: Non-GE**

APPT 167 STEAM SYSTEMS/RIGGING/PIPE FITTING & SERVICE 4 Units
Prerequisite: Per California Code of Regulations, this course is limited to students admitted to the Plumbing & Pipefitting Apprenticeship Program.
99 hours total.
Forth year of the Plumber & Pipefitter Apprenticeship program provides students with a working knowledge of Layout, Cut, and Fit for Water Piping and Steamfitting systems. **FHGE: Non-GE**

APPT 168 MEDICAL GAS/HYDRONICS 4.5 Units
Prerequisite: Per California Code of Regulations, this course is limited to students admitted to the Plumbing & Pipefitting Apprenticeship Program.
102 hours total.
Forth year course of the Plumber & Pipefitter Apprenticeship program. Provide students with a working knowledge of Medical Gas, Brazer, and Hydronic Systems. **FHGE: Non-GE**

APPT 169 ADVANCED DRAWING/LAYOUT FOR THE PLUMBING TRADES 4 Units
Prerequisite: Per California Code of Regulations, this course is limited to students admitted to the Plumbing & Pipefitting Apprenticeship Program.
99 hours total.
Fifth year course of the Plumber & Pipefitter Apprenticeship program. Provide students with a working knowledge of Advanced Drawing, Plumbing Layout and Building Detailing. Specifications for Code Callouts are also covered in depth. **FHGE: Non-GE**

APPT 170 CODE II/JUNIOR MECHANICS REVIEW & EXAM 4.5 Units
Prerequisite: Per California Code of Regulations, this course is limited to students admitted to the Plumbing & Pipefitting Apprenticeship Program.
102 hours total.
Fifth year course of the Plumber & Pipefitter Apprenticeship program. Provide students with a working knowledge of Plumbing Codes and will review how changes affect the codes. **FHGE: Non-GE**

APPT 171 BASIC REFRIGERATION/HERITAGE/CFC 4 Units
Prerequisite: Per California Code of Regulations, this course is limited to students admitted to the Refrigeration & Air Conditioning Mechanical Service Apprenticeship Program.
99 hours total.
First year course of the Refrigeration & Air Conditioning Apprenticeship program. Provide students with a working knowledge of Thermodynamics, Chloro-Fluoro Carbons (CFC), and basic Refrigeration, as it pertains to the Air Conditioning Service industry. **FHGE: Non-GE**

APPT 172 REFRIGERATION SCIENCE 4.5 Units
Prerequisite: Per California Code of Regulations, this course is limited to students admitted to the Refrigeration & Air Conditioning Mechanical Service Apprenticeship Program.
102 hours total.
First year course of the Refrigeration & Air Conditioning Apprenticeship program. Provide students with a working knowledge of Basic Refrigeration, Refrigeration Equipment, and Equipment Maintenance. **FHGE: Non-GE**

APPT 173 BASIC ELECTRICITY FOR THE HVAC SERVICE TRADE 4 Units
Prerequisite: Per California Code of Regulations, this course is limited to students admitted to the Refrigeration & Air Conditioning Mechanical Service Apprenticeship Program.
99 hours total.
Provides students with a working knowledge of basic electricity, including AC/DC theory and Ohm's Law. Students will be expected to apply these theories in the laboratory using electronic and testing instruments. **FHGE: Non-GE**

APPT 174 ADVANCED ELECTRICITY/PNEUMATIC DDC INTRODUCTION 4.5 Units
Prerequisite: Per California Code of Regulations, this course is limited to students admitted to the Refrigeration & Air Conditioning Mechanical Service Apprenticeship Program.
102 hours total.
Second year course of the Refrigeration & Air Conditioning Apprenticeship program. Provide students will obtain a working knowledge of Advanced Electricity, Motors, Starter, Circuitry, and Variable Drives. **FHGE: Non-GE**

APPT 175 CONTROLS I/ELECTRO PNEUMATICS 4 Units
Prerequisite: Per California Code of Regulations, this course is limited to students admitted to the Refrigeration & Air Conditioning Mechanical Service Apprenticeship Program.
99 hours total.
Third year course of the Refrigeration & Air Conditioning Apprenticeship program. Provide students with a working knowledge of Controls, Control Theory, Timing Circuits, Computerized Control, and Energy Management Systems. **FHGE: Non-GE**

APPT 176 CONTROLS II/ADVANCED PNEUMATICS CALIBRATION/HYDRONICS 4.5 Units
Prerequisite: Per California Code of Regulations, this course is limited to students admitted to the Refrigeration & Air Conditioning Mechanical Service Apprenticeship Program.
102 hours total.
Third year of the Refrigeration & Air Conditioning Apprenticeship program. Provide students with a working knowledge of advanced control systems, including the uses of 2-Position, Floating and Modulating Controls. Fiber Optics and Direct Digital Controls are introduced. **FHGE: Non-GE**

APPT 177 START, TEST & BALANCE I 4 Units
Prerequisite: Per California Code of Regulations, this course is limited to students admitted to the Refrigeration & Air Conditioning Mechanical Service Apprenticeship Program.
99 hours total.
Provides students with an introduction to Start, Test and Balance for fluid distribution. Ducting, Cooling, Fans, and Air Distribution is covered in the laboratory exercises. **FHGE: Non-GE**

APPT 178 START, TEST & BALANCE II 4.5 Units
Prerequisite: Per California Code of Regulations, this course is limited to students admitted to the Refrigeration & Air Conditioning Mechanical Service Apprenticeship Program.
102 hours total.
Fourth year course of the Refrigeration & Air Conditioning Apprenticeship program. Provide students with a working knowledge of Start, Test and Balance for Piping Systems, Pumps, Chillers, Boilers, and Condensers. **FHGE: Non-GE**

APPT 179 CHILLERS/SPECIAL SYSTEMS/ HVACR STAR REVIEW 4 Units
Prerequisite: Per California Code of Regulations, this course is limited to students admitted to the Refrigeration & Air Conditioning Mechanical Service Apprenticeship Program.
99 hours total.
Provides students with a working knowledge of pipe drafting and blueprint reading for Heating, Ventilation and Air Conditioning (HVAC) Systems. Hands-on activities include applying airside, waterside and pressure testing systems. **FHGE: Non-GE**

APPT 180 HVACR STAR REVIEW & EXIT EXAM 4.5 Units
Prerequisite: Per California Code of Regulations, this course is limited to students admitted to the Refrigeration & Air Conditioning Mechanical Service Apprenticeship Program.
102 hours total.
Fifth year course of the Refrigeration & Air Conditioning Apprenticeship program. Provide students with a working knowledge of Troubleshooting, Test and Repair of Refrigeration and Air-Conditioning systems. **FHGE: Non-GE**

APPT 181 STEAM FITTING & RIGGING GENERAL COURSE 4 Units
Prerequisite: Per California Code of Regulations, this course is limited to students admitted to the Steamfitting & Rigging Apprenticeship Program.
99 hours total.
Provide a comprehensive Instruction and review of steamfitting and installed systems including piping and general rigging practices. Upon completion, students are prepared to take the State Certification Exam for Steamfitters. **FHGE: Non-GE**

APPRENTICESHIP: PIPE TRADES, SHEET METAL, FIELD IRONWORKERS

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APPR 150 JOB SAFETY, OSHA, MATHEMATICS, HERITAGE & RIGGING I **4.5 Units**
Prerequisite: Per California Code of Regulations, this course is limited to students admitted to the Plumbing/Pipefitting/Refrigeration/HVAC Apprenticeship Program.
108 hours total.
First course of the Plumber & Pipefitter Apprenticeship Program. The course provides students with a working knowledge of mathematics, plumbing industry materials and standards (as it applies to the plumbing industry), learn use and care of Pipe trade tools, practice safety, rigging, and a review of Heritage of the United Association. **FHGE: Non-GE**

APPR 151 OXY-ACC, ARC & PLASTIC WELDING, SOLDERING/BRAZING CERTIFICATION **4.5 Units**
Prerequisite: Per California Code of Regulations, this course is limited to students admitted to the Plumbing/Pipefitting/Refrigeration/HVAC Apprenticeship Program.
108 hours total.
Second year course of the Plumber & Pipefitter Apprenticeship Program. The course will provide students with a working knowledge of welding principles, as it relates to Oxygen/Acetylene burning, brazing, soldering and welding. The Apprentice Plumber is a 5-year certificate program. No certification for welding provided in this course. **FHGE: Non-GE**

APPR 152 BASIC ARC WELDING & BASIC DRAWING **4.5 Units**
Prerequisite: Per California Code of Regulations, this course is limited to students admitted to the Plumbing Apprenticeship Program.
108 hours total.
Third year course of the Plumber & Pipefitter Apprenticeship Program. The course will provide students with a working knowledge of plumbing and piping layouts, drainage systems, piping and fixture supports as it applies to mechanical drawings. This course also offers instruction and practice in oxy-fuel cutting, oxy-fuel welding and arc welding of steel plate and pipe. Safety and accuracy in measuring, lay-out and torch handling is emphasized. **FHGE: Non-GE**

APPR 153 PLUMBING FIXTURES, RIGGING & SCIENCE **4.5 Units**
Prerequisite: Per California Code of Regulations, this course is limited to students admitted to the Plumbing Apprenticeship Program.
108 hours total.
Instruction in plumbing fixtures and appliances, identification and tying of various types of knots. This course also studies hands-on safety practices of rigging and hoisting piping materials, and a working knowledge of science as it applies to the plumbing industry. **FHGE: Non-GE**

APPR 154 GAS & WATER SUPPLY **4.5 Units**
Prerequisite: Per California Code of Regulations, this course is limited to students admitted to the Plumbing Apprenticeship Program.
108 hours total.
Third year course of the Plumber & Pipefitting Apprentice Program. The course provides the student with a working knowledge of the supply and treatment of potable water as well as the design and construction of potable water conveyance systems. This course also offers instruction in the use of natural gas and liquid propane gas systems as they apply to the piping industry. **FHGE: Non-GE**

APPR 155 UNIFORM PLUMBING CODE & MEDICAL GAS FOR APPRENTICES **4.5 Units**
Prerequisite: Per California Code of Regulations, this course is limited to students admitted to the Plumbing Apprenticeship Program.
108 hours total.
Installation procedures of medical gas and vacuum systems, and demonstrate the procedures for coordinating the testing and inspection of plumbing systems and applicable codes that a plumbing system must meet. Brazing requirements will be described and proper techniques will be demonstrated. **FHGE: Non-GE**

APPR 156 DRAINAGE; ADVANCED DRAWING **4.5 Units**
Prerequisite: Per California Code of Regulations, this course is limited to students admitted to the Plumbing Apprenticeship Program.
108 hours total.
Third year course of the Plumber and Pipefitting Apprentice program. Provides the a working knowledge of building plans, specifications and isometric drawings as they apply to the piping industry. This course also offers instruction in the principles and methods of disposal of sewage, the drainage systems that convey sewage both public and private, and the principles of plumbing vent systems and their importance to proper drainage. **FHGE: Non-GE**

APPR 157 STEAMFITTING & PIPEFITTING **4.5 Units**
Prerequisite: Per California Code of Regulations, this course is limited to students admitted to the Plumbing Apprenticeship Program.
108 hours total.
Fourth year course of the Plumbing and Pipefitting Apprenticeship Program. The course provides students with a working knowledge of the design, layout, components, specific safety hazards and accepted engineering practices associated with steam heating, hydronic heating and cooling systems. **FHGE: Non-GE**

APPR 159 ADVANCED ARC WELDING **4.5 Units**
Prerequisite: Per California Code of Regulations, this course is limited to students admitted to the Plumbing Apprenticeship Program.
108 hours total.
Fifth year course of the Plumber and Pipefitter Apprenticeship Program. Provides the student with the knowledge and ability to perform uphill welds on pipe in all positions using E-6010 and E-7018 electrodes. Enables the student to pass the various weld certifications tests required for welders in the industry. **FHGE: Non-GE**

APPR 160A EPA, CUSTOMER SERVICE, REFRIGERATION & ELECTRICAL **4.5 Units**
Prerequisite: Per California Code of Regulations, this course is limited to students admitted to the Refrigeration & Air Conditioning Apprenticeship Program.
108 hours total.
Third year course of the Plumber, Pipefitter & Service Tech Apprenticeship Program regarding HVAC students will include: Basic refrigeration, EPA 608 certification, safety and customer service. **FHGE: Non-GE**

APPR 161 AIR CONDITIONING, PNEUMATIC CONTROLS, INSTRUMENTATION & PROCESS CONTROLS **4.5 Units**
Prerequisite: Per California Code of Regulations, this course is limited to students admitted to the Refrigeration & Air Conditioning Apprenticeship Program.
108 hours total.
Third year course of the Plumber, Pipefitter & Service Tech Apprenticeship Program. The course will review the theory and application of the related math and science as well as the vapor compression cycle and refrigeration components and systems. The Refrigeration Apprentice program is a 5-year certificate program. **FHGE: Non-GE**

APPR 162A ELECTRICAL TROUBLESHOOTING, REFRIGERATION CONTROLS **4.5 Units**
Prerequisite: Per California Code of Regulations, this course is limited to students admitted to the Refrigeration & Air Conditioning Apprenticeship Program.
108 hours total.
Third year course of the Plumber, Pipefitter & Service Tech Apprenticeship Program. The course will review electrical principles as applied to refrigeration, including single and three phase circuits, and series and parallel circuits. The course will also review Symbols and electrical diagrams and Direct/Alternating current voltage. **FHGE: Non-GE**

APPR 162B COMPUTER LITERACY & PNEUMATIC CONTROLS 4.5 Units

Prerequisite: Per California Code of Regulations, this course is limited to students admitted to the Refrigeration & Air Conditioning Apprenticeship Program.
108 hours total.
Forth year course of the HVAC Apprenticeship Program. Provides a working knowledge of pneumatic control systems and computer literacy as they apply to the HVAC industry. **FHGE: Non-GE**

APPR 162C ELECTRONIC CONTROLS, DDC CONTROLS 4.5 Units

Prerequisite: Per California Code of Regulations, this course is limited to students admitted to the Refrigeration & Air Conditioning Apprenticeship Program.
108 hours total.
Fourth year course of the HVACR Apprenticeship Program. Provides a working knowledge of direct digital control systems and the electronics involved with these systems as they apply to comfort air and building control management. **FHGE: Non-GE**

APPR 163 REFRIGERATION & HYDRONICS PIPING, UA STAR 4.5 Units

Prerequisite: Per California Code of Regulations, this course is limited to students admitted to the Refrigeration & Air Conditioning Apprenticeship Program.
108 hours total.
Fifth year course of the Plumber & Pipefitter Apprenticeship Program. Provides students with the theory and application of psychrometrics, refrigerant piping design, advanced refrigeration, and a review of teachings from the prior four years in preparation for the UA STAR certification exam. Additionally, there will be further instruction in customer service and in safety. A proctored exam to provide a UA STAR certification. **FHGE: Non-GE**

APPR 164 TRANSIT; SOLAR; SPECIAL PURPOSE INSTALLATIONS; SERVICE WORK & HUMAN RELATIONSHIP; HYDRONIC HEATING & COOLING 4.5 Units

Prereqisite: Per California Code of Regulations, this course is limited to students admitted to the Refrigeration & Air Conditioning Apprenticeship Program.
108 hours total.
Provides the apprentice with the knowledge of the operation and maintenance of transit and builders level, solar heating, the basic principles of service work, and hydronic heating and cooling systems. **FHGE: Non-GE**

APPR 166 JOB SUPERVISION 4.5 Units

Prerequisite: Per California Code of Regulations, this course is limited to students admitted to the Plumbing/Pipefitting Apprentice Program.
108 hours total.
Provides students with the knowledge and skills to properly supervise, schedule and document a construction project. No certification in job supervision is provided. **FHGE: Non-GE**

APPR 167 START, TEST & BALANCE 4.5 Units

Prereqisite: Per California Code of Regulations, this course is limited to students admitted to the Refrigeration/HVAC Apprenticeship Program.
108 hours total.
Fifth year course of the Plumber & Pipefitter Apprenticeship Program. Provide students with a working knowledge of the Start, Test, & Balance of HVACR equipment and systems. **FHGE: Non-GE**

APPR 168 SUPERMARKET REFRIGERATION 4.5 Units

Prerequisite: Per California Code of Regulations, this course is limited to students admitted to the Refrigeration/HVAC Apprenticeship Program.
108 hours total.
Second year course of the Plumber, Pipefitter and Service Technician Apprenticeship Program. Provides the student with a working knowledge of the fundamentals of oil return and oil seperators, electric and hot gas exhaust, multi-stage compressor systems and pump down systems. **FHGE: Non-GE**

APPR 183A BASIC ELECTRICITY FOR SHEET METAL & AIR CONDITIONING SERVICE 4.5 Units

Prerequisite: Per California Code of Regulations, this course is limited to students admitted to the Sheet Metal-Air Conditioning Service Mechanic Program.
108 hours total.
Development of basic skills necessary for sheet metal workers to service air conditioning equipment with special emphasis on the basics of electricity and refrigeration principles. **FHGE: Non-GE**

APPR 183B ADVANCED ELECTRICITY FOR SHEET METAL & AIR CONDITIONING SERVICE 4.5 Units

Prerequisite: Per California Code of Regulations, this course is limited to students admitted to the Sheet Metal-Air Conditioning Service Mechanic Program.
108 hours total.
Continued development of skills necessary for sheet metal workers to service air conditioning equipment with special emphasis on the use of basic electrical testing instruments, principles, transformers, relays, contacts and safety around electrical equipment. **FHGE: Non-GE**

APPR 184A AIR CONDITIONING; COMMERCIAL SYSTEMS; HEATING (FOURTH-YEAR SERVICE) 4.5 Units

Prerequisite: Per California Code of Regulations, this course is limited to students admitted to the Sheet Metal-Air Conditioning Service Mechanic Program.
108 hours total.
Development of skills necessary for sheet metal workers to service air conditioning equipment with emphasis on air-cooled commercial systems, refrigerant line components, installation and commercial applications. **FHGE: Non-GE**

APPR 184B COMMERCIAL SYSTEMS; HEAT LOADS; PIPING (FOURTH-YEAR SERVICE) 4.5 Units

Prerequisite: Per California Code of Regulations, this course is limited to students admitted to the Sheet Metal-Air Conditioning Service Mechanic Program.
108 hours total.
Continued development of skills necessary for sheet metal workers to service air conditioning equipment with emphasis on commercial systems, servicing, heat loads and piping. **FHGE: Non-GE**

APPR 185A BASIC REFRIGERATION FOR SHEET METAL AIR CONDITIONING SERVICE 4.5 Units

Prerequisite: Per California Code of Regulations, this course is limited to students admitted to the Sheet Metal-Air Conditioning Service Mechanic Program.
108 hours total.
Introduction to the use of refrigeration evacuation service equipment, charging refrigeration systems, and to the use of oxy-acetylene brazing equipment. **FHGE: Non-GE**

APPR 185B ADVANCED REFRIGERATION FOR SHEET METAL AIR CONDITIONING SERVICE 4.5 Units

Prerequisite: Per California Code of Regulations, this course is limited to students admitted to the Sheet Metal-Air Conditioning Service Mechanic Program.
108 hours total.
Continued development of refrigeration skills with emphasis on the function of compressors, multiphase electric motors and piping systems. **FHGE: Non-GE**

APPR 186A PROPERTIES OF AIR DISTRIBUTION FOR SHEET METAL AIR CONDITIONING SERVICE 4.5 Units

Prerequisite: Per California Code of Regulations, this course is limited to students admitted to the Sheet Metal-Air Conditioning Service Mechanic Program.
108 hours total.

Introduction to the different properties of air distribution with air volumes, pressures, humidity and temperature; basic air balance procedures. **FHGE: Non-GE**

APPR 186B REFRIDGERATION THEORY FOR SHEET METAL AIR CONDITIONING SERVICE 4.5 Units
Prerequisite: Per California Code of Regulations, this course is limited to students admitted to the Sheet Metal-Air Conditioning Service Mechanic Program.
108 hours total.
Continuing refrigeration theory with emphasis on all the major parts of refrigeration systems. The explanation of the principles and function of the heat pump in a residential application. **FHGE: Non-GE**

APPR 188A ORIENTATION; SAFETY & BEGINNING RESIDENTIAL SHEET METAL INSTALLATION (SPECIALIST 1A) 2.5 Units
Prerequisite: Per California Code of Regulations, this course is limited to students admitted to the Sheet Metal Specialist Apprenticeship Program.
54 hours total.
An introduction to residential and light commercial sheet metal installation, safety, tools, materials, equipment and related industry practices. Emphasis will be on safety and soldering techniques. **FHGE: Non-GE**

APPR 188B RESIDENTIAL COMPONENTS IDENTIFICATION & INSTALLATION (SPECIALIST 1B) 2.5 Units
Prerequisite: Per California Code of Regulations, this course is limited to students admitted to the Sheet Metal Specialist Apprenticeship Program.
54 hours total.
A continued development of concepts and practices already introduced and used in residential and light commercial installations of sheet metal ductwork. Emphasis will be on materials information and skills development. **FHGE: Non-GE**

APPR 189A RESIDENTIAL SYSTEMS; DUCT & HVAC SYSTEMS (SPECIALIST 2A) 2.5 Units
Prerequisite: Per California Code of Regulations, this course is limited to students admitted to the Sheet Metal Specialist Apprenticeship Program.
54 hours total.
A study of typical residential duct systems including ventilation and exhaust systems, and HVAC systems. Development of installation techniques. **FHGE: Non-GE**

APPR 189B PLANS & ARCHITECTURAL APPLICATIONS FOR RESIDENTIAL SHEET METAL (SPECIALIST 2B) 2.5 Units
Prerequisite: Per California Code of Regulations, this course is limited to students admitted to the Sheet Metal Specialist Apprenticeship Program.
54 hours total.
An advanced study of industry standards, values and requirements in residential sheet metal work including architectural applications of metal roofing, complex flashing, gutter and downspouts. Use of plans for coordinating installations. Mathematics review and further development of soldering skills. **FHGE: Non-GE**

APPRENTICESHIP: PIPE TRADES, SHEET METAL, FIELD IRONWORKERS, ELEVATORS

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APRT 106A SHEET METAL CONTROL SYSTEMS (FIFTH-YEAR SERVICE) 4.5 Units
Prerequisite: Per California Code of Regulations, this course is limited to students admitted to the Sheet Metal-Air Conditioning Service Mechanic Program.
108 hours total.
Development of skills necessary for sheet metal workers to service air conditioning equipment with emphasis on control methods and systems, computerized building management, zone control and variable air volume systems. **FHGE: Non-GE**

APRT 106B ENERGY MANAGEMENT & CUSTOMER SERVICE (FIFTH-YEAR SERVICE) 4.5 Units
Prerequisite: Per California Code of Regulations, this course is limited to students admitted to the Sheet Metal-Air Conditioning Service Mechanic Program.
108 hours total.
Development of skills necessary for sheet metal workers to service air conditioning equipment with emphasis on digital control systems, energy management, business and shop operations and OSHA regulations. **FHGE: Non-GE**

APRT 107A ADVANCED SHEET METAL SERVICE I 3 Units
Prerequisite: Per California Code of Regulations, this course is limited to students admitted to the Sheet Metal Apprenticeship Program.
72 hours total.
In-depth study of HVAC systems, electricity, measurements; testing, adjusting and balancing for sheet metal service persons. Fluid flow, heat transfer, motors, starters and equations commonly used for testing will be covered. **FHGE: Non-GE**

APRT 107B ADVANCED SHEET METAL SERVICE II 3 Units
Prerequisite: Per California Code of Regulations, this course is limited to students admitted to the Sheet Metal Apprenticeship Program.
72 hours total.
Continued in-depth study of HVAC systems. Air balancing, hydronic systems, pumps, U.S. and metric equivalents and conversions, heat and refrigeration will be covered. **FHGE: Non-GE**

APRT 111 COMPUTER LITERACY FOR TRADE APPRENTICES 1.5 Units
Prerequisite: Per California Code of Regulations, this course is limited to students admitted to the Sheet Metal Apprenticeship Program.
36 hours total.
Introduction to general computer principles and basic computer operations. Topics will include hardware familiarity, basic system components and design, basics of file management, and beginning word processing, spreadsheet and presentation application use, as it relates to the trades. **FHGE: Non-GE**

APRT 140A ELECTRICAL BASICS FOR RESIDENTIAL HVAC SERVICE I 2.5 Units
Prerequisite: Per California Code of Regulations, this course is limited to students admitted to the Sheet Metal Residential Service Apprenticeship Program.
54 hours total.
Development of basic skills necessary for service technicians to service heating and air conditioning equipment with special emphasis on the basics of electricity and air filtration. **FHGE: Non-GE**

APRT 140B REFRIGERATION BASICS FOR RESIDENTIAL HVAC SERVICE 2.5 Units
Prerequisite: Per California Code of Regulations, this course is limited to students admitted to the Sheet Metal Residential Service Apprenticeship Program.
54 hours total.
Development of the basics of refrigeration principles and residential systems for service technicians to service heating and air conditioning equipment. **FHGE: Non-GE**

APRT 141A COMPONENTS OF RESIDENTIAL HVAC SERVICE 2.5 Units

Prerequisite: Per California Code of Regulations, this course is limited to students admitted to the Sheet Metal Residential Service Apprenticeship Program.
54 hours total.
Identifying components and evaluating their status in servicing heating and air conditioning equipment. Discussion of the service technician's approach to field problems. **FHGE: Non-GE**

APRT 141B TROUBLESHOOTING DIAGNOSIS & REPAIR FOR RESIDENTIAL HVAC SERVICE 2.5 Units

Prerequisite: Per California Code of Regulations, this course is limited to students admitted to the Sheet Metal Residential Service Apprenticeship Program.
54 hours total.
Troubleshooting approaches for HVAC equipment problems with diagnosis and repair. Testing and tracing of circuits; visual evaluations for electrical and mechanical HVAC equipment. Review and practice of all basic skills necessary for A/C residential service technicians. **FHGE: Non-GE**

APRT 143A AIR BALANCE TEST EQUIPMENT & INSTRUMENTS (FIRST YEAR) 4.5 Units

Prerequisite: Per California Code of Regulations, this course is limited to students admitted to the Sheet Metal Testing & Air Balance Apprenticeship Program.
108 hours total.
Development of skills necessary to use test and balance instruments and equipment for HVAC systems and automatic control systems. Use of practical mathematics and mathematical equations to measure air velocity and duct outlet, and to solve air and hydronic balancing problems. **FHGE: Non-GE**

APRT 143B TEMPERATURE MEASUREMENT INSTRUMENTS & DUCT SYSTEMS (FIRST YEAR) 4.5 Units

Prerequisite: Per California Code of Regulations, this course is limited to students admitted to the Sheet Metal Testing & Air Balance Apprenticeship Program.
108 hours total.
Continuing study of skills necessary to test and balance instruments and equipment for HVAC systems and automatic control systems. Use of practical mathematics and mathematical equations to measure air velocity and duct outlet, and to solve air and hydronic balancing problems. **FHGE: Non-GE**

APRT 144A INTRODUCTION TO MARINE SHEET METAL TRAINING FOR APPRENTICES I 2.5 Units

Prerequisite: Per California Code of Regulations, this course is limited to students admitted to the Sheet Metal Apprenticeship Program.
54 hours total.
Working of metals in sheet form. Structural shapes, such as angle bar, channels, flat bar, rod and wire are also extensively used. Metals of varying thicknesses, from a few thousandths of an inch to 3/16ths of an inch, are used. Proper techniques and procedures are demonstrated for the different characteristics of each metal studied. Some of the metals used are copper, brass, bronze, lead, zinc, aluminum, black and galvanized iron, monel and stainless steel. **FHGE: Non-GE**

APRT 144B INTRODUCTION TO MARINE SHEET METAL TRAINING FOR APPRENTICES II 2.5 Units

Prerequisite: Per California Code of Regulations, this course is limited to students admitted to the Sheet Metal Apprenticeship Program.
54 hours total.
Continuation of working with metals in sheet form. Structural shapes, such as angle bar, channels, flat bar, rod and wire are also extensively used. Metals of varying thicknesses, from a few thousandths of an inch to 3/16ths of an inch, are used. Proper techniques and procedures are demonstrated for the different characteristics of each metal studied. Some of the metals used are copper, brass, bronze, lead, zinc, aluminum, black and galvanized iron, monel and stainless steel. **FHGE: Non-GE**

APRT 149A ELECTRICAL SYSTEMS OPERATION, CONTROLS & DEVICES (TAB-2) 4.5 Units

Prerequisite: Per California Code of Regulations, this course is limited to students admitted to the Sheet Metal Testing & Air Balance Apprenticeship Program.
108 hours total.
Study of individual electrical components and devices of control systems, and understanding their operation and relationship to each other. Identify and use instruments in measuring air movement. Learn how to interpret, use and understand drawings relating to the construction of a building. **FHGE: Non-GE**

APRT 149B HVAC TESTING & BALANCING PROCEDURES (TAB-2) 4.5 Units

Prerequisite: Per California Code of Regulations, this course is limited to students admitted to the Sheet Metal Testing & Air Balance Apprenticeship Program.
108 hours total.
Utilize skills and knowledge previously learned to apply methods of balancing HVAC systems. Balancing of systems will include both air and hydronic. Information gathered during the balancing will be used in completing reports required by the building engineer and owner. **FHGE: Non-GE**

APRT 150A AIR DISTRIBUTION & MANUFACTURING SYSTEMS (TAB-3) 4.5 Units

Prerequisite: Per California Code of Regulations, this course is limited to students admitted to the Sheet Metal Testing & Air Balance Apprenticeship Program.
108 hours total.
The difference, advantages and disadvantages of pneumatic and direct digital control systems will be compared to electrical systems. Students will use laptop computers to access a control system from a remote location; take readings and make minor adjustments to the system. Clean room operation and protocol will be examined. **FHGE: Non-GE**

APRT 150B SYSTEMS INSTALLATION & TROUBLESHOOTING (TAB-3) 4.5 Units

Prerequisite: Per California Code of Regulations, this course is limited to students admitted to the Sheet Metal Testing & Air Balance Apprenticeship Program.
108 hours total.
Proper layout and installation procedures on various control systems. This will include system programming, adjustment, testing, maintenance and repair of he installed system. **FHGE: Non-GE**

APRT 151A INTERMEDIATE MARINE SHEET METAL TRAINING FOR APPRENTICES I 2.5 Units

Prerequisite: Per California Code of Regulations, this course is limited to students admitted to the Sheet Metal Residential Service Apprenticeship Program.
54 hours total.
In-depth study of metals in sheet form up to 3/16 inch thickness. Further development and practice of pattern layout and fabrication, drawng, sketching and blueprint reading skills. Develop awareness of safety procedures and welding processes. **FHGE: Non-GE**

APRT 153A CONTROL SYSTEMS & CUSTOMER SERVICE I (TAB-4) 4.5 Units

Prerequisite: Per California Code of Regulations, this course is limited to students admitted to the Sheet Metal Testing & Air Balance Apprenticeship Program.
108 hours total.
Develop skills and knowledge of various control systems in use today in the HVAC test and air balance industry. Develop customer relations in order to effectively deal with the consumer. **FHGE: Non-GE**

APRT 153B CONTROL SYSTEMS & CUSTOMER SERVICE II (TAB-4) 4.5 Units
Prerequisite: Per California Code of Regulations, this course is limited to students admitted to the Sheet Metal Testing & Air Balance Apprenticeship Program.
108 hours total.
Continuation of APRT 153A. Develop skills and knowledge of various control systems in use today in the HVAC test and air balance industry. Further development of customer relations in order to effectively deal with the consumer. **FHGE: Non-GE**

APRT 154A PROJECT MANAGEMENT FOR THE TEST & AIR BALANCE INDUSTRY (TAB-5) 4.5 Units
Prerequisite: Per California Code of Regulations, this course is limited to students admitted to the Sheet Metal Testing & Air Balance Apprenticeship Program.
108 hours total.
Develop skills and knowledge of project management in use today in the HVAC test and air balance industry. Develop customer relations to effectively deal with the customer, project foreperson, and project engineers. **FHGE: Non-GE**

APRT 154B HAZARDOUS MATERIAL RECOGNITION FOR THE TEST & AIR BALANCE INDUSTRY (TAB-5) 4.5 Units
Prerequisite: Per California Code of Regulations, this course is limited to students admitted to the Sheet Metal Testing & Air Balance Apprenticeship Program.
108 hours total.
Develop skills and knowledge to recognize hazardous materials in the HVAC test and air balance industry. Use personal protective equipment and tools properly as they relate to hazardous materials. Review current laws governing hazardous material recognition and response. **FHGE: Non-GE**

APRT 155A SAFETY & TOOLS FOR SHEET METAL SIDING & DECKING APPRENTICES 4.5 Units
Prerequisite: Per California Code of Regulations, this course is limited to students admitted to the Sheet Metal Apprenticeship Program.
108 hours total.
Develop the skills and knowledge to safely work in the Siding & Decking segment of the sheet metal industry. To understand and practice job site safety in the layout and installation of siding and decking materials. **FHGE: Non-GE**

APRT 155B BLUEPRINT READING FOR SHEET METAL SIDING & DECKING APPRENTICES 4.5 Units
Prerequisite: Per California Code of Regulations, this course is limited to students admitted to the Sheet Metal Apprenticeship Program.
108 hours total.
Continue to develop the skills and knowledge to safely work in the Siding & Decking segment of the sheet metal industry. To understand and practice job site safety in the layout and installation of siding and decking materials. **FHGE: Non-GE**

APRT 156A WELDING FOR SHEET METAL SIDING & DECKING APPRENTICES 4.5 Units
Prerequisite: Per California Code of Regulations, this course is limited to students admitted to the Sheet Metal Apprenticeship Program.
108 hours total.
Development of basic skills necessary for the siding & decking apprentice to apply in oxyacetylene, shielded metal arc, and Gas Tungsten arc welding with special emphasis on welding safety. **FHGE: Non-GE**

APRT 156B MEASURING, DRAWING & LIFTING DEVICES FOR SHEET METAL SIDING & DECKING APPRENTICES 4.5 Units
Prerequisite: Per California Code of Regulations, this course is limited to students admitted to the Ironworkers Apprenticeship Program.
108 hours total.
Develop the skills and knowledge to measure, draw, fabricate and install various related sheet metal components used in the siding & decking industry. Understand and apply the proper methods of hoisting, rigging, and use of lifting devices to install products on the job. **FHGE: Non-GE**

APRT 189 PRECAST CONCRETE BUILDINGS 2 Units
Prerequisite: Per California Code of Regulations, this course is limited to students admitted to the Ironworkers Apprenticeship Program.
48 hours total.
Overview of those elements of knowledge, coordination and skill needed in the safe and economical erection of a precast concrete building, placing particular emphasis on the rigging, handling and installation of the precast concrete members themselves. **FHGE: Non-GE**

APPRENTICESHIP: SHEET METAL

Business and Social Sciences (650) 949-7208
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APSM 101 SMQ-1 TRADE INTRODUCTION 1.5 Units
Prerequisite: Per California Code of Regulations, this course is limited to students admitted to the Sheet Metal Building Trades Apprenticeship Program.
36 hours total.
Introduction to Sheet Metal as a skilled construction trade including: general overview, trade history and related issues, material handling and safety, sheet metal materials, hardware, and HVAC careers. **FHGE: Non-GE**

APSM 102 SMQ-2 CERTIFIED SAFETY & BEGINNING TRADE MATH 1.5 Units
Prerequisite: Per California Code of Regulations, this course is limited to students admitted to the Sheet Metal Building Trades Apprenticeship Program.
36 hours total.
Introduction to OSHA and related safety issues including job site safety, first aid and CPR certification. Reinforce and increase math skills necessary to meet the current level of mathematics occurring in construction trades. Course consists of basic arithmetic, geometry, algebra and trigonometry principles as applied in the construction trades. **FHGE: Non-GE**

APSM 103 SMQ-3 SHEET METAL TOOLS & SHOP 1.5 Units
Prerequisites: Per California Code of Regulations, this course is limited to students admitted to the Sheet Metal Building Trades Apprenticeship Program.
36 hours total.
Using sheet metal tools including hand tools and snips, shear, roll, and hand brake. Use of arithmetic and algebraic principles relating to sheet metal layout, fabrication of duct, pan, 45 degree tap-in, and plenum. Demonstration of other shop equipment used in the sheet metal industry. **FHGE: Non-GE**

APSM 104 SMQ-4 SOLDERING & COMMON SEAMS 1.5 Units
Prerequisite: Per California Code of Regulations, this course is limited to students admitted to the Sheet Metal Building Trades Apprenticeship Program.
36 hours total.
Basic soldering and seam fabrication techniques. Includes soldering lap and vertical seams, soldering with various materials and flux, alternate seam fabrication, and fabrication of non-soldered seams. **FHGE: Non-GE**

APSM 105 SMQ-5 DRAFTING INTRODUCTION & VIEWS 1.5 Units
Prerequisite: Per California Code of Regulations, this course is limited to students admitted to the Sheet Metal Building Trades Apprenticeship Program.
36 hours total.
Introduction to communicating construction details through drafting of plans. Topics include drafting equipment and materials, use of an architects scale, drawing format, geometric construction, basic views, square and radius elbows, and drawing duct runs. **FHGE: Non-GE**

APSM 106 SMQ-6 BEGINNING DUCT FITTINGS 1.5 Units
Prerequisite: Per California Code of Regulations, this course is limited to students admitted to the Sheet Metal Building Trades Apprenticeship Program. 36 hours total.
Focus is on the variety of duct connections, sealing, elbows and transitions common to the sheet metal industry. **FHGE: Non-GE**

APSM 107 SMQ-7 PARALLEL LINE FITTINGS 1.5 Units
Prerequisite: Per California Code of Regulations, this course is limited to students admitted to the Sheet Metal Building Trades Apprenticeship Program. 36 hours total.
Introduction to communicating construction details through drafting of plans. Topics include drafting equipment and materials, use of an architects scale, drawing format, geometric construction, basic views, square and radius elbows and drawing duct runs. **FHGE: Non-GE**

APSM 108 SMQ-8 TRIANGULATION FITTINGS 1.5 Units
Prerequisite: Per California Code of Regulations, this course is limited to students admitted to the Sheet Metal Building Trades Apprenticeship Program. 36 hours total.
Triangulation Fittings introduces another of three traditional sheet metal pattern development methods. Triangulation is a versatile method, often applied when other methods won't work. Including the method, practice drawings and fabricated projects. **FHGE: Non-GE**

APSM 109 SMQ-9 RADIAL LINE LAYOUT & OGEE OFFSETS 1.5 Units
Prerequisite: Per California Code of Regulations, this course is limited to students admitted to the Sheet Metal Building Trades Apprenticeship Program. 36 hours total.
Radial Line Layout introduces a third of three traditional sheet metal pattern development methods. Concepts are applied to conical sheet metal projects. In addition, the ogee offset fitting, sometimes important in maintaining efficient air flow is developed in flat and compound forms. **FHGE: Non-GE**

APSM 110 SMQ-10 BASICS OF ARCHITECTURAL SHEET METAL 1.5 Units
Prerequisite: Per California Code of Regulations, this course is limited to students admitted to the Sheet Metal Building Trades Apprenticeship Program. 36 hours total.
Focuses on essential skills used in architectural sheet metal work, particularly with gutter and downspout systems. This includes joint design for water flow, caulking and soldering applications, miters, and expansion joints. Architectural Sheet Metal is used to protect building from moisture and mold damage. Roof and scaffold safety is discussed. **FHGE: Non-GE**

APSM 111 SMQ-11 ARCHITECTURAL SHEET METAL 1.5 Units
Prerequisite: Per California Code of Regulations, this course is limited to students admitted to the Sheet Metal Building Trades Apprenticeship Program. 36 hours total.
This architectural sheet metal course seeks to develop an understanding of the common applications and general skills used in architectural sheet metal construction. Chimney saddles, flashings and counter flashings, coping, gravel stop, fascia, soffit, and scuppers are all covered in detail. Students fabricate many of these items. **FHGE: Non-GE**

APSM 112 SMQ-12 FIELD INSTALLATION 1.5 Units
Prerequisite: Per California Code of Regulations, this course is limited to students admitted to the Sheet Metal Building Trades Apprenticeship Program. 36 hours total.
Specific to field work in the sheet metal industry. Students receive training and safety certifications for powder actuated tools, asbestos awareness, forklift, and scissor lift or articulating booms. Proper techniques for rigging and hoisting loads are presented. Safety harnesses and other field safety equipment are discussed. In addition, fire damper types are presented and the need to follow manufacturer's specifications for applications related to life safety in buildings is stressed. **FHGE: Non-GE**

APSM 113 SMQ-13 WELDING 1: PROCESS & SAFETY OVERVIEW 1.5 Units
Prerequisite: Per California Code of Regulations, this course is limited to students admitted to the Sheet Metal Building Trades Apprenticeship Program. 36 hours total.
Overview of common welding safety hazards and personal protective equipment for welding. The Gas Metal Arc Welding process is introduced and practiced by students as commonly used in the sheet metal industry. Machine set-up and basic skills are stressed. **FHGE: Non-GE**

APSM 114 SMQ-14 WELDING 2: GMAW 1.5 Units
Prerequisite: Per California Code of Regulations, this course is limited to students admitted to the Sheet Metal Building Trades Apprenticeship Program. 36 hours total.
Development of Gas Metal Arc Welding skills. In addition, Welding symbols, portable grinder safety, hot work permits, Oxy-Fuel cutting, Plasma Arc cutting and Flux Core Arc Welding are introduced. Progress in student welding skill development is essential. **FHGE: Non-GE**

APSM 115 SMQ-15 WELDING 3: GMAW 1.5 Units
Prerequisite: Per California Code of Regulations, this course is limited to students admitted to the Sheet Metal Building Trades Apprenticeship Program. 36 hours total.
Introduces the Shielded Metal Arc Welding process. Students learn basic skills and proper set up of equipment. Work in vertical and overhead positions is presented as well as flat. Weld safety is stressed. Gas Tungsten Arc Welding is also introduced. **FHGE: Non-GE**

APSM 116 SMQ-16 PLANS & SPECIFICATIONS 1.5 Units
Prerequisite: Per California Code of Regulations, this course is limited to students admitted to the Sheet Metal Building Trades Apprenticeship Program. 36 hours total.
Introduction to plans and specifications and their applications in the sheet metal construction industry. Reading and interpreting title blocks, lines, abbreviations, symbols, sections, details and schedules for residential and commercial projects. Architectural, Structural, Mechanical, Electrical, Control, and specialty drawings are covered in detail. **FHGE: Non-GE**

APSM 117 SMQ-17 SUBMITTALS & SHOP DRAWINGS 1.5 Units
Prerequisite: Per California Code of Regulations, this course is limited to students admitted to the Sheet Metal Building Trades Apprenticeship Program. 36 hours total.
Job specification and blueprint reading instructions and adds the shop drawing and use of submittals as done in the sheet metal industry. This includes reading typical drawings and submittals, identifying specific information on the submittal, applying a numbering system to the shop drawing, creating material lists form the shop drawing or submittal, and field use of drawings and submittals. **FHGE: Non-GE**

APSM 118 SMQ-18 INDUSTRIAL & STAINLESS STEEL INTRODUCTION 1.5 Units
Prerequisites: Per California Code of Regulations, this course is limited to students admitted to the Sheet Metal Building Trades Apprenticeship Program. 36 hours total.
Introduces heavy gage industrial sheet metal techniques and stainless steel applications used in the industry. Topics include calculations of bend allowances for heavy gauge metal, layout and forming heavy gauge metal, using a blowpipe, material handling equipment, marking, forming and surface finishing stainless steel products. Safety and material handling practices are reviewed. **FHGE: Non-GE**

APSM 119 SMQ-19 HVAC AIR SYSTEMS & DUCT DESIGN 1.5 Units
Prerequisite: Per California Code of Regulations, this course is limited to students admitted to the Sheet Metal Building Trades Apprenticeship Program. 36 hours total.
Basics of air conditioning system design, operation, and installation will be covered in detail. Students will learn how cooling systems can be designed with human comfort

and efficient operation in mind. Students learn basic components, and to identify loss factors of typical HVAC systems. Load calculations and air flow calculations are performed. Duct leak testing is introduced. The importance of efficiency with today's environmental concerns is stressed. **FHGE: Non-GE**

APSM 120 SMQ-20 MEASURING & SKETCHING 1.5 Units
Prerequisite: Per California Code of Regulations, this course is limited to students admitted to the Sheet Metal Building Trades Apprenticeship Program. 36 hours total.
Field measuring and sketching techniques are discussed in detail as it relates to sheet metal work. Topics covered include measuring techniques and safety, reference points, calculations, and industry accepted symbols, views and representations. Students measure and produce sketches. **FHGE: Non-GE**

APSM 121 SMQ-21 FABRICATION & SHORTCUTS 1.5 Units
Prerequisite: Per California Code of Regulations, this course is limited to students admitted to the Sheet Metal Building Trades Apprenticeship Program. 36 hours total.
Theory and application of sheet metal fabrication and shortcuts used in residential and commercial construction are reviewed in this course. Students will gain a working knowledge of floor and hand tools used in the trade and relevant safety issues. Advanced techniques are applied. Geometry and math associated with fabrication are an integral part of this course. **FHGE: Non-GE**

APSM 122 SMQ-22 CODES & STANDARDS 1.5 Units
Prerequisite: Per California Code of Regulations, this course is limited to students admitted to the Sheet Metal Building Trades Apprenticeship Program. 36 hours total.
Introduction to the organization and interpretation of building codes and standards in the sheet metal industry. Restrictions and limitations these codes place on the construction industry are covered in detail. Students work with codes common to the industry and SMACNA standards to research information. **FHGE: Non-GE**

APSM 123 SMQ-23 RESIDENTIAL SHEET METAL 1.5 Units
Prerequisite: Per California Code of Regulations, this course is limited to students admitted to the Sheet Metal Building Trades Apprenticeship Program. 36 hours total.
Introduction to sheet metal work specific to residential construction including: the various types of residential heating, ventilation and air conditioning systems, combustion theory, basic air distribution, furnace construction, filters, humidifiers, installation techniques, and maintenance procedures. **FHGE: Non-GE**

APSM 124 SMQ-24 METAL ROOFING 1.5 Units
Prerequisite: Per California Code of Regulations, this course is limited to students admitted to the Sheet Metal Building Trades Apprenticeship Program. 36 hours total.
Overview of the different types of metal roofs used in the sheet metal industry, installation skills and safety concerns. Common roof seams are fabricated. Use of manufactured and shop-fabricated materials for roof layout and installation is practiced, including roof penetrations and related flashings. **FHGE: Non-GE**

APSM 125 SMQ-25 DETAILING 1.5 Units
Prerequisite: Per California Code of Regulations, this course is limited to students admitted to the Sheet Metal Building Trades Apprenticeship Program. 36 hours total.
Detailing in the sheet metal industry is a specialized skill that requires attention to detail when working with drawings and specifications. Students will compile detail information from plans, specs, submittals, standards, field measurements, and codes. **FHGE: Non-GE**

APSM 126 SMQ-26 FOREMAN TRAINING 1.5 Units
Prerequisites: Per California Code of Regulations, this course is limited to students admitted to the Sheet Metal Building Trades Apprenticeship Program. 36 hours total.
Intended for journeyman-level sheet metal workers who want to become supervisors, site managers, leads and foreman. Students will be able to identify the roles of the foreman, responsibilities of a foreman, and reasons to become a foreman. Students will practice self-evaluation, successful foreman attributes, managing and leading others, and project management. **FHGE: Non-GE**

APSM 127 SMQ-27 BASIC AUTOCAD 1.5 Units
Prerequisite: Per California Code of Regulations, this course is limited to students admitted to the Sheet Metal Building Trades Apprenticeship Program. 36 hours total.
Basic AutoCAD class in which students will follow the proper protocols for computer lab use and perform essential computer file management operations. Navigate through the basic AutoCAD screen and command menus. Demonstrate the basic use of the AutoCAD program by creating and plotting a drawing assignment within parameters and given template. The students will be able to demonstrate how AutoCAD is used in the Sheet Metal Industry. **FHGE: Non-GE**

APSM 128 HVAC ENERGY CONSERVATION & ENVIRONMENTAL TECHNOLOGY 1.5 Units
Prerequisite: Per California Code of Regulations, this course is limited to students admitted to the Sheet Metal Building Trades Apprenticeship Program. 36 hours total.
Introduction to Energy and Environmental Technologies for the sheet metal and HVAC industry. Introduction to California Title 24 requirements for HVAC systems, duct system testing, assessing utility bill and equipment nameplate data, the LEED point system and basic heat transfer calculations. **FHGE: Non-GE**

APSM 130 SMQ-30 ADVANCED WELDING 1.5 Units
Prerequisite: Per California Code of Regulations, this course is limited to students admitted to the Sheet Metal Building Trades Apprenticeship Program. 36 hours total.
Advanced techniques used in Oxy-Fuel/ Plasma cutting, GMAW, and GTAW on various types and thicknesses of base material. **FHGE: Non-GE**

APSM 131 SMQ-31 CAD DETAILING (BEGINNING CAD DUCT) 1.5 Units
Prerequisite: Per California Code of Regulations, this course is limited to students admitted to the Sheet Metal Building Trades Apprenticeship Program. 36 hours total.
Basic computer-aided design (CAD) drawing skills. Use of CAD DUCT tool to set up drawings. 3D duct detailing program with emphasis on electronic coordination. Focuses on file management and drawing protocol. Utilize structural and architectural backgrounds. Design ducting within the CAD drawing. Use CAD DUCT for location and elevation. **FHGE: Non-GE**

APSM 132 SMQ-32 INTERMEDIATE CAD DETAILING 1.5 Units
Prerequisite: Per California Code of Regulations, this course is limited to students admitted to the Sheet Metal Building Trades Apprenticeship Program. 36 hours total.
Continuation of 3D duct detailing program for electronic coordination. Emphasis is on accessing, editing and recovering files with the CAD DUCT system. Students will use format standards, tag files and program utilities. Using contract documents, students will work through the steps necessary to create a job file. **FHGE: Non-GE**

APSM 133 SMQ-33 ADVANCED ARCHITECTURAL 1.5 Units
Prerequisite: Per California Code of Regulations, this course is limited to students admitted to the Sheet Metal Building Trades Apprenticeship Program. 36 hours total.
Develop advanced skills to layout architectural custom flashing and cornices. Work with the newest metal roofing material. Work with copper and other materials to layout and fabricate ornamental projects. **FHGE: Non-GE**

APSM 134 SMQ-34 ADVANCED LAYOUT FABRICATION 1.5 Units
Prerequisite: Per California Code of Regulations, this course is limited to students admitted to the Sheet Metal Building Trades Apprenticeship Program.
36 hours total.
Advance methods of pattern development using a calculator. Use the Pythagorean Theorem, and other math formulas relating to sheet metal layout, fabrication and shop procedures. **FHGE: Non-GE**

APSM 135 SMQ-35 PROJECT MANAGEMENT, TAKEOFFS & ESTIMATES 1.5 Units
Prerequisite: Per California Code of Regulations, this course is limited to students admitted to the Sheet Metal Building Trades Apprenticeship Program.
36 hours total.
Development of skills in supervision, management of various types of project, performing take off's directly from contract drawings and creating an detailed estimate of a specific project. **FHGE: Non-GE**

APSM 136 SMQ-36 SERVICE BASICS 1.5 Units
Prerequisite: Per California Code of Regulations, this course is limited to students admitted to the Sheet Metal Building Trades Apprenticeship Program.
36 hours total.
Development of the basic skills necessary for a sheet metal worker to service a basic HVAC building system. **FHGE: Non-GE**

APSM 137 SMQ-37 FINAL HVAC PROJECT 1.5 Units
Prerequisite: Per California Code of Regulations, this course is limited to students admitted to the Sheet Metal Building Trades Apprenticeship Program.
36 hours total.
Design, fabricate, and install a typical HVAC system from concept design drawing to the finished installed project. **FHGE: Non-GE**

APSM 138 SMQ-38 FINAL ARCHITECTURAL, INDUSTRIAL, ORNAMENTAL PROJECT 1.5 Units
Prerequisite: Per California Code of Regulations, this course is limited to students admitted to the Sheet Metal Building Trades Apprenticeship Program.
36 hours total.
Design, fabricate, and install a typical Architectural, Industrial or an Ornamental project from concept design drawing to the finished installed project. **FHGE: Non-GE**

APPRENTICESHIP: SOUND & COMMUNICATION

Business and Social Sciences (650) 949-7208
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APSC 111 JOB INFORMATION, SAFETY, TEST INSTRUMENTS, STRUCTURED CABLING, CODES & PRACTICES, CONNECTORS & RACEWAYS 3.5 Units
Prerequisite: Per California Code of Regulations, this course is limited to students admitted to the Northern CA Sound & Communication JATC Apprenticeship Program.
Advisory: Not open to students with credit in APRT 130.
80 hours total.
Introduction to the sound and communication industry. Students are exposed to the basic tools of the trade, test instruments, proper care and safety of tools. Installation and use of fastening devices and how to tie basic knots. This course will cover the National Electrical Code (NEC) and TIA/EIA standards and students apply codeology to cabling systems, boxes, connectors, raceways, unshielded twisted pair cables and connecting hardware. **FHGE: Non-GE**

APSC 112 FIBER OPTICS & BLUEPRINT READING, DC THEORY 3.5 Units
Prerequisite: Per California Code of Regulations, this course is limited to students admitted to the Northern CA Sound & Communication JATC Apprenticeship Program.
Advisory: Not open to students with credit in APRT 131.
80 hours total.
Includes a fiber optic overview of different optical cables, connectors and connection joints. This course teaches students how to properly install, test and certify fiber optical cables. It covers the fundamentals of blueprints, scales, mechanical and electrical symbols, using industry elevations and schedules. This course will also cover DC theory, how electricity works, how to calculate and measure voltage, current, resistance and power in a series and/or parallel circuit. **FHGE: Non-GE**

APSC 121 AC THEORY, SECURITY, ACCESS CONTROL 3.5 Units
Prerequisite: Per California Code of Regulations, this course is limited to students admitted to the Northern CA Sound & Communication JATC Apprenticeship Program.
Advisory: Not open to students with credit in APRT 132.
80 hours total.
Study of AC theory. The student will become familiar with sine waves, inductance, inductive reactance, capacitive reactance, frequency and AC impedance. They learn to calculate voltage, current, impedance and power in both a series and parallel AC circuit and power quality. This introduction concentrates on how power quality relates to communication systems. Design and layout of security systems and electronic access control systems (alarms). Components of security systems, magnetic contacts, motion sensors, control panels, access control systems including card, and biometric readers. **FHGE: Non-GE**

APSC 122 FIRE ALARM SYSTEMS & GROUNDING, TELEPHONY & PAGING SYSTEMS 3.5 Units
Prerequisite: Per California Code of Regulations, this course is limited to students admitted to the Northern CA Sound & Communication JATC Apprenticeship Program.
Advisory: Not open to students with credit in APRT 133.
80 hours total.
Fundamentals of fire alarm systems including building a small scale fire alarm system using Norcal's fire alarm trainers, initiating and notification devices, testing and maintenance. Theory and practices of grounding and how proper grounding relates to safety and system performance. Telephone systems and how they are wired in detail, and a familiarity with electronic key systems, PBX systems, paging systems, speakers and troubleshooting. **FHGE: Non-GE**

APSC 131 VDV PREP, NETWORKING, NURSE CALL, COMPUTER LITERACY 3.5 Units
Prerequisite: Per California Code of Regulations, this course is limited to students admitted to the Northern CA Sound & Communication JATC Apprenticeship Program.
Advisory: Not open to students with credit in APRT 160.
80 hours total.
Preparation for the Voice Data Video state certification. Review of navigating the NEC, overview of the certification application process and a lecture on most aspects of the Voice Data Video industry. Introduction to nurse call systems which includes system components, ancillary systems, system design, installation and troubleshooting techniques. Instruction on personal computing software such as Microsoft Word and Excel Programs. The course concludes with sample exam tests using Norcal's Classroom Performance System. **FHGE: Non-GE**

APSC 132 CCTV SYSTEMS, AUDIO VISUAL 3.5 Units
Prerequisite: Per California Code of Regulations, this course is limited to students admitted to the Northern CA Sound & Communication JATC Apprenticeship Program.
Advisory: Not open to students with credit in APRT 161.
80 hours total. Advanced study of closed circuit television systems including video camera types, lenses, optics, lighting characteristics and study signal transmission methods. Introduction to Plasma, LCD and OLED displays, small scale CCTV systems that includes different cameras and switchers reporting to a digital video recorder. Audio and video fundamentals, properties of sound, distributed audio and video, planning and testing of audio visual systems. Students perform hands-on design with entertainment and application platforms for audio-visual, cabling, coax, fiber optics and networking systems. **FHGE: Non-GE**

ART

Fine Arts and Communication (650) 949-7584 www.foothill.edu/fa/

Foothill offers art activity courses in six different family categories. No single course may be repeated. Enrollment is limited to six courses per family within the Foothill-De Anza Community College District. Refer to the De Anza College Catalog for the corresponding families and courses.

Drawing Family: ART 4B, 4C, 4D, 4E
Painting Family: ART 19A, 19B, 19C, 19D, 19E, 19F, 47A , 47B
Printmaking Family: ART 38 or GID 44, ART 39 or GID 46, ART 40 or GID 38, ART 49 or GID 48, ART 37 or GID 42, GID 39
Ceramic Construction: ART 44, 44L, 45A, 45AL, 45B, 45BL, 45C, 45CL, 46B
Art Ceramic Surface: ART 45F, 45FL
Book Arts & Paper: ART 6, ART 96 or GID 90, GID 73, 91, 94

ART 1 INTRODUCTION TO ART 4.5 Units
4 hours lecture, 1.5 hours laboratory. (66 hours total per quarter)
An introduction to new ways of thinking about the visual arts, including examinations of the visual elements and artistic media, particularly as they contribute to the development of visual literacy. Includes analysis of western and non-western traditions in the visual arts within a social and historical context. **FHGE: Humanities; Transferable: UC/CSU**

ART 2A HISTORY OF ART: HISTORY OF WESTERN ART FROM PREHISTORY THROUGH EARLY CHRISTIANITY 4.5 Units
Advisory: Not open to students with credit in ART 2AH.
4 hours lecture, 1.5 hours laboratory. (66 hours total per quarter)
History of Western art from Prehistory through Early Christianity. An introductory survey examining images, objects, and architecture produced from the Paleolithic era to the end of the Roman Empire. We will discuss Prehistoric, Mesopotamian, Egyptian, Greek, Roman, and Early Christian and Byzantine culture. Illustrated lectures and readings. **FHGE: Humanities; Transferable: UC/CSU**

ART 2AH HONORS HISTORY OF ART: HISTORY OF WESTERN ART FROM PREHISTORY THROUGH EARLY CHRISTIANITY 4.5 Units
Prerequisite: Honors Institute participant.
Advisory: Not open to students with credit in ART 2A.
4 hours lecture. 1.5 hours laboratory. (66 hours total per quarter) History of Western art from Prehistory through Early Christianity. An introductory survey examining images, objects, and architecture produced from the Paleolithic era to the end of the Roman Empire. We will discuss Prehistoric, Mesopotamian, Egyptian, Greek, Roman, Early Christian and Early Byzantine culture. Illustrated lectures and readings. The honors sections expand the primary sources for the student. In addition to the textbook, students have a reading list of sources (on reserve in the library). Lectures are more interactive and the student is expected to participate in group discussions. Exams are more exacting with an emphasis on the student being able to comfortably assimilate political, social, and economic factors into their analysis. **FHGE: Humanities; Transferable: UC/CSU**

ART 2B HISTORY OF WESTERN ART FROM THE MIDDLE AGES TO THE RENAISSANCE 4.5 Units
Advisory: Not open to students with credit in ART 2BH.
4 hours lecture, 1.5 hours laboratory. (66 hours total per quarter)
A History of Western art from ca.600 through ca.1600. This course examines the Middle Ages and the Renaissance using images, objects, and architecture to develop a comprehensive understanding of the social, political, and religious forces that shaped this period. Illustrated lectures and readings. **FHGE: Humanities; Transferable: UC/CSU**

ART 2BH HONORS HISTORY OF WESTERN ART FROM THE MIDDLE AGES TO THE RENAISSANCE 4.5 Units
Prerequisite: Honors Institute participant.
Advisory: Not open to students with credit in ART 2B. 4 hours lecture, 1.5 hours laboratory. (66 hours total per quarter)A History of Western art from ca.600 through ca.1600. This course examines the Middle Ages and the Renaissance using images, objects, and architecture to develop a comprehensive understanding of the social, political, and religious forces that shaped this period. Illustrated lectures and readings. The honors sections expand the primary sources for the student. in addition to the textbook, students have a reading list of sources (on reserve in the library). Lectures are more interactive and the student is expected to participate in group discussions. Exams are more exacting with an emphasis on the student being able to comfortably assimilate political, social, and economic factors into their analysis. **FHGE: Humanities; Transferable: UC/CSU**

ART 2C HISTORY OF WESTERN ART FROM THE BAROQUE TO POST-IMPRESSIONISM 4.5 Units
Advisory: Not open to students with credit in ART 2CH.
4 hours lecture, 1.5 hours laboratory. (66 hours total per quarter)
History of Western Art from ca. l600 to the 20th century. An introductory survey examining images, objects, and architecture produced from the late Renaissance to Post-Impressionism. Illustrated lectures and readings. **FHGE: Humanities; Transferable: UC/CSU**

ART 2CH HONORS HISTORY OF WESTERN ART FROM THE BAROQUE TO POST-IMPRESSIONISM 4.5 Units
Prerequisite: Honors Institute participant.
Advisory: Not open to students with credit in ART 2C.
4 hours lecture, 1.5 hours laboratory. (66 hours total per quarter)
History of Western Art from ca. l600 to the 20th century. An introductory survey examining images, objects, and architecture produced from the late Renaissance to Post-Impressionism. Illustrated lectures and readings. The honors sections expand the primary sources for the student. In addition to the textbook, students have a reading list of sources. Lectures are more interactive and the student is expected to participate in group discussions. Exams are more exacting with an emphasis on the student being able to comfortably assimilate political, social, and economic factors into their analysis. **FHGE: Humanities; Transferable: UC/CSU**

ART 2D AFRICAN, OCEANIC & NATIVE AMERICAN ART 4.5 Units
4 hours lecture, 1.5 hours laboratory. (66 hours total per quarter)
A chronological and thematic examination of arts produced by a selection of societies from Africa, Oceania, and Native North America. Includes the influences of these diverse non-Western arts on American art and society. Art objects will be analyzed within the relevant social and historical context and as part of a larger matrix of myth, ritual, religious belief, politics, and worldview. Includes an examination of art from West Africa (e.g., Nigeria: Ife, Benin, Yoruba, Igbo, etc.), Melanesia (e.g., New Guinea), Polynesia (e.g., Hawaii, Rapa Nui, New Zealand), and Native North America (e.g., Woodlands, Southwest, Plains, Northwest Coast, Arctic and Subarctic, etc.) **FHGE: Humanities; Transferable: UC/CSU**

ART 2E A HISTORY OF WOMEN IN ART 4.5 Units
Advisory: Not open to students with credit in WMN 15.
4 hours lecture, 1.5 hours laboratory. (66 hours total per quarter)
A chronological, thematic, and cross-cultural examination of art works and gender issues concerning women artists from the early Middle-Ages to the 21st century. Includes the influences on art produced by women of such issues as race, gender, socio-economic and political conditions, increasing urbanization, and conceptions of nature, etc. **FHGE: Humanities; Transferable: UC/CSU**

ART 2F INTRODUCTION TO ASIAN ART 4.5 Units
Formerly: ART 12
Advisory: Not open to students with credit in ART 12.
4 hours lecture, 1.5 hours laboratory. (66 hours total per quarter)
An introduction to the art of India, China and Japan from the Neolithic Age to the present, covering painting, sculpture, architecture and ceramics. This course emphasizes the cultural, social and historical meaning of art and traces the changes in style, meaning, and use of art within the broader context of the great religious traditions of China, Japan, and India. **FHGE: Humanities; Transferable: UC/CSU**

ART 2G INTRODUCTION TO ISLAMIC ART 4.5 Units
Formerly: ART 13
Advisory: Not open to students with credit in ART 13.
4 hours lecture, 1.5 hours laboratory. (66 hours total per quarter)
This course is a comprehensive overview of the visual culture of Islamic peoples from the seventh through the 21st centuries. We will examine painting, objects, and architecture to better understand the rich cultural heritage of this world religion. **FHGE: Non-GE; Transferable: UC/CSU**

ART 2J AMERICAN ART 4.5 Units
Formerly: ART 14
Advisory: Not open to students with credit in ART 14.
4 hours lecture, 1.5 hours laboratory. (66 hours total per quarter)
A history of the culturally diverse arts produced in North America (specifically the United States) from prehistory to the present. American art is considered thematically and chronologically, focusing on the important influences on art of nature, landscape, urbanization, gender, race, religion, ethnicity, socio-economic and political reforms, and civil and international wars. **FHGE: Humanities; Transferable: UC/CSU**

ART 3 MODERN ART & CONTEMPORARY THOUGHT 4.5 Units
4 hours lecture, 1.5 hours laboratory (66 hours total per quarter)
A study of art and architecture from Impressionism to the present day emphasizing the importance of social, economic, and political influences on the art. This course is designed to relate contemporary artistic expression to modern thought. Lectures will be directed towards illustrating and interpreting the subjects listed in the course content. The text and references will be used to supplement these discussions. Class discussions will be encouraged and specific time set aside for this purpose. Field trips will be taken to museums. **FHGE: Non-GE; Transferable: UC/CSU**

ART 4A FUNDAMENTALS IN DRAWING 4 Units
3 hours lecture, 3 hours laboratory. (72 hours total per quarter)
In this beginning level drawing course students will analyze form and incorporate value, the concepts of light and shadow patterns, perspective, proportion and composition in the practice of drawing.In-depth theory and practice of charcoal drawing. Great works of historical drawings will be studied in relation to value, line, form, space and composition. **FHGE: Humanities; Transferable: UC/CSU**

ART 4B INTERMEDIATE DRAWING 4 Units
Prerequisite: ART 4A.
Advisory: ART 5A; this course is included in the Drawing family of activity courses.
3 hours lecture, 3 hours laboratory. (72 hours total per quarter)
Exploration of artistic concepts, styles, and creative expression related to intermediate-level drawing, focusing on complex subject matter and concepts using a variety of drawing mediums, techniques, and methodologies. Students in this course will build on fundamental drawing skills to develop personalized approaches to content and materials in exercises covering multiple historical and contemporary approaches to drawing. **FHGE: Non-GE; Transferable: UC/CSU**

ART 4C REPRESENTATIONAL DRAWING 4 Units
Prerequisite: ART 4A.
Advisory: This course is included in the Drawing family of activity courses.
3 hours lecture, 3 hours laboratory. (72 hours total per quarter)
An intermediate level representational drawing course concentrating on observation and depiction of volume and linear perspective in a variety of drawing media. **FHGE: Non-GE; Transferable: UC/CSU**

ART 4D FIGURE DRAWING I 4 Units
Advisory: This course is included in the Drawing Family of activity courses.
3 hour lecture, 3 hour laboratory. (72 hours total per quarter)
Introduction to drawing the human figure from observation using a wide variety of drawing media and techniques. Students in this course will learn both descriptive and interpretive approaches to drawing the figure. Topics include an introduction to basic figure drawing approaches and the historical and contemporary roles of figure drawing in the visual arts. **FHGE: Non-GE; Transferable: UC/CSU**

ART 4E HEADS & HANDS DRAWING 4 Units
Advisory: This course is included in the Drawing family of activity courses.
3 hours lecture, 3 hours laboratory. (72 hours total per quarter)
A beginning drawing course focusing on the representation and interpretation of the head and hands; with attention to drawing from life. **FHGE: Non-GE; Transferable: UC/CSU**

ART 4I FIGURE DRAWING II 4 Units
Advisory: This course is included in the Drawing Family of activity courses.
3 hours lecture, 3 hours laboratory. (72 hours total per quarter)
Intermediate figure drawing class emphasizing the development of skill in depicting the human figure. This class is a practical and theoretical course that emphasizes proportion and basic human anatomy. The course will also expose students to great works of historical and contemporary figure drawing in relationship to figure drawing. **FHGE: Non-GE; Transferable: CSU; UC pending**

ART 5A 2-D FOUNDATIONS 4 Units
3 hours lecture, 3 hours laboratory. (72 hours total per quarter)
Introduction to the concepts, applications, and historical and contemporary references related to two-dimensional art and composition, including the study of the basic principles and elements of line, shape, texture, value, color and spatial illusion. Development of a visual vocabulary for creative expression through lecture presentations, studio projects, problem solving, and written assignments. **FHGE: Humanities; Transferable: UC/CSU**

ART 5B 3-D FOUNDATIONS 4 Units
3 hours lecture, 3 hours laboratory. (72 hours total per quarter)
Introduction to the concepts, applications, and historical references related to three-dimensional design and spatial composition, including the study of the elements and organizing principles of design as they apply to three-dimensional space and form. Development of a visual vocabulary for creative expression through lecture presentations and use of appropriate materials for non-representational three-dimensional studio projects. **FHGE: Humanities; Transferable: UC/CSU**

ART 6 COLLAGE & COMPOSITION 3 Units
Advisory: ART 4A or 5A; this course is included in the Book Arts & Paper Family of activity courses.
6 hours lecture-laboratory. (72 hours total per quarter)
Studio experience in structuring the elements of visual form using, but not limited to, the exploratory medium of collage. Development of a personal sensitivity to visual organization and the vocabulary of art as it relates to expressiveness and content. **FHGE: Non-GE; Transferable: UC/CSU**

ART 14D DIGITAL ART & GRAPHICS 4 Units
Formerly: ART 56
Advisory: Familiarity with computer operating systems; ART 4A or GID 70; ART 5A; PHOT 1; not open to students with credit in ART 56.
3 hours lecture, 3 hours laboratory. (72 hours total per quarter)
Introduction to using computers and software for painting, drawing, image processing, photo composites and typography. Emphasis on image making and creative problem solving. **FHGE: Non-GE; Transferable: UC/CSU**

ART 15A DIGITAL PAINTING I 4 Units
Formerly: ART 14C & 86
Advisory: Familiarity with current interface operations for desktop computers, laptops and digital tablets; not open to students with credit in ART 14C or 86.
3 hours lecture, 3 hours laboratory. (72 hours total per quarter)
Basic instruction using computers, digital tablets and software to produce digital paintings and images for artistic expression, design and illustration. **FHGE: Non-GE; Transferable: UC/CSU**

ART 15B DIGITAL PAINTING II 4 Units
Prerequisite: ART 15A.
Advisory: Familiarity with current interface operations for desktop computers, laptops and digital tablets.
3 hours lecture, 3 hours laboratory. (72 hours total per quarter)
Intermediate instruction using computers, digital tablets and software to produce digital paintings and images for artistic expression, design and illustration. **FHGE: Non-GE; Transferable: UC/CSU**

ART 19A OIL PAINTING I 4 Units
Prerequisite: ART 4A.
Advisory: This course is included in the Painting family of activity courses.
3 hours lecture, 3 hours laboratory. (72 hours total per quarter)
Introduction to the theory and practice of basic oil painting, including the use of value, color and light to model the three-dimensional form. **FHGE: Non-GE; Transferable: UC/CSU**

ART 19B ACRYLIC PAINTING I 4 Units
Prerequisite: ART 4A.
Advisory: This course is included in the Painting family of activity courses.
3 hours lecture, 3 hours laboratory. (72 hours total per quarter)
Introduction to the theory and practice of basic acrylic painting, including the use of value, color and light to model the three-dimensional form. **FHGE: Non-GE; Transferable: UC/CSU**

ART 19C OIL PAINTING II 4 Units
Formerly: ART 47
Prerequisites: ART 4A and 19A.

Advisory: This course is included in the Painting Family of activity courses; not open to students with credit in ART 47.
3 hours lecture, 3 hours laboratory. (72 hours total per quarter)
The theory and practice of oil painting and continuation of Oil Painting I. Building on fundamental, oil painting skills to develop personalized style, complex subject matter, color theory and composition. **FHGE: Non-GE; Transferable: UC/CSU**

ART 19D ACRYLIC PAINTING II 4 Units
Prerequisites: ART 4A and 19B.
Advisory: This course is included in the Painting family of activity courses.
3 hours lecture, 3 hours laboratory. (72 hours total per quarter)
The theory and practice of acrylic painting and continuation of ART 19B. Building on fundamental, acrylic painting skills to develop personalized style, complex subject matter, color theory and composition. **FHGE: Non-GE; Transferable: UC/CSU**

ART 19E OIL PAINTING III 4 Units
Prerequisites: ART 19A and 19C.
Advisory: This course is included in the Painting family of activity courses.
3 hours lecture, 3 hours laboratory. (72 hours total per quarter)
A continuation of ART 19C with emphasis on processes rather than techniques. Primary concerns include shaped canvasses, glazing techniques, ideas, expression, and aesthetics relating to the oil medium. **FHGE: Non-GE; Transferable: UC/CSU**

ART 19F ACRYLIC PAINTING III 4 Units
Prerequisites: ART 19B and 19D.
Advisory: This course is included in the Painting family of activity courses.
3 hours lecture, 3 hours laboratory. (72 hours total per quarter)
Continuation of ART 19D with emphasis on processes rather than techniques. Problems in class will relate to aesthetic concerns of idea, content and expression within the acrylic medium. **FHGE: Non-GE; Transferable: UC/CSU**

ART 20A COLOR I 3 Units
6 hours lecture-laboratory. (72 hours total per quarter)
A study of the principles, theories, and applications of additive and subtractive color in two dimensions. Topics will include color theory systems, color organizations, perceptual color, production of projects in applied color, and the elements of design as they apply to color. **FHGE: Non-GE; Transferable: UC/CSU**

ART 20B COLOR II 3 Units
Prerequisite: ART 20A.
6 hours lecture-laboratory. (72 hours total per quarter)
An intermediate study of the principles, theories, and applications of subtractive color in two dimensions. Topics will include researching major art historical color systems, art works and color symbolism. Topics will also include application of applied color, simultaneous contrast, color transparencies and color proportions in creative designs. **FHGE: Humanities; Transferable: UC/CSU**

ART 36 HISTORY OF GRAPHIC DESIGN 4 Units
Advisory: Not open to students with credit in GID 1 or GRDS 36.
4 hours lecture. (48 hours total per quarter)
A study of the development of visual communication in art, graphic design, illustration and popular culture. Emphasis on the role, impact and interpretation of images, symbols, and typography used in informative and persuasive media. **FHGE: Humanities; Transferable: UC/CSU**

ART 37 ETCHING & INTAGLIO PRINTING 4 Units
Formerly: ART 75
Advisory:This course is included in the Printmaking family of activity courses; not open to students with credit in ART 75 or GID 42.
3 hours lecture, 3 hours laboratory. (72 hours total per quarter)
Introduction to printing processes, exploring the techniques of embossing, drypoint, engraving, line etching, aquatint and chine-colle. Theory and practice making images for limited-edition and one-of-a-kind fine art prints. **FHGE: Non-GE; Transferable: UC/CSU**

ART 38 RELIEF PRINTING 4 Units
Advisory: This course is included in the Printmaking family of activity courses; not open to students with credit in GID 44.
3 hours lecture, 3 hours laboratory. (72 hours total per quarter)
Introduction to relief printing processes, exploring the techniques of embossing, linoleum block, and collagraph printing. Theory and practice making images for limited-edition and one-of-a-kind fine art prints. **FHGE: Non-GE; Transferable: UC/CSU**

ART 39 SCREENPRINTING 4 Units
Advisory: This course is included in the Printmaking family of activity courses; not open to students with credit in GID 46.
3 hours lecture, 3 hours laboratory. (72 hours total per quarter)
Introduction to screen printing processes, exploring the techniques of hand-cut stencils , direct-drawn stencils and photographic processes. Theory and practice making images for limited-edition and one-of-a-kind fine art prints. **FHGE: Non-GE; Transferable: UC/CSU**

ART 40 PRINT ARTS I 4 Units
Formerly: ART 69
Advisory: ART 4A and 5A; this course is included in the Printmaking family of activity courses; not open to students with credit in ART 69, GID 38 or GRDS 69;
3 hours lecture, 3 hours laboratory. (72 hours total per quarter)
Introduction to the printmaking processes of relief, intaglio, screenprinting and monoprinting. Theory and practice making limited-edition and one-of-a-kind fine art prints. **FHGE: Non-GE; Transferable: UC/CSU**

ART 44 CERAMIC SCULPTURE 3 Units
Prerequisite: ART 45A.
Advisory: Concurrent enrollment in ART 44L; this course is included in the Ceramic Construction family of activity courses.
6 hours lecture-laboratory. (72 hours total per quarter)
Studio practice in designing and creating original ceramic sculpture. **FHGE: Non-GE; Transferable: UC/CSU**

ART 44L CERAMICS LABORATORY .5 Unit
Corequisite: ART 44.
Advisory: Pass/No Pass; this course is included in the Ceramic Construction family of activity courses. 2 hours laboratory. (24 hours total per quarter)
Supervised studio practice in ceramics processes related to skills and materials being presented in ART 44. During art 44L students will work on basic techniques demonstrated in Art 44 such as creating ceramic sculpture by using additive and subtractive building methods, the use of armatures, and methods of surface decoration. **FHGE: Non-GE; Transferable: UC/CSU**

ART 45A BEGINNING CERAMICS HANDBUILDING 4 Units
Advisory: This course is included in the Ceramic Construction family of activity courses.
3 hours lecture, 3 hours laboratory. (72 hours total per quarter)
An introduction to basic ceramic hand-building techniques, and its historical and contemporary significance. This class will introduce ceramic hand-building techniques including pinching, coil, and slab construction, as well as examine various high and low-fire glazing techniques. In addition to sculpting and constructing hand built vessels students will examine, critically discuss, analyze and write about clay, glaze and hand-building techniques, tools, ceramic terminology and processes of historical and contemporary clay hand-built vessels. Students will learn ceramic vocabulary, and participate in verbal and written class critiques. **FHGE: Non-GE; Transferable: UC/CSU**

ART 45AL CERAMICS LABORATORY .5 Unit
Corequisite: ART 45A.
Advisory: Pass/No Pass; this course is included in the Ceramic Construction family of activity courses.
2 hours laboratory. (24 hours total per quarter)
Supervised studio practice in ceramic processes, related to assignments, skills, and materials presented in ART 45A beginning handbuilding. During art 45AL, students will on basic techniques demonstrated during Art 45A such as pinching, coil, and slab construction, as well as examine various high and low-fire glazing techniques. **FHGE: Non-GE; Transferable: UC/CSU**

ART 45B BEGINNING CERAMICS POTTER'S WHEEL 4 Units
Advisory: This course is included in the Ceramic Construction family of activity courses.
3 hours lecture, 3 hours laboratory. (72 hours total per quarter)
An introduction to throwing on the potter's wheel, and its historical and contemporary significance. This class will introduce the process of wedging clay, centering a pot, pulling a wall, shaping processes, and trimming techniques to complete well balanced forms on the potter's wheel. In addition to gaining expertise in wheel-throwing, students will examine, discuss, critique and write about the techniques, tools, ceramic terminology and processes of historical and contemporary thrown clay vessels. Students will use ceramic vocabulary in verbal and written class critiques. **FHGE: Humanities; Transferable: UC/CSU**

ART 45BL CERAMICS LABORATORY .5 Unit
Corequisite: ART 45B.
Advisory: Pass/No Pass; this course is included in the Ceramic Construction family of activity courses.
2 hours laboratory. (24 hours total per quarter)
Supervised studio practice in ceramics processes, related to skills and materials being presented in ART 45B. Students will work on basic techniques demonstrated in ART 45B such as wedging clay, centering a pot, pulling a wall, shaping processes, and trimming techniques to complete well balanced forms on the potter's wheel. **FHGE: Non-GE; Transferable: UC/CSU**

ART 45C ADVANCED CERAMICS 3 Units
Prerequisites: ART 45A and 45B.
Advisory: Concurrent enrollment in ART 45CL; this course is included in the Ceramic Construction family of activity courses.
6 hours lecture-laboratory. (72 hours total per quarter)
Laboratory practice in throwing advanced forms on the potter's wheel, combining hand-built and wheel-thrown forms, glazing these forms, and understanding kiln loading and firing procedures. **FHGE: Non-GE; Transferable: UC/CSU**

ART 45CL CERAMICS LABORATORY .5 Unit
Corequisite: ART 45C
Advisory: Pass/No Pass; this course is included in the Ceramic Construction family of activity courses. .
2 hours laboratory. (24 hours total per quarter)
Supervised studio practice in ceramics processes, related to skills and materials being presented in ART 45C. Students will work on advanced level wheel throwing and hand-building techniques, solve technical construction issues such as slumping and cracking that arise with wheel throwing and hand-building processes, and demonstrate increased visual awareness by presenting and discussing three dimensional ceramic projects. **FHGE: Non-GE; Transferable: UC/CSU**

ART 45F LOW-TEMPERATURE CERAMIC FIRING & GLAZING TECHNIQUES 3 Units
Prerequisites: ART 45A or 45B.
Advisory: Concurrent enrollment in ART 45FL; this course is included in the Ceramic Surface family of activity courses.
6 hours lecture-laboratory. (72 hours total per quarter)
Studio practice in the glazing and firing of ceramic pieces using four low-temperature methods: electric kiln oxidation firing, luster firing, raku firing and pit firing. **FHGE: Non-GE; Transferable: UC/CSU**

ART 45FL CERAMICS LABORATORY .5 Unit
Corequisite: ART 45F.
Advisory: Pass/No Pass; this course is included in the Ceramic Surface family of activity courses.
2 hours laboratory. (24 hours total per quarter)
Supervised studio practice in ceramic processes, related to assignments, skills, and materials presented in ART 45F low-temperature ceramic firing & glazing techniques. Students work independently, with individual guidance from an instructor on a need or request basis. Students will work on pre-firing glazing and preparation for pit-fire, raku, saggar, low-fire luster, and cone 04 glaze firings. **FHGE: Non-GE; Transferable: UC/CSU**

ART 46B POTTER'S WHEEL II 3 Units
Prerequisite: ART 45B.
Advisory: Concurrent enrollment in ART 45L; this course is included in the Ceramic Construction family of activity courses.
6 hours lecture-laboratory. (72 hours total per quarter)
Provides intermediate level instruction in clay processes covering intermediate wheel-throwing methods, glazing, decorating, and firing procedures. Explores technical problem solving, and creative design. **FHGE: Non-GE; Transferable: UC/CSU**

ART 47A WATERCOLOR I 4 Units
Formerly: ART 47
Advisory: ART 4A or 5A; ART 4B, 20A; this course is included in the Painting family of activity courses; not open to students with credit in ART 47.
3 hours lecture, 3 hours laboratory. (72 hours total per quarter)
Study of transparent and opaque watercolor techniques. Emphasis on basic techniques of painting and composition. **FHGE: Non-GE; Transferable: UC/CSU**

ART 47B WATERCOLOR II 4 Units
Prerequisite: ART 47A.
Advisory: ART 4A or 5A; ART 4B, 20A; this course is included in the Painting family of activity courses.
3 hours lecture, 3 hours laboratory. (72 hours total per quarter)
Study of intermediate techniques using transparent and opaque water-media. Emphasis on intermediate techniques of painting, composition, and design. **FHGE: Non-GE; Transferable: UC/CSU**

ART 49 MONOPRINTING 4 Units
Advisory: This course is included in the Printmaking family of activity courses; not open to students with credit in GID 48.
3 hours lecture, 3 hours laboratory. (72 hours total per quarter)
Introduction to monoprinting processes, exploring the techniques of painting, drawing and stencils to make unique prints. Theory and practice making images for one-of-a-kind fine art prints. **FHGE: Non-GE; Transferable: UC/CSU**

ART 70R INDEPENDENT STUDY IN ART 1 Unit
ART 71R 2 Units
ART 72R 3 Units
ART 73R 4 Units
3–12 hours per week. (36–144 hours total per quarter)
Provides an opportunity for the student to expand their studies in Art beyond the classroom by completing a project or an assignment arranged by agreement between the student and instructor. The student is required to contract with the instructor to determine the scope of assignment and the unit value assigned for successful completion. Students may take a maximum of 6 units of Independent Study per department. **FHGE: Non-GE; Transferable: CSU**

ART 72 STUDIO ART PORTFOLIO PREPARATION 4 Units
3 hours lecture, 3 hours laboratory. (72 hours total per quarter)
Preparation, organization, and assembly of previous and current artwork to create a cohesive studio art portfolio. This course enables students and practicing artists the preparation in creating a professional portfolio for transfer into higher institutions, career opportunities, art exhibitions, art competitions, funding, or professional practice. Documenting work, writing artist statements, practice interviews, and assembling portable portfolios are included in this course. **FHGE: Non-GE; Transferable: CSU**

ART 73 PAPER ARTS I 4 Units
Formerly: ART 30
Advisory: Not open to students with credit in GID 30 or 73.
3 hours lecture, 3 hours laboratory. (72 hours total per quarter)
Introduction to the skills and techniques of the paper arts. Mold and cast hand-made paper from various cultures. Embedded and surface structural and decorative techniques. Construction of basic paper making tools. Exploration of paper as applied to print arts, book arts and graphic design projects. History of papermaking. Emphasis on materials, processes and techniques while exploring form and content. **FHGE: Non-GE; Transferable: CSU**

ART 74 INDUSTRIAL DESIGN VISUALIZATION I 4 Units
3 hours lecture, 3 hours laboratory. (72 hours total per quarter)
Hands-on two-dimensional design foundation course in the sketching processes utilized by industrial and product designers. This class is a practical and theoretical course that emphasizes rapid visualization,creative problem solving, portfolio development and communication skills used by contemporary product and industrial designers. These skills include free hand sketching techniques, geometric analysis of functional objects, abstract forms, basic perspective, basic color theory and rendering marker applications. **FHGE: Non-GE; Transferable: CSU**

ART 96 BOOK ARTS I 4 Units
Advisory: This course is included in the Book Arts & Paper family of activity courses; not open to students with credit in GID 90 or GRDS 96.
3 hours lecture, 3 hours laboratory. (72 hours total per quarter)
Introduction to the skills and techniques of the book arts. Students will learn construction and mounting skills for books, boxes and portfolios. Traditional and non-traditional binding formats include stab, accordion, concertina and signature sewing. Emphasis on form building while exploring content and narrative.
FHGE: Non-GE; Transferable: CSU

ASTRONOMY

Physical Sciences, Mathematics & Engineering (650) 949-7259 www.foothill.edu/ast/

ASTR 10A GENERAL ASTRONOMY: SOLAR SYSTEM 5 Units
Advisory: Concurrent enrollment in ASTR 10L.
5 hours lecture. (60 hours total per quarter)
Non-technical introduction to astronomy, with emphasis on the planets, dwarf planets, moons, and smaller bodies which make up our solar system, as well as the scientific search for life elsewhere in the universe. Topics include the nature of light, the atom, and telescopes; an examination of the planets and their moons and rings, dwarf planets, comets, asteroids, and meteors; catastrophic events (including the impact that may have killed the dinosaurs); the search for planets and life around other stars, the challenges of space travel, and modern views on extraterrestrial contact. No background in science or math is assumed. **FHGE: Natural Sciences; Transferable: UC/CSU**

ASTR 10B GENERAL ASTRONOMY: STAR, GALAXIES, COSMOLOGY 5 Units
Advisory: Concurrent enrollment in ASTR 10L; not open to students with credit in ASTR 10BH.
5 hours lecture. (60 hours total per quarter)
Non-technical introduction to astronomy, with emphasis on stars, galaxies, and the origin and evolution of the universe. Topics covered include the nature of light, atoms, and telescopes; the birth, evolution, and death of stars (including an introduction to black holes); the Milky Way Galaxy and its development over time; normal galaxies, active galaxies, and cannibal galaxies; and the Big Bang model (of the origin and ultimate fate of the cosmos). No background in science or math is assumed. **FHGE: Natural Sciences; Transferable: UC/CSU**

ASTR 10BH HONORS GENERAL ASTRONOMY: STARS, GALAXIES, COSMOLOGY 5 Units
Prerequisite: Honors Institute participant.
Corequisite: ASTR 54H.
Advisory: Concurent enrollment in ASTR 10L; not open to students with credit in ASTR 10B.
5 hours lecture. (60 hours total per quarter)
A non-technical introduction to astronomy, with an emphasis on stars, galaxies, and the origin and evolution of the universe, with additional material for honors students. Topics covered include the nature of light, atoms, and telescopes; the birth, evolution, and death of stars (including an introduction to black holes); the Milky Way Galaxy and its development over time; normal galaxies, active galaxies, and cannibal galaxies; and the Big Bang model (of the origin and ultimate fate of the cosmos.) The honors section offers a challenging intellectual environment which covers the same outine as the general class but in more depth. The students will also apply the classroom knowledge and research in developing a deeper appreciation for the stellar astronomy. **FHGE: Natural Sciences; Transferable: UC/CSU**

ASTR 10L ASTRONOMY LABORATORY 1 Unit
Corequisite: ASTR 10A, 10B or 10BH.
1 hour lecture-laboratory, 2 hours laboratory. (36 hours total per quarter)
A hands-on approach to the scientific method, using astronomical data and equipment. Divided into small lab groups, students will do experiments and observing projects about a range of astronomical topics, including star and constellation finding, the phases of the Moon, the reasons for the seasons, the rotation, revolution, and sphericity of the Earth, the H-R Diagram and the classification of stars, Hubble's Law and the expansion of the universe, the questionable validity of astrology, tracking the moons of Jupiter, etc. Each session will also include guided discussion of the meaning and importance of the data and how the particular activity fits into the larger scheme of understanding the universe and applying the scientific method. **FHGE: Natural Sciences; Transferable: UC/CSU**

ASTR 54H HONORS INSTITUTE SEMINAR IN ASTRONOMY 1 Unit
Formerly: ASTR 34, 34H
Prerequisite: Honors Institute participant.
Corequisite: Concurrent enrollment in ASTR 10BH.
Advisory: Not open to students with credit in ASTR 34 or 34H. 1 hour lecture. (12 hours total per quarter)
This honors seminar goes beyond the topics covered in ASTR 10BH, to explore additional ideas and recent discoveries in astronomy. The subject matter will include a variety of topics drawn from the frontiers of astronomical research, but explained and discussed in non-technical ways appropriate for non-science majors with an interest in astronomy. Such topics may include: how black holes can warp space and make a kind of time travel possible, the messy evolution of close pairs of stars, and new ideas about the ultimate fate of the universe. **FHGE: Non-GE; Transferable: CSU**

ASTR 70R INDEPENDENT STUDY IN ASTRONOMY 1 Unit
ASTR 71R 2 Units
ASTR 72R 3 Units
ASTR 73R 4 Units
3–12 hours per week. (36–144 hours total per quarter)
Provides an opportunity for the student to expand their studies in Athletics beyond the classroom by completing a project or an assignment arranged by agreement between the student and instructor.The student is required to contract with the instructor to determine the scope of assignment and the unit value assigned for successful completion. Students may take a maximum of 6 units of Independent Study per department. **FHGE: Non-GE; Transferable: CSU**

ASTR 77 SEMINAR ON EXCITING TOPICS IN ASTRONOMY 1 Unit
Corequisite: Completion of or concurrent enrollment in ASTR 10B.
1 hour lecture. (12 hours total per quarter)
This seminar is intended for students who would like to go beyond the contents of the ASTR 10B course in exploring new ideas and new discoveries in astronomy. The subject matter will include a range of topics drawn from the frontiers of astronomical research but explained in non-technical ways for non-science majors such as black holes, new planets being discovered around other stars, and colliding galaxies. **FHGE: Non-GE; Transferable: CSU**

ATHLETICS

Kinesiology and Athletics (650) 949-7742 www.foothill.edu/kinesiology/

ATHL 4 INTERCOLLEGIATE FOOTBALL I (MEN) 2 Units
May be taken six times for credit.
6 hours laboratory. (72 hours total per quarter)
Competitive intercollegiate football emphasizing early season conditioning, development of skills and strategy, and team building through pre-conference and conference competition. Intended for participants on the men's football team. **FHGE: Lifelong Learning; Transferable: UC/CSU**

ATHL 4A PRESEASON CONDITIONING FOR FOOTBALL 2 Units
May be taken six times for credit.
6 hours laboratory. (72 hours total per quarter)
The development of athletic skills and mental conditioning which is required to be successful in the intercollegiate sport of football. **FHGE: Lifelong Learning; Transferable: UC/CSU**

ATHL 4B SPORT TECHNIQUES & CONDITIONING FOR FOOTBALL 2 Units
May be taken six times for credit.
6 hours laboratory. (72 hours total per quarter)
This course teaches and provides practice specific techniques and conditioning for the sport of football. This includes drills, weight and flexibility training, and cardio-respiratory development. **FHGE: Lifelong Learning; Transferable: UC/CSU**

ATHL 4C FUNCTIONAL FITNESS FOR FOOTBALL 1 Unit
May be taken six times for credit.
3 hours laboratory. (36 hours total per quarter)
This course will provide advanced training and instruction in the use of weights for the sport of football. **FHGE: Lifelong Learning; Transferable: UC/CSU**

ATHL 4E INTERCOLLEGIATE FOOTBALL (MEN) 1 Unit
Formerly: PHED 35B
May be taken six times for credit.
3 hours laboratory. (36 hours total per quarter)
Competitive intercollegiate football working toward personal and physical development, athletic scholarship, transfer, and career opportunities.This course is intended for participants on the Foothill College men's football team. **FHGE: Lifelong Learning; Transferable: CSU; UC pending**

ATHL 4F INTERCOLLEGIATE FOOTBALL II (MEN) 3 Units
May be taken six times for credit.
9 hours laboratory. (108 hours total per quarter)
Competitive intercollegiate football emphasizing athletic skill and strategy development and performance through conference and post-conference competition.This course is intended for participants on the Foothill College men's football team. **FHGE: Lifelong Learning; Transferable: CSU; UC pending**

ATHL 11 INTERCOLLEGIATE BASKETBALL I (MEN) 3 Units
May be taken six times for credit.
9 hours laboratory. (108 hours total per quarter)
Competitive intercollegiate men's basketball emphasizing early season conditioning, development of skills and strategy, and team building through pre-conference and conference competition. Intended for participants on the men's basketball team. **FHGE: Lifelong Learning; Transferable: UC/CSU**

ATHL 11A PRESEASON CONDITIONING FOR MEN'S BASKETBALL 2 Units
May be taken six times for credit.
6 hours laboratory. (72 hours total per quarter)
The development of athletic skills and mental conditioning which is required to be successful in the intercollegiate sport of basketball. **FHGE: Lifelong Learning; Transferable: UC/CSU**

ATHL 11B SPORT TECHNIQUES & CONDITIONING FOR MEN'S BASKETBALL 2 Units
May be taken six times for credit.
6 hours laboratory. (72 hours total per quarter)
This course teaches and provides practice specific techniques and conditioning for the sport of basketball. This includes drills, weight and flexibility training, and cardio-respiratory development. **FHGE: Lifelong Learning; Transferable: UC/CSU**

ATHL 11C FUNCTIONAL FITNESS FOR MEN'S BASKETBALL 1 Unit
May be taken six times for credit.
3 hours laboratory. (36 hours total per quarter)
This course will provide advanced training and instruction in the use of weights for the sport of basketball. **FHGE: Lifelong Learning; Transferable: UC/CSU**

ATHL 11E INTERCOLLEGIATE BASKETBALL (MEN) 1 Unit
Formerly: PHED 35C
May be taken six times for credit.
3 hours laboratory. (36 hours total per quarter)
Competitive intercollegiate men's basketball working toward personal and physical development, athletic scholarship, transfer, and career opportunities. Course intended for members of the men's intercollegiate basketball team. **FHGE: Lifelong Learning; Transferable: CSU; UC pending**

ATHL 11F INTERCOLLEGIATE BASKETBALL II (MEN) 2 Units
May be taken six times for credit.
6 hours laboratory. (72 hours total per quarter)
Competitive intercollegiate men's basketball emphasizing athletic skill and strategy development and performance through conference and post-conference competition. The course is intended for participants on the men's basketball team. **FHGE: Lifelong Learning; Transferable: CSU; UC pending**

ATHL 12 INTERCOLLEGIATE BASKETBALL I (WOMEN) 3 Units
May be taken six times for credit.
9 hours laboratory. (108 hours total per quarter)
Competitive intercollegiate Women's basketball emphasizing early season conditioning, development of skills and strategy, and team building through pre-conference and conference competition. Intended for participants on the women's basketball team. **FHGE: Lifelong Learning; Transferable: UC/CSU**

ATHL 12A PRESEASON CONDITIONING FOR WOMEN'S BASKETBALL 2 Units
May be taken six times for credit.
6 hours laboratory. (72 hours total per quarter)
The development of athletic skills and mental conditioning which is required to be successful in the intercollegiate sport of basketball. **FHGE: Lifelong Learning; Transferable: UC/CSU**

ATHL 12B SPORT TECHNIQUES & CONDITIONING FOR WOMEN'S BASKETBALL 2 Units
May be taken six times for credit.
6 hours laboratory. (72 hours total per quarter)
This course is teaches and provides practice specific techniques and conditioning for the sport of basketball. This includes drills, weight and flexibility training, and cardio-respiratory development. **FHGE: Lifelong Learning; Transferable: UC/CSU**

ATHL 12C FUNCTIONAL FITNESS FOR WOMEN'S BASKETBALL 1 Unit
May be taken six times for credit.
3 hours laboratory. (36 hours total per quarter)
This course will provide advanced training and instruction in the use of weights for the sport of basketball. **FHGE: Lifelong Learning; Transferable: UC/CSU**

ATHL 12E INTERCOLLEGIATE BASKETBALL (WOMEN) 1 Unit
Formerly: H P 35D, PHED 34C
May be taken six times for credit.
3 hours laboratory. (36 hours total per quarter)
Competitive intercollegiate Women's basketball working toward personal and physical development, athletic scholarship, transfer, and career opportunities. The course is intended for participants on the women's basketball team. **FHGE: Lifelong Learning; Transferable: CSU; UC pending**

ATHL 12F INTERCOLLEGIATE BASKETBALL II (WOMEN) 2 Units
May be taken six times for credit.
6 hours laboratory. (72 hours total per quarter)
Competitive intercollegiate Women's basketball emphasizing athletic skill and strategy development and performance through conference and post-conference competition.The course is intended for participants on the women's basketball team. **FHGE: Lifelong Learning; Transferable: CSU; UC pending**

ATHL 21 INTERCOLLEGIATE SOCCER I (MEN) 2 Units
May be taken six times for credit.
6 hours laboratory. (72 hours total per quarter)
Competitive intercollegiate soccer emphasizing early season conditioning, development of skills and strategy, and team building through pre-conference and conference competition. Intended for participants on the men's soccer team. **FHGE: Lifelong Learning; Transferable: UC/CSU**

ATHL 21A PRESEASON CONDITIONING FOR MEN'S SOCCER 2 Units
May be taken six times for credit.
6 hours laboratory. (72 hours total per quarter)
The development of athletic skills and mental conditioning which is required to be successful in the intercollegiate sport of soccer. **FHGE: Lifelong Learning; Transferable: UC/CSU**

ATHL 21B SPORT TECHNIQUES & CONDITIONING FOR MEN'S SOCCER 2 Units
May be taken six times for credit.
6 hours laboratory. (72 hours total per quarter)
This course teaches and provides practice specific techniques and conditioning for the sport of soccer. This includes drills, weight and flexibility training, and cardio-respiratory development. **FHGE: Lifelong Learning; Transferable: UC/CSU**

ATHL 21C FUNCTIONAL FITNESS FOR MEN'S SOCCER 1 Unit
May be taken six times for credit.
3 hours laboratory. (36 hours total per quarter)
This course will provide advanced training and instruction in the use of weights for the sport of soccer. **FHGE: Lifelong Learning; Transferable: UC/CSU**

ATHL 21E INTERCOLLEGIATE SOCCER (MEN) 1 Unit
Formerly: PHED 35A
May be taken six times for credit.
3 hours laboratory. (36 hours total per quarter)
Competitive intercollegiate soccer working toward personal and physical development, athletic scholarship, transfer, and career opportunities.The course is intended for participants on the men's soccer team. **FHGE: Lifelong Learning; Transferable: CSU; UC pending**

ATHL 21F INTERCOLLEGIATE SOCCER II (MEN) 3 Units
May be taken six times for credit.
9 hours laboratory. (108 hours total per quarter)
Competitive intercollegiate soccer emphasizing athletic skill and strategy development and performance through conference and post-conference competition. The course is intended for participants on the men's soccer team. **FHGE: Lifelong Learning; Transferable: CSU; UC pending**

ATHL 22 INTERCOLLEGIATE SOCCER I (WOMEN) 2 Units
May be taken six times for credit.
6 hours laboratory. (72 hours total per quarter)
Competitive intercollegiate soccer emphasizing early season conditioning, development of skill and strategy, and team building through pre-conference and conference competition. Intended for participants on the women's soccer team. **FHGE: Lifelong Learning; Transferable: UC/CSU**

ATHL 22A PRESEASON CONDITIONING FOR WOMEN'S SOCCER 2 Units
May be taken six times for credit.
6 hours laboratory. (72 hours total per quarter)
The development of athletic skills and mental conditioning which is required to be successful in the intercollegiate sport of soccer. **FHGE: Lifelong Learning; Transferable: UC/CSU**

ATHL 22B SPORT TECHNIQUES & CONDITIONING FOR WOMEN'S SOCCER 2 Units
May be taken six times for credit.
6 hours laboratory. (72 hours total per quarter)
This course teaches and provides practice specific techniques and conditioning for the sport of soccer. This includes drills, weight and flexibility training, and cardio-respiratory development. **FHGE: Lifelong Learning; Transferable: UC/CSU**

ATHL 22C FUNCTIONAL FITNESS FOR WOMEN'S SOCCER 1 Unit
May be taken six times for credit.
3 hours laboratory. (36 hours total per quarter)
This course will provide advanced training and instruction in the use of weights for the sport of soccer. **FHGE: Lifelong Learning; Transferable: UC/CSU**

ATHL 22E INTERCOLLEGIATE SOCCER (WOMEN) 1 Unit
Formerly: PHED 34A
May be taken six times for credit.
3 hours laboratory. (36 hours total per quarter)
Competitive intercollegiate soccer working toward personal and physical development, athletic scholarship, transfer and career opportunities.This course is intended for participants on the Foothill College women's soccer team. **FHGE: Lifelong Learning; Transferable: CSU; UC pending**

ATHL 31 INTERCOLLEGIATE SOFTBALL I (WOMEN) 3 Units
May be taken six times for credit.
9 hours laboratory. (108 hours total per quarter)
Competitive intercollegiate softball emphasizing early season conditioning, development of skills and strategy, and team building through pre-conference and conference competition. Intended for members of the women's softball team with previous high school, club or collegiate softball playing experience. **FHGE: Lifelong Learning; Transferable: UC/CSU**

ATHL 31A PRESEASON CONDITIONING FOR SOFTBALL 2 Units
May be taken six times for credit.
6 hours laboratory. (72 hours total per quarter)
The development of athletic skills and mental conditioning which is required to be successful in the intercollegiate sport of softball. **FHGE: Lifelong Learning; Transferable: UC/CSU**

ATHL 31B SPORT TECHNIQUES & CONDITIONING FOR SOFTBALL 2 Units
May be taken six times for credit.
6 hours laboratory. (72 hours total per quarter)
This course teaches and provides practice specific techniques and conditioning for the sport of softball. This includes drills, weight and flexibility training, and cardio-respiratory development. **FHGE: Lifelong Learning; Transferable: UC/CSU**

ATHL 31C FUNCTIONAL FITNESS FOR SOFTBALL 1 Unit
May be taken six times for credit.
3 hours laboratory. (36 hours total per quarter)
This course will provide advanced training and instruction in the use of weights for the sport of softball. **FHGE: Lifelong Learning; Transferable: UC/CSU**

ATHL 31E INTERCOLLEGIATE SOFTBALL (WOMEN) 1 Unit
Formerly: PHED 34E
May be taken six times for credit.
3 hours laboratory. (36 hours total per quarter)
Competitive intercollegiate softball working toward personal and physical development, athletic scholarship, transfer, and career opportunities.This course is intended for members of the Foothill College women's softball team with previous high school, club or collegiate softball playing experience. **FHGE: Lifelong Learning; Transferable: CSU; UC pending**

ATHL 31F INTERCOLLEGIATE SOFTBALL II (WOMEN) 2 Units
May be taken six times for credit.
6 hours laboratory. (72 hours total per quarter)
Competitive intercollegiate softball emphasizing athletic skill and strategy development and performance through conference and post-conference competition. This course is intended for members of the Foothill College women's softball team with previous high school, club or collegiate softball playing experience. **FHGE: Lifelong Learning; Transferable: CSU; UC pending**

ATHL 32 INTERCOLLEGIATE SWIMMING (MEN & WOMEN) 3 Units
Formerly: PHED 35F
May be taken six times for credit.
14.5 hours lecture-laboratory. (174 hours total per quarter)
Practice for and participation in intercollegiate swimming and diving; emphasizing swimming and diving skills, fundamentals and strategies. Intended for participants on the swim team. **FHGE: Lifelong Learning; Transferable: UC/CSU**

ATHL 32A PRESEASON CONDITIONING FOR SWIMMING 2 Units
May be taken six times for credit.
6 hours laboratory. (72 hours total per quarter)
The development of athletic skills and mental conditioning which is required to be successful in the intercollegiate sport of swimming. **FHGE: Lifelong Learning; Transferable: UC/CSU**

ATHL 32B SPORT TECHNIQUES & CONDITIONING FOR SWIMMING 2 Units
May be taken six times for credit.
6 hours laboratory. (72 hours total per quarter)
This course teaches and provides practice specific techniques and conditioning for the sport of swimming. This includes drills, weight and flexibility training, and cardio-respiratory development. **FHGE: Lifelong Learning; Transferable: UC/CSU**

ATHL 32C FUNCTIONAL FITNESS FOR SWIMMING 1 Unit
May be taken six times for credit.
3 hours laboratory. (36 hours total per quarter)
This course will provide advanced training and instruction in the use of weights for the sport of swimming. **FHGE: Lifelong Learning; Transferable: UC/CSU**

ATHL 32E INTERCOLLEGIATE SWIMMING (MEN & WOMEN) 1 Unit
Formerly: PHED 35F
May be taken six times for credit.
3 hours laboratory. (36 hours total per quarter)
Competitive intercollegiate swimming working toward personal and physical development, athletic scholarship, transfer, and career opportunities.This course is intended for participants on the Foothill College men's/women's swimming team. **FHGE: Lifelong Learning; Transferable: CSU; UC pending**

ATHL 32F INTERCOLLEGIATE SWIMMING II (MEN & WOMEN) 2 Units
May be taken six times for credit.
6 hours laboratory. (72 hours total per quarter)
Competitive intercollegiate swimming emphasizing athletic skill and strategy development and performance through conference and post-conference competition. This course is intended for participants on the Foothill College men's/women's swim team. **FHGE: Lifelong Learning; Transferable: CSU; UC pending**

ATHL 33 INTERCOLLEGIATE WATER POLO I (WOMEN) 2 Units
May be taken six times for credit.
6 hours laboratory. (72 hours total per quarter)
Competitive intercollegiate water polo emphasizing early season conditioning, development of skills and strategy, and team building through pre-conference and conference competition. Intended for participants on the women's water polo team. **FHGE: Lifelong Learning; Transferable: UC/CSU**

ATHL 33A PRESEASON CONDITIONING FOR WOMEN'S WATER POLO 2 Units
May be taken six times for credit.
6 hours laboratory. (72 hours total per quarter)
The development of athletic skills and mental conditioning which is required to be successful in the intercollegiate sport of water polo. **FHGE: Lifelong Learning; Transferable: UC/CSU**

ATHL 33B SPORT TECHNIQUES & CONDITIONING FOR WOMEN'S WATER POLO 2 Units
May be taken six times for credit.
6 hours laboratory. (72 hours total per quarter)
This course teaches and provides practice specific techniques and conditioning for the sport of water polo. This includes drills, weight and flexibility training, and cardio-respiratory development. **FHGE: Lifelong Learning; Transferable: UC/CSU**

ATHL 33C FUNCTIONAL FITNESS FOR WOMEN'S WATER POLO 1 Unit
May be taken six times for credit.
3 hours laboratory. (36 hours total per quarter)
This course will provide advanced training and instruction in the use of weights for the sport of water polo. **FHGE: Lifelong Learning; Transferable: UC/CSU**

ATHL 33E INTERCOLLEGIATE WATER POLO (WOMEN) 1 Unit
Formerly: H P 40K, PHED 35G
May be taken six times for credit.
3 hours laboratory. (36 hours total per quarter)
Competitive intercollegiate water polo working toward personal and physical development, athletic scholarship, transfer and career opportunities. This course is intended for participants on the women's water polo team. **FHGE: Lifelong Learning; Transferable: CSU; UC pending**

ATHL 33F INTERCOLLEGIATE WATER POLO II (WOMEN) 3 Units
May be taken six times for credit.
9 hours laboratory. (108 hours total per quarter)
Competitive intercollegiate water polo emphasizing athletic skill and strategy development and performance through conference and post-conference competition. Intended for participants on the women's water polo team. **FHGE: Lifelong Learning; Transferable: CSU; UC pending**

ATHL 42 INTERCOLLEGIATE VOLLEYBALL I (WOMEN) 2 Units
May be taken six times for credit.
6 hours laboratory. (72 hours total per quarter)
Competitive intercollegiate volleyball emphasizing early season conditioning, development of skills and strategy, and team building through pre-conference and conference competition. This course is intended for participants on the women's volleyball team. **FHGE: Lifelong Learning; Transferable: UC/CSU**

ATHL 42A PRESEASON CONDITIONING FOR WOMEN'S VOLLEYBALL 2 Units
May be taken six times for credit.
6 hours laboratory. (72 hours total per quarter)
The development of athletic skills and mental conditioning which is required to be successful in the intercollegiate sport of volleyball. **FHGE: Lifelong Learning; Transferable: UC/CSU**

ATHL 42B SPORT TECHNIQUES & CONDITIONING FOR WOMEN'S VOLLEYBALL 2 Units
May be taken six times for credit.
6 hours laboratory. (72 hours total per quarter)
This course teaches and provides practice specific techniques and conditioning for the sport of volleyball. This includes drills, weight and flexibility training, and cardio-respiratory development. **FHGE: Lifelong Learning; Transferable: UC/CSU**

ATHL 42C FUNCTIONAL FITNESS FOR WOMEN'S VOLLEYBALL 1 Unit
May be taken six times for credit.
3 hours laboratory. (36 hours total per quarter)
This course will provide advanced training and instruction in the use of weights for the sport of volleyball. **FHGE: Lifelong Learning; Transferable: UC/CSU**

ATHL 42E INTERCOLLEGIATE VOLLEYBALL (WOMEN) 1 Unit
Formerly: PHED 34B
May be taken six times for credit.
3 hours laboratory. (36 hours total per quarter)
Competitive intercollegiate volleyball working toward personal and physical development, athletic scholarship,transfer, and career opportunities.This course is intended for participants on the women's volleyball team. **FHGE: Lifelong Learning; Transferable: CSU; UC pending**

ATHL 42F INTERCOLLEGIATE VOLLEYBALL II (WOMEN) 3 Units
May be taken six times for credit.
9 hours laboratory. (108 hours total per quarter)
Competitive intercollegiate volleyball emphasizing athletic skill and strategy development and performance through conference and post-conference competition. This course is intended for participants on the women's volleyball team. **FHGE: Lifelong Learning; Transferable: CSU; UC pending**

ATHL 44 INTERCOLLEGIATE TENNIS I (MEN) 3 Units
May be taken six times for credit.
9 hours laboratory. (108 hours total per quarter)
Competitive intercollegiate tennis emphasizing preseason conditioning, development of skills and strategies and team building through pre conference and conference competition. This course is intended for participants on the intercollegiate men's tennis team. **FHGE: Lifelong Learning; Transferable: CSU; UC pending**

ATHL 44A PRESEASON CONDITIONING FOR MEN'S TENNIS 2 Units
May be taken six times for credit.
6 hours laboratory. (72 hours total per quarter)
The development of athletic skills and mental conditioning which is required to be successful in the intercollegiate sport of tennis. **FHGE: Lifelong Learning; Transferable: UC/CSU**

ATHL 44B SPORT TECHNIQUES & CONDITIONING FOR MEN'S TENNIS 2 Units
May be taken six times for credit.
6 hours laboratory. (72 hours total per quarter)
This course teaches and provides practice specific techniques and conditioning for the sport of tennis. This includes drills, weight and flexibility training, and cardio-respiratory development. **FHGE: Lifelong Learning; Transferable: UC/CSU**

ATHL 44C FUNCTIONAL FITNESS FOR MEN'S TENNIS 1 Unit
May be taken six times for credit.
3 hours laboratory. (36 hours total per quarter)
This course will provide advanced training and instruction in the use of weights for the sport of tennis. **FHGE: Lifelong Learning; Transferable: UC/CSU**

ATHL 44E INTERCOLLEGIATE TENNIS (MEN) 1 Unit
Formerly: H P 40E, PHED 35D
May be taken six times for credit.
3 hours laboratory. (36 hours total per quarter)
Competitive intercollegiate tennis working toward personal and physical development, athletic scholarship, transfer and career opportunities.This course is intended for participants on the intercollegiate men's tennis team. **FHGE: Lifelong Learning; Transferable: CSU; UC pending**

ATHL 44F INTERCOLLEGIATE TENNIS II (MEN) 2 Units
May be taken six times for credit.
6 hours laboratory. (72 hours total per quarter)
Competitive intercollegiate tennis emphasizing athletic skill, strategy development and performance through conference and post conference competition. This course is intended for participants on the intercollegiate men's tennis team. **FHGE: Lifelong Learning; Transferable: CSU; UC pending**

ATHL 45 INTERCOLLEGIATE TENNIS I (WOMEN) 3 Units
May be taken six times for credit.
9 hours laboratory. (108 hours total per quarter)
Competitive intercollegiate tennis emphasizing early season conditioning, development of skills and strategy, and team building through pre-conference and conference competition. Intended for participants on the women's tennis team. **FHGE: Lifelong Learning; Transferable: UC/CSU**

ATHL 45A PRESEASON CONDITIONING FOR WOMEN'S TENNIS 2 Units
May be taken six times for credit.
6 hours laboratory. (72 hours total per quarter)
The development of athletic skills and mental conditioning which is required to be successful in the intercollegiate sport of tennis. **FHGE: Lifelong Learning; Transferable: UC/CSU**

ATHL 45B SPORT TECHNIQUES & CONDITIONING FOR WOMEN'S TENNIS 2 Units
May be taken six times for credit.
6 hours laboratory. (72 hours total per quarter)
This course teaches and provides practice specific techniques and conditioning for the sport of tennis. This includes drills, weight and flexibility training, and cardio-respiratory development. **FHGE: Lifelong Learning; Transferable: UC/CSU**

ATHL 45C FUNCTIONAL FITNESS FOR WOMEN'S TENNIS 1 Unit
May be taken six times for credit.
3 hours laboratory. (36 hours total per quarter)
This course will provide advanced training and instruction in the use of weights for the sport of tennis. **FHGE: Lifelong Learning; Transferable: UC/CSU**

ATHL 45E INTERCOLLEGIATE TENNIS (WOMEN) 1 Unit
Formerly: PHED 34D
May be taken six times for credit.
3 hours laboratory. (36 hours total per quarter)
Competitive intercollegiate tennis working toward personal and physical development, and athletic scholarship, transfer, and career opportunities. Intended for participants on the intercollegiate women's tennis team. **FHGE: Lifelong Learning; Transferable: CSU; UC pending**

ATHL 70R INDEPENDENT STUDY IN ATHLETICS 1 Unit
ATHL 71R 2 Units
ATHL 72R 3 Units
ATHL 73R 4 Units
3–12 hours per week. (36–144 hours total per quarter)
Provides an opportunity for students to expand their studies in Athletics beyond the classroom by completing a project or an assignment arranged by agreement between the student and instructor. The student is required to contract with the instructor to determine the scope of assignment and the unit value assigned for successful completion. Students may take a maximum of 6 units of Independent Study per department. **FHGE: Non-GE; Transferable: CSU**

BIOLOGY

Biological and Health Sciences (650) 949-7249
www.foothill.edu/bio/programs/biosci/

BIOL 1A PRINCIPLES OF CELL BIOLOGY 6 Units
Prerequisite: CHEM 1A.
Advisory: Students taking the biology majors' sequence (BIOL 1A, 1B, 1C, 1D) are strongly advised to take the sequence in its entirety.
4 hours lecture, 2 hours lecture-laboratory, 4 hours laboratory. (120 hours total per quarter)
An introduction to biological molecules, cellular structure and function, bioenergetics, the genetics of both prokaryotic and eukaryotic organisms, cell communication and signaling, the cell cycle, and elements of molecular biology. Intended for biology majors. **FHGE: Non-GE; Transferable: UC/CSU**

BIOL 1B FORM & FUNCTION IN PLANTS & ANIMALS 6 Units
Prerequisite: BIOL 1A.
Advisory: Students taking the biology majors' sequence (BIOL 1A, 1B, 1C, 1D) are strongly advised to take the sequence in its entirety.
4 hours lecture, 2 hours lecture-laboratory, 4 hours laboratory. (120 hours total per quarter)
An introduction to the structure and physiological processes of plants and animals. Transport systems, reproduction, digestion, gas exchange, regulation of the internal environment, responses to external stimuli, nervous systems, hormones, and locomotion. Intended for biology majors. **FHGE: Non-GE; Transferable: UC/CSU**

BIOL 1C EVOLUTION, SYSTEMATICS & ECOLOGY 6 Units
Prerequisite: BIOL 1B.
Advisory: Students taking the biology majors' sequence (BIOL 1A, 1B, 1C, 1D) are strongly advised to take the sequence in its entirety.
4 hours lecture, 2 hours lecture-laboratory, 4 hours laboratory. (120 hours total per quarter)
Principles of evolutionary theory, classification of organisms, and basic ecology. Phylogenetic survey of the major groups of organisms (bacteria, archaea, protistans, plants, animals and fungi) and their evolutionary history. Intended for biology majors. **FHGE: Non-GE; Transferable: UC/CSU**

BIOL 1D INTRODUCTION TO MOLECULAR GENETICS 4 Units
Prerequisite: BIOL 1A.
Advisory: Students taking the biology majors' sequence (BIOL 1A, 1B, 1C, 1D) are strongly advised to take the sequence in order and in its entirety.
4 hours lecture. (48 hours total per quarter)
Intended for students wishing to transfer to a four year school with a major in molecular biology, biochemistry, or molecular genetics. An introduction to molecular genetics with an emphasis in genome organization, DNA replication and repair, mutation, transcription, translation and the regulation of gene expression. **FHGE: Non-GE; Transferable: UC/CSU**

BIOL 8 BASIC NUTRITION 5 Units
Advisory: MATH 200; eligibility for ENGL 1A.
5 hours lecture. (60 hours total per quarter)
Introductory nutrition course intended for non-science/health-career majors, Not intended for students wishing to pursue a career in health care. Basic biological function of nutrients. Nutritional needs throughout the life span. Relationship between nutrition and disease. Current scientific, social, and psychological issues and controversies in nutrition. **FHGE: Lifelong Learning; Transferable: UC/CSU**

BIOL 9 ENVIRONMENTAL BIOLOGY 4 Units
4 hours lecture. (48 hours total per quarter)
An introduction to environmental biology and a survey of the biological and ecological principles needed to understand environmental issues. Global, national and local perspectives on current issues such as resource use, pollution, biodiversity and impacts of human population growth. **FHGE: Lifelong Learning, Natural Sciences; Transferable: UC/CSU**

BIOL 9L ENVIRONMENTAL BIOLOGY LABORATORY 1 Unit
Corequisite: BIOL 9.
1 hour lecture-laboratory, 2 hours laboratory. In-class field trips. (36 hours total per quarter)
An introduction to environmental biology through laboratory and field experiments, examination of local examples illustrating ecological concepts, use of sampling techniques to assess environmental quality, and student research of environmental topics. **FHGE: Natural Sciences; Transferable: UC/CSU**

BIOL 10 GENERAL BIOLOGY: BASIC PRINCIPLES 5 Units
4 hours lecture, 1 hour lecture-laboratory, 2 hours laboratory. (84 hours total per quarter)
Methods of science and basic principles of biology. Special emphasis on genetics, ecology, overpopulation, nutrition and disease prevention. **FHGE: Natural Sciences; Transferable: UC/CSU**

BIOL 12 HUMAN GENETICS 4 Units
4 hours lecture. (48 hours total per quarter)
An introduction to the nature of human inheritance. The molecular basis of inheritance, Mendelian genetics, population genetics, common human genetic diseases, factors affecting human diversity and the social and moral implications of recent advances in genetics. Intended for both majors and GE students. Satisfies Lifelong Learning GE requirement at Foothill, CSU, and UC. **FHGE: Lifelong Learning; Transferable: UC/CSU**

BIOL 13 MARINE BIOLOGY 5 Units
4 hours lecture, 1 hour lecture-laboratory, 2 hours laboratory, three all-day field trips. (84 hours total per quarter)
An introduction to biology using marine animals, plants and ecosystems. Major emphasis given to the ecology and conservation issues with examples drawn from California marine life. Conceptual development of seashore, estuaries, coral reefs, kelp forests, and pelagic life as interrelated ecosystems. **FHGE: Natural Sciences; Transferable: UC/CSU**

BIOL 14 HUMAN BIOLOGY 5 Units
4 hours lecture, 1 hour lecture-laboratory, 2 hours laboratory. (84 hours total per quarter)
An introduction to biology using human beings as the exemplary organism. The evolution and biological unity of the human species and of all life forms; American and global patterns of human biological diversity; reproduction and heredity; how human organ systems function; humans and their environment; the uses and misuses of the scientific method; the scientific and biological bases for human equality. **FHGE: Natural Sciences; Transferable: UC/CSU**

BIOL 15 CALIFORNIA ECOLOGY/NATURAL HISTORY 5 Units
4 hours lecture, 1 hour lecture-laboratory, 2 hours laboratory, all-day field trips. (84 hours total per quarter)
An introduction to ecology, natural history and field biology through the study, largely in an outdoor setting, of the plants and animals of the San Francisco Bay area. **FHGE: Natural Sciences; Transferable: UC/CSU**

BIOL 23 INTRODUCTION TO BIOTECHNOLOGY 5 Units
Formerly: BTEC 10
Advisory: MATH 220 or equivalent; biology experience; demonstrated proficiency in English by placement into ENGL 1A as determined by score on the English placement test or through an equivalent placement process; not open to students with credit in BTEC 10.
4 hours lecture, 1 hour lecture-laboratory, 2 hours laboratory. (84 hours total per quarter)
Provides basic scientific knowledge fundamental to the field of biotechnology, including cell and molecular biology. Emerging topics in biotechnology, including genetic engineering, biofuels, genetic testing, evolution, and drug development. Regulatory, social, ethical questions and dilemmas will be discussed and debated. Intended for all students. Fulfills Foothill GE/Natural Sciences requirement. **FHGE: Natural Sciences; Transferable: UC/CSU**

BIOL 27 COOKING THE EARTH 4 Units
Advisory: Not open to students with credit in PHYS 27.
3 hours lecture, 3 hours laboratory. (72 hours total per quarter)
The science behind the Climate Change headlines and will answer the question "How does climate change work?" This course will explore changes that are occurring in the atmosphere due to climate change and their affect on Earth's ecosystems. Explore the predicted changes in Earth's systems over the next century. This course does not require a background in physics or biology. **FHGE: Non-GE; Transferable: UC/CSU**

BIOL 28 INTRODUCTION TO BIOENGINEERING 4 Units
Advisory: Not open to students with credit in ENGR 28.
4 hours lecture. (48 hours total per quarter)
Introduction to the field of bioengineering. Topics covered will include an overview of basic biological systems and biochemistry for non-biology majors, how the basic principles of engineering and physics can be applied to problems in biological science, and an overview of current trends in bioengineering including: medical devices, biomaterials, bioinstrumentation, computational biology, and agricultural biotechnology. **FHGE: Non-GE; Transferable: CSU; UC pending**

BIOL 40A HUMAN ANATOMY & PHYSIOLOGY I 5 Units
Prerequisites: BIOL 10 or 14 or equivalent; CHEM 30A or equivalent.
Advisory: One of the following: ENGL 1A, 1AH, 1S & 1T or ESLL 26 or equivalent.
4 hours lecture, 1 hour lecture-laboratory, 2 hours laboratory. (84 hours total per quarter)
Basic human anatomy and physiology. Emphasis on integration of systems and homeostatic mechanisms. Physical and chemical basis of life, histology and integumentary, skeletal and muscular systems. Designed for majors that require fundamental background in human anatomy and physiology. Completion of this course is required for BIOL 40B. **FHGE: Non-GE; Transferable: UC/CSU**

BIOL 40B HUMAN ANATOMY & PHYSIOLOGY II 5 Units
Prerequisite: BIOL 40A or equivalent.
4 hours lecture, 1 hour lecture-laboratory, 2 hours laboratory. (84 hours total per quarter)
Anatomy and physiology of the nervous system, cardiovascular system and respiratory system. Completion of this course is required for BIOL 40C. **FHGE: Non-GE; Transferable: UC/CSU**

BIOL 40C HUMAN ANATOMY & PHYSIOLOGY III 5 Units
Prerequisite: BIOL 40B or equivalent.
4 hours lecture, 1 hour lecture-laboratory, 2 hours laboratory. (84 hours total per quarter)
Anatomy and physiology of the digestive system; metabolism; urinary system; fluid, electrolyte and acid/base balance; lymphatic system; endocrine system; and reproductive system. **FHGE: Non-GE; Transferable: UC/CSU**

BIOL 41 MICROBIOLOGY 6 Units
Prerequisite: CHEM 30A or equivalent.
Advisory: ESLL 25 and 235; critical reading skills and knowledge of English sentence structure; ability to comprehend spoken English in academic context.
4 hours lecture, 2 hours lecture-laboratory, 4 hours laboratory. (120 hours total per quarter)
Morphology and physiology of bacteria, fungi and viruses. Mechanisms of pathogenicity, host-parasite relationships, the immune response and principles of disease transmission. Techniques of microbial control including sterilization, aseptic procedures, use of disinfectants, antiseptics and chemotherapy. **FHGE: Natural Sciences; Transferable: UC/CSU**

BIOL 45 INTRODUCTION TO HUMAN NUTRITION 4 Units
Prerequisite: CHEM 30A or equivalent.
Corequisite: Completion of, or concurrent enrollment in BIOL 40C.
Advisory: One of the following: ENGL 1A, 1AH, 1S & 1T or ESLL 26. 4 hours lecture. (48 hours total per quarter)
Introduction to the medical aspects of nutrition, intended for students wishing to pursue a career in health care. Biological function and chemical classification of nutrients. Nutritional needs throughout the lifespan. Effects of nutritional deficiencies and excesses. Recommended nutrient intakes and the role of diet in the development of chronic disease. **FHGE: Non-GE; Transferable: UC/CSU**

BIOL 54H HONORS INSTITUTE SEMINAR IN BIOLOGY 1 Unit
Formerly: BIOL 34, BIOL 34H
Prerequisite: Honors Institute participant.
Advisory: Not open to students with credit in BIOL 34 or 34H.
1 hour lecture. (12 hours total per quarter)
A seminar in directed readings, discussions and projects in biology. Specific topic to be determined by the instructor. This advanced honors course is open to all majors. This course satisfies one of the two honors seminar requirements for the Honors Scholar program. **FHGE: Non-GE; Transferable: CSU**

BIOL 58 FUNDAMENTALS OF PHARMACOLOGY 4 Units
Formerly: BIOL 46
Prerequisites: BIOL 40A, 40B and CHEM 30B.
Corequisite: Completion of, or concurrent enrollment in BIOL 40C.
Advisory: One of the following: ENGL 1A, 1AH, 1S & 1T or ESLL 26.; not open to students with credit in BIOL 46.
4 hours lecture. (48 hours total per quarter)
General principles of pharmacology. Emphasis on drug-receptor interactions, second messenger systems, determinants of drug response, pharmacokinetics, bio transformation and excretion, pharmacogenetics, drug development and legal aspects of drug distribution. Application of pharmacological principles and concepts with emphasis on the various pharmacological classes of drugs in diverse patient populations. **FHGE: Non-GE; Transferable: CSU**

BUSINESS

Business and Social Sciences (650) 949-7322 www.foothill.edu/bss/

BUSI 11 INTRODUCTION TO INFORMATION SYSTEMS 5 Units
Formerly: CIS 10, 60
Advisory: MATH 220 or equivalent; demonstrated proficiency in English by placement into ENGL 1A as determined by score on the English placement test or through an equivalent placement process; knowledge of Excel; not open to students with credit in CIS 10 or 60.
5 hours lecture. (60 hours total per quarter)
Introduction to the concepts of management and information systems especially as used in business and similar organizations. Covers the need for information, how computers are used in business and other organizations to provide information, elements of computer hardware and software, software development, data storage and communication, and the social impact of computers. Hands-on introduction to personal productivity software such as word processing, spreadsheet, database, and presentation applications. **FHGE: Non-GE; Transferable: UC/CSU**

BUSI 18 BUSINESS LAW I 5 Units
Advisory: Demonstrated proficiency in English by placement into ENGL 1A as determined by score on the English placement test or through an equivalent placement process; UC will accept for transfer credit either BUSI 18 or BUSI 19, not both.
5 hours lecture. (60 hours total per quarter)
Introduction to law applicable to business. Social forces and the law; source of law; agencies for enforcement; and court systems and procedures. California law applicable to contracts, tort negligence, agency, and the Uniform Commercial Code. Contemporary Legal Issues. **FHGE: Non-GE; Transferable: UC/CSU**

BUSI 19 BUSINESS LAW II 4 Units
Advisory: BUSI 18; UC will accept for transfer credit either BUSI 18 or BUSI 19, not both.
4 hours lecture. (48 hours total per quarter)
Law of sales, warranty and product liability, partnerships, corporations, personal property, and bailments. The Uniform Commercial Code as related to negotiable instruments and secured transactions, and creditor-debtor rights. **FHGE: Non-GE; Transferable: UC/CSU**

BUSI 22 PRINCIPLES OF BUSINESS 5 Units
Advisory: Not open to students with credit in BUSI 52.
5 hours lecture. (60 hours total per quarter)
Examination of the principles and functions of business and the objectives and operations of the corporate and small business managerial decision-making process; its relations to consumers and stakeholders and its global orientation. Includes focus on the economic, political, legal, social environments of business and corporate ethics and social responsibility. **FHGE: Social & Behavioral Sciences; Transferable: UC/CSU**

BUSI 53 SURVEY OF INTERNATIONAL BUSINESS 4 Units
Advisory: Not open to students with credit in BIS 53 or BUSI 20.
4 hours lecture. (48 hours total per quarter)
Introduction to the global commercial community, theory and practice. Exploration of trade and development with the Pacific Rim, Eastern/Western Europe, Third World and developing nations. Major economic, social, political, cultural forces directing the competitive business environment. Examination of the full range of international commercial activities, marketing, logistics, research, risk analysis, and global corporate ethics and social responsibility. **FHGE: Social & Behavioral Sciences; Transferable: CSU**

BUSI 53A BUSINESS COMMUNICATIONS & TECHNOLOGIES 5 Units
Prerequisite: One of the following: ENGL 1A, 1AH, 1S & 1T or ESLL 26.
Advisory: BUSI 11 or 91L.
5 hours lecture. (60 hours total per quarter)
Theory of written and oral communication. Messages are broken into their component parts for a critical analysis of organization and content, style, tone, grammar, format, and appearance. Students analyze business situations and plan, organize, write, and revise letters, memos, emails, and reports. This course focuses on applying appropriate format, styles, content and technologies to communicate within and between business organizations. **FHGE: Non-GE; Transferable: CSU**

BUSI 54H HONORS INSTITUTE SEMINAR IN BUSINESS 1 Unit
Formerly: BUSI 34, 34H
Prerequisite: Honors Institute participant.
Advisory: Not open to students with credit in BUSI 34 or 34H.
1 hour lecture. (12 hours total per quarter)
A seminar in directed readings, discussions, and projects in business. Specific topics to be determined by the instructor. **FHGE: Non-GE; Transferable: CSU**

BUSI 57 PRINCIPLES OF ADVERTISING 4 Units
Advisory: Not open to students with credit in ADVT 57 or BUSI 81.
4 hours lecture. (48 hours total per quarter)
Introduction to the relationship between advertising and society, and consumer and business. Analysis of markets and direction of advertising campaigns toward them. Selection of media. Evaluation and proper use of the creative aspects of advertising. Actual creation of an advertising campaign and pro forma budget. **FHGE: Non-GE; Transferable: CSU**

BUSI 58 SURVEY OF INTERNATIONAL MARKETING 4 Units
Advisory: Not open to students with credit in BIS 58 or BUSI 89.
4 hours lecture. (48 hours total per quarter)
Contemporary developments of international marketing functions, concepts and business activities that determine global customer demand for products and services. **FHGE: Non-GE; Transferable: CSU**

BUSI 59 PRINCIPLES OF MARKETING 4 Units
Advisory: Not open to students with credit in BUSI 90.
4 hours lecture. (48 hours total per quarter)
Contemporary marketing developments and applications relative to business activities that determine customer demand for products and services. Focus on market planning strategy, determining the right product, price, distribution and promotion elements and evaluating the results of effective marketing decision-making from both a marketer's and a consumer's perspective. **FHGE: Non-GE; Transferable: CSU**

BUSI 59A WEB MARKETING 5 Units
Advisory: BUSI 59B or equivalent coursework or experience.
5 hours lecture. (60 hours total per quarter)
Introduction to Internet marketing. Primary focus of this course will be on marketing strategies and techniques to help e-businesses reach potential customers, drive traffic to generate customer to e-business interaction, convert leads to sales, and to maintain customer relationships over time. Students will develop and launch a robust Internet Marketing Plan that relies on solid business practices and employs leading technologies to achieve increased product awareness and social influence, generate higher site traffic and sales, and establish long-term customer engagement. **FHGE: Non-GE; Transferable: CSU**

BUSI 59B E-BUSINESS 5 Units
5 hours lecture. (60 hours total per quarter)
Foundations and principles of electronic commerce and doing business on the Internet. Topics include e-commerce models, value and supply chains, business strategy, electronic data interchange (EDI), electronic payments & digital currency, integrating channels of business (walk-in, mail, phone, Internet), e-marketing, intranets and extranets, security risks and legal issues in e-commerce, and Electronic Document Management Systems (EDMS). Current topics about latest e-business trends will be discussed, including peer-to-peer commerce, public and private exchanges, e-hubs and e-marketplaces, technology trends in enterprise computing including Web services and knowledge management, and global e-commerce infrastructure. **FHGE: Non-GE; Transferable: CSU**

BUSI 61 INVESTMENT FUNDAMENTALS 3 Units
3 hours lecture. (36 hours total per quarter)
Introduction to securities investment characteristics and rights. Portfolio building. Stock exchanges and over-the-counter markets. Investment banking and investment trusts. Financial statements, stock choice and selection, investment methods, technical market and stock analysis, financial planning, bond portfolios. **FHGE: Non-GE; Transferable: CSU**

BUSI 62 PRINCIPLES OF SALESMANSHIP 3 Units
Advisory: Not open to students with credit in BUSI 91.
3 hours lecture. (36 hours total per quarter)
The principles and techniques of selling ideas, products, services. Focus on persuasive activities, buying behavior, communication, ethics. Combines an emphasis on the art of selling with providing effective customer service. **FHGE: Non-GE; Transferable: CSU**

BUSI 70 BUSINESS & PROFESSIONAL ETHICS 4 Units
Advisory: Demonstrated proficiency in English by placement into ENGL 1A as determined by score on the English placement test or through an equivalent placement process.
4 hours lecture. (48 hours total per quarter)
Social and moral dilemmas encountered in business and professional lives. Exploration and analysis of the ongoing conflicts between personal value systems, expected codes of behavior, and standard operating procedure in the work place. Special attention given to an examination of the major philosophical schools of ethics and how their specific theories may be applied to the concrete business cases and contemporary management issues. **FHGE: Non-GE; Transferable: CSU**

BUSI 70R INDEPENDENT STUDY IN BUSINESS 1 Unit
BUSI 71R 2 Units
BUSI 72R 3 Units
BUSI 73R 4 Units
3–12 hours per week. (36–144 hours total per quarter)
Provides an opportunity for the student to expand their studies in Business beyond the classroom by completing a project or an assignment arranged by agreement between the student and instructor. The student is required to contract with the instructor to determine the scope of assignment and the unit value assigned for successful completion. Students may take a maximum of 6 units of Independent Study per department. **FHGE: Non-GE; Transferable: CSU**

BUSI 90A PRINCIPLES OF MANAGEMENT 4 Units
Advisory: Demonstrated proficiency in English by placement into ENGL 1A as determined by score on the English placement test or through an equivalent placement process.
4 hours lecture. (48 hours total per quarter)
Introduction to the study of the principles and functions of business management as an important part of the social, political and economic environment. The following functional areas of management include: planning and organizing, control and monitoring, strategy and leadership, legal and ethical issues affecting business today. **FHGE: Non-GE; Transferable: CSU**

BUSI 91L INTRODUCTION TO BUSINESS INFORMATION PROCESSING 4 Units
Formerly: BUSI 10
Advisory: Not open to students with credit in BUSI 10.
4 hours lecture. (48 hours total per quarter)
Knowledge and understanding of business uses of computer and information processing. Introduction to computer hardware and software and popular operating systems. Hands-on experience in the use of word processing software, spreadsheet software, presentation graphics software, database software and communications software. **FHGE: Non-GE; Transferable: CSU**

BUSI 95 ENTREPRENEURSHIP– SMALL BUSINESS MANAGEMENT 4 Units
4 hours lecture. (48 hours total per quarter)
Creating, managing and profiting from a small business. For potential or present entrepreneurs. Emphasis on organization and operation of a small business including problems of raising capital, establishing an effective marketing plan, and directing and motivating employees. **FHGE: Non-GE; Transferable: CSU**

BUSI 95E SMALL BUSINESS EXPORT & IMPORT 3 Units
Advisory: Not open to students with credit in BIS 95E.
3 hours lecture. (36 hours total per quarter)
Challenges and opportunities of world trade through small business exporting and importing. The basic mechanics, market analysis, pricing, financing, marketing, insurance, transportation and distribution of exports/imports. Expert assistance and resources. **FHGE: Non-GE; Transferable: CSU**

BUSI 233A STARTING A SMALL BUSINESS 1 Unit
Formerly: BUSI 133A
Advisory: Pass/No Pass; not open to students with credit in BUSI 133A.
1 hour lecture. (12 hours total per quarter)
Introductory class providing basics necessary for start-up of a small business including local, state, and federal regulatory requirements; pros and cons of various options for structuring business; selecting a business location; simple structuring of marketing and business plans; developing and understanding a feasibility study; and basics of managing and operating a small business. **FHGE: Non-GE**

BUSI 233E SMALL BUSINESS MARKETING, RESEARCH & PLANNING 1 Unit
Formerly: BUSI 133E
Advisory: Pass/No Pass; not open to students with credit in BUSI 133E.
1 hour lecture. (12 hours total per quarter)
Explore the basics necessary to develop a successful marketing strategy and business plan. Includes analysis of customer, competition, pricing, marketing strategies, promotional and business plans. **FHGE: Non-GE**

CAREER LIFE PLANNING

Counseling and Student Services
Appointments (650) 949-7423; Information, (650) 949-7296

CRLP 55 LIFELONG LEARNING STRATEGIES 3 Units
3 hours lecture. (36 hours total per quarter)
Interactive, applied course to teach learning strategies and skills necessary to successfully reach educational, career and personal objectives. Topics include time management, memory techniques, study reading, note taking, test preparation, other learning strategies and the techniques to apply them in college and throughout life. **FHGE: Lifelong Learning; Transferable: CSU**

CRLP 70 SELF-ASSESSMENT 4 Units
4 hours lecture. (48 hours total per quarter)
Comprehensive approach to career and life planning. Students will explore their individual skills, interests, values, and personality style as they relate to career choice. This intensive career investigation will also encompass lifestyle assessment like the influence of career choice on the family unit, decision making, goal-setting, job search strategies, resume writing and interviewing skills. This course is helpful to people considering a career change or undecided about a college major. **FHGE: Lifelong Learning; Transferable: CSU**

CRLP 71 EXPLORING CAREER FIELDS 1 Unit
Advisory: May not be concurrently enrolled in CRLP 70.
1 hour lecture. (12 hours total per quarter)
Explore career options compatible with student's strengths and interests. Using resources on the campus as well as on the Internet and in communities to investigate specific career choices, researching job descriptions, desired employee characteristics, training/education requirements, salary ranges and employment trends. **FHGE: Non-GE; Transferable: CSU**

CRLP 73 EFFECTIVE RESUME WRITING 1 Unit
Advisory: Pass/No Pass.
1 hour lecture. (12 hours total per quarter)
Development of successful resume writing skills including understanding of the hidden job market, types of resumes and tips that will create resumes that result in interviews. **FHGE: Non-GE; Transferable: CSU**

CRLP 74 SUCCESSFUL INTERVIEWING TECHNIQUES 1 Unit
1 hour lecture. (12 hours total per quarter)
Development of successful interviewing skills includes techniques for pre-interview preparation, dynamics of an interview, salary negotiations and follow-up. **FHGE: Non-GE; Transferable: CSU**

CERTIFIED ELECTRICIAN

Business and Social Sciences (650) 949-7322 www.foothill.edu/bss/

C E 101A ELECTRICIAN TRAINING CERTIFICATION REVIEW: NEC 1.5 Units
Advisory: Eligibility for State of California Electrician Certification as an Electrician in one of the following categories: General, Residential, Fire/Life Safety Technician, Voice Data Video Technician, or Nonresidential Lighting Technician.
36 hours total.
A content review course designed to prepare students for NEC component of the State Electrician Certification Exam. Study of the National Electrical Code (NEC), its purpose, and application of information to the job. Advice and practice on how to prepare for and take examinations. **FHGE: Non-GE**

C E 101B ELECTRICIAN TRAINING CERTIFICATION REVIEW: TEST INSTRUMENTS 1 Unit

Advisory: Eligibility and registration as an Electrician Trainee for purpose of attaining a State of California Electrician Certification in one of the following categories: General, Residential, Fire/Life Safety Technician, Voice Data Video Technician, or Nonresidential Lighting Technician.
18 hours total.
A content review course designed to prepare students for the test instrument portion of the State Electrician Certification Exam. Instruction on usage of test equipment. Advice and practice on how to prepare for and take examinations. **FHGE: Non-GE**

C E 101C ELECTRICIAN TRAINING CERTIFICATION REVIEW: AC/DC GENERATORS 1 Unit

Advisory: Eligibility for State of California Electrician Certification as an Electrician in one of the following categories: General, Residential, Fire/Life Safety Technician, Voice Data Video Technician, or Nonresidential Lighting Technician.
24 hours total.
A content review course designed to prepare students for DC/AC generator elements of the State Electrician Certification Exam. Theory, function, and design of DC and AC generators and basic fundamentals of using blueprints. Advice and practice on how to prepare for and take examinations. **FHGE: Non-GE**

C E 101D ELECTRICIAN TRAINING CERTIFICATION REVIEW: PIPE BENDING 1 Unit

Advisory: Eligibility for State of California Electrician Certification as an Electrician in one of the following categories: General, Residential, Fire/Life Safety Technician, Voice Data Video Technician, or Nonresidential Lighting Technician.
24 hours total.
A content review course designed to prepare students for Pipe Bending elements of the State Electrician Certification Exam. Instruction on usage of pipe bending tools. Advice and practice on how to prepare for and take examinations. **FHGE: Non-GE**

C E 101E ELECTRICIAN TRAINING CERTIFICATION REVIEW: GROUNDING & BONDING 1 Unit

Advisory: Eligibility for State of California Electrician Certification as an Electrician in one of the following categories: General, Residential, Fire/Life Safety Technician, Voice Data Video Technician, or Nonresidential Lighting Technician.
24 hours total.
A content review course designed to prepare students for grounding and bonding elements of the State Electrician Certification Exam. Provides the what, where, and why effective grounding is needed, and how grounding can be effective in the overall electrical installation. Advice and practice on how to prepare for and take examinations. **FHGE: Non-GE**

C E 101F ELECTRICIAN TRAINING CERTIFICATION REVIEW: BLUEPRRINT READING 1.5 Units

Advisory: Eligibility and registration as an Electrician Trainee for purpose of attaining a State of California Electrician Certification in one of the following categories: General, Residential, Fire/Life Safety Technician, Voice Data Video Technician, or Nonresidential Lighting Technician.
30 hours total.
A content review course designed to prepare students for all elements of the State Electrician Certification Exam. Theory, function, and basic fundamentals of using blueprints. Advice and practice on how to prepare for and take examinations. **FHGE: Non-GE**

C E 101G ELECTRICIAN TRAINING CERTIFICATION REVIEW: PROFESSIONAL RELATIONS .5 Unit

Advisory: Eligibility for State of California Electrician Certification as an Electrician in one of the following categories: General, Residential, Fire/Life Safety Technician, Voice Data Video Technician, or Nonresidential Lighting Technician.
12 hours total.
A content review course designed to prepare students for Professional Job Relations elements of the State Electrician Certification Exam. Advice and practice on how to prepare for and take examinations. **FHGE: Non-GE**

C E 101H ELECTRICIAN TRAINING CERTIFICATION REVIEW: SPECIALTY SYSTEMS .5 Unit

Advisory: Eligibility for State of California Electrician Certification as an Electrician in one of the following categories: General, Residential, Fire/Life Safety Technician, Voice Data Video Technician, or Nonresidential Lighting Technician.
12 hours total.
A content review course designed to prepare students for the specialty systems portion of the State Electrician Certification Exam. Study of the National Electrical Code (NEC), its purpose, and application of information to the job. Theory, function, and design of DC and AC generators and basic fundamentals of using blueprints. Instruction on usage of test equipment and pipe bending tools. Orientation to job responsibility and safety procedures. Provides the what, where, and why effective grounding is needed, and how grounding can be effective in the overall electrical installation. Advice and practice on how to prepare for and take examinations. **FHGE: Non-GE**

C E 101I ELECTRICIAN TRAINING CERTIFICATION REVIEW: NEC UPDATE 1 Unit

Advisory: Eligibility for State of California Electrician Certification as an Electrician in one of the following categories: General, Residential, Fire/Life Safety Technician, Voice Data Video Technician, or Nonresidential Lighting Technician.
18 hours total.
A content review course designed to prepare students for National Electric Code (NEC) components of the State Electrician Certification Exam. Study of the National Electrical Code (NEC), its purpose, and application of information to the job. This course will specifically address the most recent updates and changes to the NEC. Advice and practice on how to prepare for and take examinations. **FHGE: Non-GE**

CHEMISTRY

Physical Sciences, Mathematics & Engineering (650) 949-7259
www.foothill.edu/psme/

CHEM 1A GENERAL CHEMISTRY 5 Units

Prerequisite: Satisfactory score on the chemistry placement test, CHEM 20 or CHEM 25; satisfactory score on the mathematics placement test or MATH 105 or 108.
Advisory: Concurrent enrollment in ESLL 25 or ENGL 209.
3 hours lecture, 2 hours lecture-laboratory, 4 hours laboratory. (108 hours total per quarter)
Fundamental chemical principles with an emphasis on physical and chemical properties, stoichiometry, chemical reaction types, kinetic molecular theory, thermochemistry, modern atomic theory and atomic structure, chemical bonding and bonding theory, and molecular shapes . The laboratory component parallels lecture topics and also includes chemical nomenclature, basic chemical equations, stoichiometry, unknown analysis, and fundamentals of oxidation and reduction. **FHGE: Natural Sciences; Transferable: UC/CSU**

CHEM 1B GENERAL CHEMISTRY 5 Units

Prerequisite: CHEM 1A.
3 hours lecture, 2 hours lecture-laboratory, 4 hours laboratory. (108 hours total per quarter)
Kinetic molecular theory and gas laws, intermolecular forces, chemical kinetics, equilibria, behavior of acids and bases, acid/base equilibrium, and classical thermodynamics, Laboratory parallels lecture topics and includes computer graphing techniques, chemical kinetics, equilibrium measurements, heat transfer experiments, thermodynamics of an equilibrium system, vapor pressure of liquids. **FHGE: Non-GE; Transferable: UC/CSU**

CHEM 1C GENERAL CHEMISTRY & QUALITATIVE ANALYSIS 5 Units

Prerequisite: CHEM 1B.

3 hours lecture, 2 hours lecture-laboratory, 4 hours laboratory. (108 hours total per quarter)

Aqueous ionic equilibria of buffers, solubility product constants and formation constants; properties of solutions including factors affecting solubility, energy changes in the solution process and colligative properties;electrochemistry including the thermodynamics of voltaic cells; introduction to coordination chemistry and bonding theory; nuclear chemistry with emphasis on applications; and, time permitting, an introduction to modern materials. Laboratory parallels lecture topics with an introduction to qualitative inorganic analysis. **FHGE: Non-GE; Transferable: UC/CSU**

CHEM 12A ORGANIC CHEMISTRY 6 Units

Prerequisite: CHEM 1C.

4 hours lecture, 2 hours lecture-laboratory, 4 hours laboratory. (120 hours total per quarter)

This course is the first of a three Sophomore level course describing the chemistry of organic (carbon containing) compounds. Emphasis on structure-reactivity relationships, mechanisms of functional group transformations, and the preparation, and purification of organic compounds. For biological science, chemistry,environmental science majors and students pursuing careers in dentistry, medicine, pharmacy, or veterinary medicine. Generally not appropriate for nursing majors (see CHEM 30B) **FHGE: Non-GE; Transferable: UC/CSU**

CHEM 12B ORGANIC CHEMISTRY 6 Units

Prerequisite: CHEM 12A.

4 hours lecture, 2 hours lecture-laboratory, 4 hours laboratory. (120 hours total per quarter)

This course is the continuation of CHEM 12A. Emphasis is on structure-reactivity relationships of organic compounds, mechanisms of functional group transformations, and synthesis of organic target compounds from simple precursors. Laboratory provides extensive practice in the synthesis, purification, isolation and characterization of organic target molecules. For chemistry, biological science, environmental science majors, and for pre-professional students in dentistry, medicine, pharmacy, veterinary medicine or any other interested students who have mastered the prerequisites. **FHGE: Non-GE; Transferable: UC/CSU**

CHEM 12C ORGANIC CHEMISTRY 6 Units

Prerequisite: CHEM 12B.

4 hours lecture, 2 hours lecture-laboratory, 4 hours laboratory. (120 hours total per quarter)

A continuation of CHEM 12B describing the reactivity of organic (carbon containing) compounds including biologically active molecules such as proteins and carbohydrates. Continued emphasis on structure-reactivity relationships, mechanisms of functional group transformations, multi-step syntheses and laboratory methods of synthesis, purification, isolation and characterization of target organic molecules. For biological science, chemistry, and environmental science majors as well as any pre-professional students studying for careers in dentistry, medicine, pharmacy, veterinary medicine and any other interested students who have mastered the prerequisites. **FHGE: Non-GE; Transferable: UC/CSU**

CHEM 20 I MATTER: INTRODUCTION TO GREEN CHEMISTRY & THE ENVIRONMENT 5 Units

Prerequisite: Satisfactory score on the Mathematics Placement Test or MATH 105 or 108.

Advisory: Concurrent enrollment in ESLL 25 or ENGL 209.

4 hours lecture, 1 hour lecture-laboratory, 2 hours laboratory. (84 hours total per quarter)

This course introduces one of the most significant emerging fields in modern chemistry, green chemistry, which connects the optimum use of chemistry to the well-being of humanity and the environment. Fundamental principles of chemistry necessary to understand the source and fate of man-made chemical substances in the environment and potential impacts on human health. Chemical concepts such as atomic structure, bonding, thermodynamics, and chemical reactivity are introduced as they pertain to particular environmental issues. Basic chemical laboratory techniques and methods are included as well as a survey of important green chemical principles with an emphasis on inquiry and problem solving. Intended for students who wish to meet general education requirements in physical science. **FHGE: Natural Sciences; Transferable: UC/CSU**

CHEM 25 FUNDAMENTALS OF CHEMISTRY 5 Units

Prerequisite: Satisfactory score on the Mathematics Placement Test or MATH 105 or 108.

Advisory: Concurrent enrollment in ESLL 25 or ENGL 209.

4 hours lecture, 1 hour lecture-laboratory, 2 hours laboratory. (84 hours total per quarter)

The course includes basic chemical laboratory techniques and methods, a survey of important chemical principles with emphasis on problem solving, and a description of the elements and their compounds. Intended for students who wish to meet general education requirements in physical science or need background preparation for CHEM 1A. **FHGE: Natural Sciences; Transferable: UC/CSU**

CHEM 30A SURVEY OF INORGANIC & ORGANIC CHEMISTRY 5 Units

Prerequisite: Satisfactory score on the Mathematics Placement Test or MATH 217 or 220.

4 hours lecture, 1 hour lecture-laboratory, 2 hours laboratory. (84 hours total per quarter)

An introductory course covering basic principles of chemistry more descriptive than quantitative in emphasis. Topics include atomic structure, the periodic table, the three states of matter, energy, chemical bonding in ionic and molecular compounds, nomenclature, measurement and the metric system, chemical reactions and equations, solutions, acids, bases, salts and electrolyte systems. Primarily intended for students entering the allied health field including: nursing, veterinary technology, dental assistant, dental hygiene, biotechnology, primary care associate, radiation therapy technology, radiological technology, respiratory therapy, and pharmaceutical technology. **FHGE: Natural Sciences; Transferable: UC/CSU**

CHEM 30B SURVEY OF ORGANIC & BIOCHEMISTRY 5 Units

Prerequisite: CHEM 30A.

4 hours lecture, 1 hour lecture-laboratory, 2 hours laboratory. (84 hours total per quarter)

Basic principles of organic chemistry and biological chemistry. Topics include organic chemistry nomenclature, functional groups, and an introduction to structure and properties of carbohydrates, lipids, nucleic acids, proteins and enzymes. An overview of metabolism will also be given. Primarily intended for students entering the allied health field including: nursing, dental hygiene, and biotechnology. **FHGE: Non-GE; Transferable: UC/CSU**

CHEM 70 STUDY SKILLS & PROBLEM SOLVING STRATEGIES FOR CHEM 1A 2 Units

Corequisite: CHEM 1A.

2 hours lecture. (24 hours total per quarter)

This course focuses on two objectives: (1) Development of study skills and strategies needed to succeed in a college level science course including listening and note taking skills, time management, use of textbooks, management of effective study sessions and study groups, managing lecture and laboratory work, analyzing figures and graphs, test preparation and test taking strategies. (2) Development of analytical reasoning strategies, critical thinking skills and problem-solving abilities with a focus on topics the student must master in CHEM 1A in order to succeed in subsequent courses, CHEM 1B and 1C. **FHGE: Non-GE; Transferable: CSU**

CHILD DEVELOPMENT

Business and Social Sciences (650) 949-7322 www.foothill.edu/bss/

CHLD 1 CHILD GROWTH & DEVELOPMENT: PRENATAL THROUGH EARLY CHILDHOOD 4 Units

Advisory: Not open to students with credit in CHLD 55.

4 hours lecture. (48 hours total per quarter)

Development of the child from prenatal life through early childhood. This introductory course examines the major physical, psychosocial, and cognitive/language developmental milestones for children, both typical and atypical, from conception through early childhood. Emphasis on interactions between maturational processes and environmental factors. While studying developmental theory and investigative research methodologies, students will observe children, evaluate individual differences and analyze characteristics of development at various stages. **FHGE: Social & Behavioral Sciences; Transferable: UC/CSU**

CHLD 2 CHILD GROWTH & DEVELOPMENT II: MIDDLE CHILDHOOD THROUGH ADOLESCENCE 4 Units
4 hours lecture. (48 hours total per quarter)
Development of the child from middle childhood through adolescence. This introductory course examines the major physical, psychosocial, and cognitive/ language developmental milestones for children, both typical and atypical, from middle childhood through adolescence. Emphasis on interactions between maturational processes and environmental factors. While studying developmental theory and investigative research methodologies, students will observe children, evaluate individual differences and analyze characteristics of development at various stages. **FHGE: Social & Behavioral Sciences; Transferable: UC/CSU**

CHLD 50A INFANT/TODDLER DEVELOPMENT 3 Units
3 hours lecture. (36 hours total per quarter)
Human growth and development from birth to three years within the context of the young child's family, culture and community. Examination of developmental theory within the three distinct ages of infancy. Integration of physical, cognitive, language, social and emotional domains emphasizing the importance of relationships. **FHGE: Non-GE; Transferable: CSU**

CHLD 51A AFFIRMING DIVERSITY IN EDUCATION 4 Units
Formerly: CHLD 11
Advisory: Demonstrated proficiency in English by placement into ENGL 1A as determined by score on the English placement test or through an equivalent placement process; not open to students with credit in CHLD 11.
4 hours lecture. (48 hours total per quarter)
This course will examine the development of social identities in diverse societies including theoretical and practical implications affecting young children, families, programs, teaching, education and schooling. Culturally relevant and linguistically appropriate anti-bias approaches supporting all children in becoming competent members of a diverse society. Course involves self-reflection of one's own understanding of educational principles in integrating anti-goals in order to better inform teaching practices and/or program development. **FHGE: United States Cultures & Communities; Transferable: CSU**

CHLD 53NC SUPPORTING CHILDREN WITH SPECIAL NEEDS IN CHILDREN'S PROGRAMS 3 Units
3 hours lecture. (36 hours total per quarter)
Strategies to work effectively with all children in early childhood programs. Focus on infants, toddlers and preschoolers with disabilities, developmental delays or special health care needs. Best practices from early childhood education and early childhood special education/early intervention will be embedded throughout. Making adaptations, modifications and accommodations in the environment, with materials and to teaching strategies, for individual children in group settings. Working in collaboration with additional support professionals, community resources, IFSP and IEP teams and family members. **FHGE: Non-GE; Transferable: CSU**

CHLD 53NP DEVELOPMENT OF CHILDREN WITH SPECIAL NEEDS 3 Units
3 hour lecture. (36 hours total per quarter)
Introduction to a variety of diagnosed disabilities and other special needs conditions that cause children, birth through age 8, to show atypical development. Laws and service provisions, social and educational implications, culture and family dynamics in the context of the larger community will be discussed. **FHGE: Non-GE; Transferable: CSU**

CHLD 54A DEVELOPING A HEALTHY ORGANIZATIONAL CLIMATE IN EDUCATION 1 Unit
1 hour lecture. (12 hours total per quarter)
Investigation and analysis of the ten dimensions of organizational climate which help shape the quality of work life for educators. Students will assess the organizational climate of their own education programs and develop specific strategies to create an excellent workplace. Discussion of unique role perspective plays in shaping work attitudes and behavior. **FHGE: Non-GE; Transferable: CSU**

CHLD 54B THE RIGHT FIT: RECRUITING, SELECTING & ORIENTING STAFF 1 Unit
1 hour lecture. (12 hours total per quarter)
Students will determine the criteria to maximize the "fit" between individuals, the job and the program. Course breaks down the teacher recruitment, interviewing, screening, selection, and employee orientation processes into manageable components. Practical and effective techniques to find teaching staff will be discussed. Students will design a continuous recruitment plan to implement in their own workplace in order to be well prepared when future employee turnover occurs. **FHGE: Non-GE; Transferable: CSU**

CHLD 54C LEADERSHIP IN ACTION: HOW EFFECTIVE DIRECTORS GET THINGS DONE 1 Unit
1 hour lecture. (12 hours total per quarter)
Course provides an overview of educational leadership from five perspectives: leadership as a role, leadership tasks and functions, leadership as a repertoire of skills and competencies, leadership traits and dispositions, and leadership style. Course examines the link between effective leadership and program quality. **FHGE: Non-GE; Transferable: CSU**

CHLD 54D FROM THE INSIDE OUT: THE POWER OF REFLECTION & SELF-AWARENESS 1 Unit
1 hour lecture (12 hours total per quarter)
Course will help educators learn the value of reflective practice and how to become a self-mentor. Participants will reflect on how their past experiences shape present perceptions and future aspirations. Topics discussed will include identifying one's preferred perceptual modality, learning style, psychological type, practical strategies for reducing stress and avoiding burnout in the education field. Intended for directors, principals, leaders, teachers, board members and parent volunteers. **FHGE: Non-GE; Transferable: CSU**

CHLD 56 OBSERVATION & ASSESSMENT 4 Units
Advisory: CHLD 1 and 56N.
4 hours lecture. (48 hours total per quarter)
Focus on training in observation and assessment techniques in natural settings using a range of tools. Conducting formal observations and assessments that will guide development of curriculum. Child portfolio development and preparation for teacher-parent conferences. Recording strategies, rating systems,and multiple assessment methods are explored. **FHGE: Non-GE; Transferable: CSU**

CHLD 56N PRINCIPLES & PRACTICES OF TEACHING YOUNG CHILDREN 4 Units
4 hours lecture. (48 hours total per quarter)
An examination of the underlying theoretical principles of developmentally appropriate practices applied to early childhood programs and environments. Emphasizing the key role of relationships, constructive adult-child interactions, and teaching strategies in supporting physical, social, creative and intellectual development of the child. Includes a review of the historical roots of early childhood programs and the evolution of the professional practices promoting advocacy, ethics and professional identity. **FHGE: Non-GE; Transferable: CSU**

CHLD 59 WORKING WITH SCHOOL-AGE CHILDREN 4 Units
4 hours lecture. (48 hours total per quarter)
Review of developmental characteristics of children ages five to twelve years. Role of adult in high quality school-age care. Planning and implementing developmentally appropriate curriculum and behavior management. Creating environment program standards and using quality standards guides for evaluation. Specifically intended for those who work or desire to work with school-age children in a variety of after-school, recreation and summer day camps. **FHGE: Non-GE; Transferable: CSU**

CHLD 63N ARTISTIC & CREATIVE DEVELOPMENT 3 Units
3 hours lecture. (36 hours total per quarter)
Artistic awareness and creativity in young children. Uses a variety of media to promote children's sensitivity to, and use of, various tactile arts, visual arts and performing arts. Role of the family and teacher in encouraging children's explorations. Emphasis on developmentally appropriate curriculum that encourages children's imagination, creative thinking and self-expression. **FHGE: Non-GE; Transferable: CSU**

CHLD 71 PLANNING CREATIVE ART ACTIVITIES FOR CHILDREN 1 Unit
1 hour lecture. (12 hours total per quarter)
Introduction to a variety of creative art activities for the young child. Exploration of a variety of tactile arts including paint, chalk, play dough, collage and crayons. Emphasis on developmentally appropriate curriculum development that encourages children's imagination, creative thinking and self-expression. **FHGE: Non-GE; Transferable: CSU**

CHLD 72 LANGUAGE, LITERACY & THE DEVELOPING CHILD 3 Units
3 hours lecture. (36 hours total per quarter)
Development of language and speech, language acquisition theories, and emergent literacy in monolingual and young English language learners. Discussion of experiences and activities which promote oral and written language abilities. Focus on the developmental stages of receptive and expressive language, conversations, print awareness, phonemic awareness, reading and writing, bilingual development, and speech and language delays, children's literature and poetry. Students gain experience in using language art materials and planning language experiences for young children. **FHGE: Non-GE; Transferable: CSU**

CHLD 73 MUSIC & MOVEMENT IN THE EARLY YEARS 3 Units
3 hours lecture. (36 hours total per quarter)
Music and movement activities and experiences that facilitate non-musician teachers to express ideas and implement expanded curriculum ideas for infants/toddlers, preschoolers and school aged children. Elements of presentation and basic concepts of teaching music and movement to promote the growth and development of the young children. **FHGE: Non-GE; Transferable: CSU**

CHLD 74 SCIENCE & NATURE 1 Unit
1 hour lecture. (12 hours total per quarter)
Developing science experiences for children. Activities involving plants, animals, and the physical properties of the environment. Emphasis on making science part of the everyday experience in early childhood program curriculum. **FHGE: Non-GE; Transferable: CSU**

CHLD 79 CARING FOR INFANTS & TODDLERS IN GROUPS 3 Units
3 hours lecture. (36 hours total per quarter)
Overview of infant and toddler development as it relates to caregiving practices in group settings. Observation and analysis of infant/toddler classrooms. Influence of responsive and culturally sensitive relationships with children and their parents on children's development. Effects of social and physical environments on program practices, child learning and behavior. **FHGE: Non-GE; Transferable: CSU**

CHLD 82 PLANNING CREATIVE DRAMATICS 1 Unit
1 hour lecture. (12 hours total per quarter)
Introduction to creative dramatics for the child; dramatic play, puppetry, role playing, acting out stories; how to implement creative dramatics. The emergence of creativity, imagining, and empathizing with others. Techniques for promoting children's sensitivity to, and use of, various dramatic art forms. Role of the parent and teacher in facilitating children's explorations. **FHGE: Non-GE; Transferable: CSU**

CHLD 85 LITERACY & LITERATURE IN EARLY CHILDHOOD EDUCATION 3 Units
3 hours lecture. (36 hours total per quarter)
Introduction to literature for children from birth through age 8. Emphasis on selection, evaluation and classroom use of literature to support literacy in children. The development of experiences and activities for young children which promote oral and written language abilities will also be discussed. **FHGE: Non-GE; Transferable: CSU**

CHLD 86A MENTORING THE EARLY CARE & EDUCATION PROFESSIONAL 4 Units
Advisory: CHLD 1, 88; a minimum of one other three-unit course in Child Development.
4 hours lecture. (48 hours total per quarter)
Prepares the student for the role of mentoring student teachers, assistant teachers, parents, and volunteers in early care and education settings. Emphasis on the role of teachers supervising other adults while simultaneously addressing the classroom needs of the early care and education program. Development of the mentor in supporting the professional growth of the teaching adult. Fulfills the Child Development permit adult supervision course requirement. **FHGE: Non-GE; Transferable: CSU**

CHLD 86B PRACTICUM STUDENT TEACHING IN AN EARLY CHILDHOOD PROGRAM 5 Units
Prerequisites: CHLD 1, 56N, 88 and 89.
2 hours lecture, 10 hours laboratory. (144 hours total per quarter)
A demonstration of developmentally appropriate early childhood teaching competencies under guided supervision. Students will utilize practical classroom experiences to make connections between theory and practice, develop professional behaviors, and build a comprehensive understanding of children and families. Child centered, play-oriented approaches to teaching, learning, and assessment; and knowledge of curriculum content areas will be emphasized as student teachers design, implement and evaluate experiences that promote positive development and learning for all young children. **FHGE: Non-GE; Transferable: CSU**

CHLD 88 CHILD, FAMILY & COMMUNITY 4 Units
4 hours lecture. (48 hours total per quarter)
An examination of the developing child in a societal context focusing on interrelationship of family, school, and community and emphasizes historical and sociocultural factors. The processes of socialization and identity development will be highlighted, showing the importance of respectful, reciprocal relationships that support and empower families. **FHGE: Non-GE; Transferable: CSU**

CHLD 88B POSITIVE BEHAVIOR MANAGEMENT 2 Units
2 hours lecture. (24 hours total per quarter)
Introduction to a range of positive guidance techniques that can be used with infants, toddlers, pre-school, and school-aged children. Emphasis on selection of appropriate positive guidance strategies to meet the needs of each individual child. **FHGE: Non-GE; Transferable: CSU**

CHLD 89 CURRICULUM FOR EARLY CARE & EDUCATION PROGRAMS 4 Units
Advisory: CHLD 1 or 2.
4 hours lecture. (48 hours total per quarter)
An overview of knowledge and skills related to providing appropriate curriculum and environments for infants and young children. Students will examine the teacher's role in supporting development by using observation and assessment strategies and emphasizing the essential role of play. An overview of content areas will include but not be limited to: language and literacy, social and emotional learning, sensory learning, art and creativity, math and science. **FHGE: Non-GE; Transferable: CSU**

CHLD 90B ADMINISTRATION & SUPERVISION OF CHILDREN'S PROGRAMS PART I 4 Units
Advisory: Completion of 9 units of child development courses.
4 hours lecture. (48 hours total per quarter)
A study of the development of the components of a quality early care and education program including roles and responsibilities of the director, types of programs, philosophy development, organizational structure, licensing regulations, advisory boards, facility design and set up, budgets and funding. **FHGE: Non-GE; Transferable: CSU**

CHLD 90C ADMINISTRATION & SUPERVISION OF CHILDREN'S PROGRAMS PART II 4 Units
Advisory: Completion of 9 units of child development courses.
4 hours lecture. (48 hours total per quarter)
In addition to the study of the development of the components of a quality early care and education program including the administrator's responsibilities in equipping the program, staffing, marketing the program, selecting, grouping and enrolling the children. Also included are the administrative responsibilities of food management, health and safety programs, evaluating center components, staff professional development, working with families, volunteers and the community. **FHGE: Non-GE; Transferable: CSU**

CHLD 91 ADMINISTRATION & SUPERVISION: ADULT SUPERVISION & LEADERSHIP 4 Units
Advisory: Completion of 9 units of child development courses.
4 hours lecture. (48 hours total per quarter)
Methods and principles of supervising adults in early care and education programs. Study of the supervisory process, professional conduct, communication, assessment, organizational climate, leadership styles, ethics and career development. Fulfills requirement of CA Child Development Permit Matrix and Mentor Teacher course. **FHGE: Non-GE; Transferable: CSU**

CHLD 95 HEALTH, SAFETY & NUTRITION IN CHILDREN'S PROGRAMS 4 Units
4 hours lecture. (48 hours total per quarter)
Introduction to the laws, regulations, standards, policies and procedures and early childhood curriculum related to child health safety and nutrition. The key components that ensure physical health, mental health and safety for both children and staff will be identified along with the importance of collaboration with families and health professionals. Focus on integrating the concepts into everyday planning and program development. **FHGE: Non-GE; Transferable: CSU**

COMMUNICATION STUDIES

Fine Arts and Communication (650) 949-7262 www.foothill.edu/fa/

COMM 1A PUBLIC SPEAKING 5 Units
Advisory: Demonstrated proficiency in English by placement into ENGL 1A as determined by score on the English placement test or through an equivalent placement process; not open to students with credit in COMM 1AH or SPCH 1A.
5 hours lecture. (60 hours total per quarter)
Introduction to the analysis, theory and history of rhetoric and public address; application of principles of public address to the preparation and delivery of public speeches. **FHGE: Communication & Analytical Thinking; Transferable: UC/CSU**

COMM 1AH HONORS PUBLIC SPEAKING 5 Units
Prerequisite: Honors Institute participant.
Advisory: Demonstrated proficiency in English by placement into ENGL 1A as determined by score on the English placement test or through an equivalent placement process; not open to students with credit in COMM 1A or SPCH 1A.
5 hours lecture. (60 hours total per quarter)
Introduction to the analysis of the history of rhetoric and public address; application of principles of public address to the preparation and delivery of public speeches in front of a live audience. Particular attention is paid to development of oral communication and listening skills. The honors section provides accelerated students with additional academic challenge in the areas of research, discussion, and intellectual exploration of ideas. Expanded opportunities include, but are not limited to, in-depth examination of speech text within historical context, self-reflection speeches and papers, creative individual and group projects, historical oral interpretation, and enrichment activities. **FHGE: Communication & Analytical Thinking; Transferable: UC/CSU**

COMM 1B ARGUMENTATION & PERSUASION 5 Units
Advisory: Demonstrated proficiency in English by placement into ENGL 1A as determined by score on the English placement test or through an equivalent placement process; not open to students with credit in COMM 1BH or SPCH 1B.
5 hours lecture. (60 hours total per quarter)
The study and practice of argumentation and persuasion. Analysis of rhetorical theory and application of methods of effective persuasion. Knowledge of the structure and format of various types of disputation and participation in in-class speech activities. **FHGE: Communication & Analytical Thinking; Transferable: UC/CSU**

COMM 1BH HONORS ARGUMENTATION & PERSUASION 5 Units
Prerequisite: Honors Institute participant.
Advisory: Demonstrated proficiency in English by placement into ENGL 1A as determined by score on the English placement test or through an equivalent placement process; not open to students with credit in COMM 1B or SPCH 1B.
5 hours lecture. (60 hours total per quarter)
The study and practice of argumentation and persuasion. Analysis of rhetorical theory and application of methods of effective persuasion. Knowledge of the structure and format of various types of disputation and participation in in-class speech activities. The honors section provides accelerated students with academic enrichment emphasizing rhetorical analysis and critical thinking. Expanded opportunities include, but are not limited to, examination of political speech in historical context, student-initiated and student-led discussion, self-reflection paper, and creative group project. **FHGE: Communication & Analytical Thinking; Transferable: UC/CSU**

COMM 2 INTERPERSONAL COMMUNICATION 5 Units
Formerly: SPCH 2
Advisory: Demonstrated proficiency in English by placement into ENGL 1A as determined by score on the English placement test or through an equivalent placement process; not open to students with credit in SPCH 2.
5 hours lecture. (60 hours total per quarter)
Experience in interpersonal communication, including discussion, the perception process, critical thinking and reasoning, verbal and nonverbal modes of communication, intercultural communication, and the effect of communication on individuals and society. Faculty and peer feedback on critically evaluated exercises. **FHGE: Communication & Analytical Thinking, Lifelong Learning; Transferable: UC/CSU**

COMM 3 FUNDAMENTALS OF ORAL COMMUNICATION 5 Units
Advisory: Demonstrated proficiency in English by placement into ENGL 1A as determined by score on the English placement test or through an equivalent placement process; not open to students with credit in SPCH 3.
5 hours lecture. (60 hours total per quarter)
Introduction to the nature of communication in interpersonal, intercultural, small group and public speaking contexts. Application of basic theories through critically evaluated exercises and oral presentations. **FHGE: Communication & Analytical Thinking; Transferable: UC/CSU**

COMM 4 GROUP DISCUSSION 5 Units
Advisory: Demonstrated proficiency in English by placement into ENGL 1A as determined by score on the English placement test or through an equivalent placement process; not open to students with credit in SPCH 4.
5 hours lecture. (60 hours total per quarter)
Analysis of the principles of group interaction and decision making. Participation in discussion groups designed to share information, solve problems and reach consensus. **FHGE: Communication & Analytical Thinking; Transferable: UC/CSU**

COMM 10 GENDER, COMMUNICATION & CULTURE 5 Units
Advisory: Demonstrated proficiency in English by placement into ENGL 1A as determined by score on the English placement test or through an equivalent placement process; not open to students with credit in SPCH 10.
5 hours lecture. (60 hours total per quarter)
A comparative and integrative study of the interactive relationship between communication, gender, and culture in American society. Emphasis on the multiple ways communication in interpersonal relationships, educational institutions, organizations, media, and society in general creates and perpetuates gender roles. Analysis of gendered histories, traditions, and practices which normalize certain expectations, values, meanings and patterns of behavior across cultural/racial lines (Native Americans, Latino Americans, European Americans, African Americans, Asian Americans, Gays, Lesbians, Bi-sexual and Transgendered peoples).
FHGE: United States Cultures & Communities, Lifelong Learning; Transferable: UC/CSU

COMM 12 INTERCULTURAL COMMUNICATION 5 Units
Advisory: Demonstrated proficiency in English by placement into ENGL 1A as determined by score on the English placement test or through an equivalent placement process; not open to students with credit in SPCH 12.
5 hours lecture. (60 hours total per quarter)
A comparative and integrative study of intercultural communication in American Society. Analysis of cultural histories, cultural concepts, language, ethnic perspectives, perceptions, symbols and roles as they facilitate or hinder effective verbal and nonverbal interaction across cultural lines. Examination of cultural identities which influence thinking and behavior, such as race, class, gender, ethnicity, sexual orientation, nationality, age, appearance and physical ability. **FHGE: United States Cultures & Communities, Lifelong Learning; Transferable: UC/CSU**

COMM 54A FORENSIC SPEECH 2.5 Units
Advisory: Demonstrated proficiency in English by placement into ENGL 1A as determined by score on the English placement test or through an equivalent placement process; not open to students with credit in SPCH 54.
2 hours lecture, 1 hour lecture-laboratory. (36 hours total per quarter)
Training in principles of forensic speech, focusing on both individual prepared and individual extemporaneous oratory. Speech formats include impromptu, informative and persuasive speech. Study of the history of various speech formats and instruction in speech criticism. **FHGE: Communication & Analytical Thinking; Transferable: CSU**

COMM 54B FORENSIC DEBATE 2.5 Units
Formerly: COMM 54X
Advisory: Demonstrated proficiency in English by placement into ENGL 1A as determined by score on the English placement test or through an equivalent placement process; not open to students with credit in COMM 54X.
2 hours lecture, 1 hour lecture-laboratory. (36 hours total per quarter)
Training in principles of debate; preparation for extemporaneous speaking and competitive debate. Students will receive instruction in speech delivery, teamwork, case preparation, rebuttal strategy and proper oral citation of sources. Includes historical study of forensic debate in a variety of formats. **FHGE: Non-GE; Transferable: CSU**

COMM 54C FORENSIC ORAL INTERPRETATION 2.5 Units
Formerly: COMM 54Y
Advisory: Demonstrated proficiency in English by placement into ENGL 1A as determined by score on the English placement test or through an equivalent placement process; not open to students with credit in COMM 54Y or SPCH 54Y.
2 hours lecture, 1 hour lecture-laboratory. (36 hours total per quarter)
Training in principles of oral interpretation of published works, focusing on both individual and partnered oratory. Areas of focus include interpretation of poetry, dramatic interpretation and interpretation of prose. Study of the history and modern application of the interpretive format. **FHGE: Non-GE; Transferable: CSU**

COMM 55 CAREER & LEADERSHIP COMMUNICATION IN THE GLOBAL WORKPLACE 5 Units
Formerly: SPCH 55
Advisory: Demonstrated proficiency in English by placement into ENGL 1A as determined by score on the English placement test or through an equivalent placement process; not open to students with credit in SPCH 55.
5 hours lecture. (60 hours total per quarter)
Introduction to communication in organizational, career, leadership and global contexts. Interviewing, interpersonal and intercultural communication, group interactions, professional presentations and leadership development. Application of theories and skills through critically evaluated exercises. **FHGE: Communication & Analytical Thinking, Lifelong Learning; Transferable: CSU**

COMM 70R INDEPENDENT STUDY IN 1 Unit
COMM 71R COMMUNICATION STUDIES 2 Units
COMM 72R 3 Units
COMM 73R 4 Units
3–12 hours per week. (36–144 hours total per quarter)
Provides an opportunity for the student to expand their studies in Communication Studies beyond the classroom by completing a project or an assignment arranged by agreement between the student and instructor. The student is required to contract with the instructor to determine the scope of assignment and the unit value assigned for successful completion. Students may take a maximum of 6 units of Independent Study per department. **FHGE: Non-GE; Transferable: CSU**

COMPUTER SCIENCE

Physical Sciences, Mathematics & Engineering (650) 949-7259
www.foothill.edu/cs/

C S 1A OBJECT-ORIENTED PROGRAMMING METHODOLOGIES IN JAVA 5 Units
Advisory: Satisfactory score on the Mathematics Placement test or MATH 105 or 108. 4 hours lecture, 3 hours laboratory. (84 hours total per quarter)
Systematic introduction to fundamental concepts of computer science through the study of the Java programming language. Coding topics include Java control structures, classes, methods, arrays, graphical user interfaces and elementary data structures. Concept topics include algorithms, recursion, data abstraction, problem solving strategies, code style, documentation, debugging techniques and testing. **FHGE: Communication & Analytical Thinking; Transferable: UC/CSU**

C S 1B INTERMEDIATE SOFTWARE DESIGN IN JAVA 5 Units
Prerequisite: C S 1A.
Advisory: Demonstrated proficiency in English by placement into ENGL 1A as determined by score on the English placement test or through an equivalent placement process.
4 hours lecture, 3 hours laboratory. (84 hours total per quarter)
Systematic treatment of intermediate concepts in computer science through the study of Java object-oriented programming (OOP). Coding topics include Java interfaces, class extension, generics, the Java collections framework, multi-dimensional arrays and file I/O. Concept topics include OOP project design, inheritance, polymorphism, method chaining, functional programming, linked-lists, FIFOs, LIFOs, event-driven programming and guarded code. **FHGE: Communication & Analytical Thinking; Transferable: UC/CSU**

C S 1C ADVANCED DATA STRUCTURES & ALGORITHMS IN JAVA 5 Units
Prerequisite: C S 1B.
Advisory: One of the following: ENGL 1A, 1AH, 1S & 1T or ESLL 26.
4 hours lecture, 3 hours laboratory. (84 hours total per quarter)
Systematic treatment of advanced data structures, algorithm analysis and abstract data types in the Java programming language. Coding topics include the development of ADTs from scratch, building ADTs on top of the java.util collections, array lists, linked lists, trees, maps, hashing functions and graphs. Concept topics include searching big-O time complexity, analysis of all major sorting techniques, top down splaying, AVL tree balancing, shortest path algorithms, minimum spanning trees and maximum flow graphs. **FHGE: Communication & Analytical Thinking; Transferable: UC/CSU**

C S 1M INTERMEDIATE ALGORITHM & DATA STRUCTURE METHODOLOGIES IN JAVA 5 Units
Prerequisite: C S 1A.
4 hours lecture, 3 hours laboratory. (84 hours total per quarter)
Systematic treatment of intermediate data structures, algorithm analysis and abstract data types in the Java programming language intended for Computer Science transfer majors. Coding topics include large program software engineering design, multi-dimensional arrays, string processing, primitives, compound types, and allocation of instance and static data. Concept topics include dynamic memory, inheritance, polymorphism, hierarchies, recursion, linked-lists, stacks, queues, trees and hash tables. **FHGE: Non-GE; Transferable: UC/CSU**

C S 2A OBJECT-ORIENTED PROGRAMMING METHODOLOGIES IN C++ 5 Units
Advisory: Satisfactory score on the mathematics placement test or MATH 105 or 108.
4 hours lecture, 3 hours laboratory. (84 hours total per quarter)
Systematic introduction to fundamental concepts of computer science through the study of the C++ programming language. Coding topics include C++ control structures, objects, global-scope functions, class methods, arrays and elementary data structures. Concept topics include algorithms, recursion, data abstraction, problem solving strategies, code style, documentation, debugging techniques and testing. **FHGE: Communication & Analytical Thinking; Transferable: UC/CSU**

C S 2B INTERMEDIATE SOFTWARE DESIGN IN C++ 5 Units
Prerequisite: C S 2A.
Advisory: Demonstrated proficiency in English by placement into ENGL 1A as determined by score on the English placement test or through an equivalent placement process.
4 hours lecture, 3 hours laboratory. (84 hours total per quarter) Systematic treatment of intermediate concepts in computer science through the study of C++ object-oriented programming (OOP). Coding topics include C++ derived classes, class templates, function templates, virtual functions, operator overloading, an introduction to the Standard Template Library, multiple inheritance, pointers, dynamic memory allocation and file I/O. Concept topics include OOP project design, inheritance, polymorphism, method chaining, functional programming, linked-lists, FIFOs, LIFOs, events in GUIs and guarded code. **FHGE: Communication & Analytical Thinking; Transferable: UC/CSU**

C S 2C ADVANCED DATA STRUCTURES & ALGORITHMS IN C++ 5 Units
Prerequisite: C S 2B.
Advisory: One of the following: ENGL 1A, 1AH, 1S & 1T or ESLL 26.
4 hours lecture, 3 hours laboratory. (84 hours total per quarter)
Systematic treatment of advanced data structures, algorithm analysis and abstract data types in the C++ programming language. Coding topics include the development of ADTs from scratch, building ADTs on top of the STL templates, vectors, lists, trees, maps, hashing functions and graphs. Concept topics include searching big-O time complexity, analysis of all major sorting techniques, top down splaying, AVL tree balancing, shortest path algorithms, minimum spanning trees and maximum flow graphs. **FHGE: Communication & Analytical Thinking; Transferable: UC/CSU**

C S 10 COMPUTER ARCHITECTURE & ORGANIZATION 5 Units
Prerequisite: C S 1A or 2A.
Advisory: C S 1C or 2C.
4 hours lecture, 3 hours laboratory. (84 hours total per quarter)
Introduction to the organization, architecture and machine-level programming of computer systems. Topics include mapping of high-level language constructs into assembly code, internal data representations, numerical computation, virtual memory, pipelines, caching, multitasking, MIPS architecture, MIPA assembly language code, interrupts, input/output, peripheral storage processing, and comparison of CISC (Intel) and RISC (MIPS) instruction sets. **FHGE: Non-GE; Transferable: UC/CSU**

C S 18 DISCRETE MATHEMATICS 5 Units
Formerly: CIS 18
Prerequisite: C S 1A; satisfactory score on the mathematics placement test or MATH 49 or 48C.
Advisory: Eligibility for one of the following: ENGL 1A, 1AH, 1S & 1T or ESLL 26.; not open to students with credit in CIS 18 or MATH 22.
5 hours lecture. (60 hours total per quarter)
Discrete mathematics: set theory, logic, Boolean algebra, methods of proof, mathematical induction, number theory, discrete probability, combinatorics, functions, relations, recursion, algorithm efficiencies, graphs, trees. **FHGE: Communication & Analytical Thinking; Transferable: UC/CSU**

C S 20A PROGRAMMING IN C# 5 Units
Advisory: C S 1A or 2A or equivalent.
4 hours lecture, 3 hours laboratory. (84 hours total per quarter)
Introduction to the C# programming language and the .NET platform. Topics include object oriented programming, graphical user interfaces, elementary data structures, algorithms, recursion, data abstraction, code style, documentation, debugging techniques and testing. **FHGE: Non-GE; Transferable: UC/CSU**

C S 21A PROGRAMMING IN PYTHON 5 Units
Advisory: C S 1A and 2A or equivalent.
4 hours lecture, 3 hours laboratory. (84 hours total per quarter)
Introduction to the Python language and environment. Covers topics including object oriented programming, elementary data structures, modules, algorithms, recursion, data abstraction, code style, documentation, debugging techniques and testing. **FHGE: Non-GE; Transferable: UC/CSU**

C S 22A JAVASCRIPT FOR PROGRAMMERS 5 Units
Advisory: C S 1A or 2A or equivalent; knowledge of HTML and CSS.
4 hours lecture, 3 hours laboratory. (84 hours total per quarter)
Introduction to object oriented programming in JavaScript. Topics include: client and server side programming, Model/View/Controller architecture, current tools and testing methods, interaction with HTML and CSS, Document Object Model, XML and JSON. Students will have practice writing programs for mobile web browsers and creating dynamic web pages including animation. **FHGE: Non-GE; Transferable: UC/CSU**

C S 30A INTRODUCTION TO LINUX & UNIX 5 Units
4 hours lecture, 3 hours laboratory. (84 hours total per quarter)
Introduction to the Linux and UNIX operating systems primarily focused on command line usage. Covers the history, kernel, file systems, shells and user utilities. Also introduces students to the fundamentals of shell programming, processes, communications, and basic security. **FHGE: Non-GE; Transferable: UC/CSU**

C S 30B LINUX & UNIX SHELL PROGRAMMING 5 Units
Prerequisite: C S 30A or equivalent.
4 hours lecture, 3 hours laboratory. (84 hours total per quarter)
Linux shell script programming using the Bourne Again shell programming language (bash) and UNIX utilities to create practical shell scripts. Topics covered include customizing the environment, running and writing scripts, variables, loops, functions, text processing and debugging. **FHGE: Non-GE; Transferable: UC/CSU**

C S 30C LINUX & UNIX SYSTEM ADMINISTRATION 5 Units
Advisory: C S 30A and 30B.
4 hours lecture, 3 hours laboratory. (84 hours total per quarter)
Introduction to basic system administration of Linux and UNIX systems. Overview of basic PC hardware, system boot process, administration utilities, and management of user accounts, file systems, basic networking, printing, security, accounting and logging. Software install and removal using source code and package managers. Kernel updating and boot managers. **FHGE: Non-GE; Transferable: UC/CSU**

C S 31A INTRODUCTION TO DATABASE MANAGEMENT SYSTEMS 5 Units
Advisory: C S 1A or 2A or equivalent.
4 hours lecture, 3 hours laboratory. (84 hours total per quarter)
Introduction to database design and use of database management systems for applications. Topics include database architecture, comparison to file-based systems, historical data models, conceptual model; integrity constraints and triggers; functional dependencies and normal forms; relational model, algebra, database processing and Structured Query Language (SQL), database access from Applications-Embedded SQL, JDBC,Cursors, Dynamic SQL, Stored Procedures. Emerging trends will be studied, such as NoSQL databases, Internet & Databases and On-Line Analytical Processing (OLAP). A team project that builds a database application for a real-world scenario is an important element of the course. **FHGE: Non-GE; Transferable: UC/CSU**

C S 40A SOFTWARE ENGINEERING METHODOLOGIES 5 Units
Advisory: C S 1B or C S 2B.
4 hours lecture, 3 hours laboratory. (84 hours total per quarter)
A collaboration-oriented course that trains students in the techniques currently used by software engineers to develop reliable products in an efficient manner. The course emphasizes Agile methods and a variety of tools used during the software development lifecycle. **FHGE: Non-GE; Transferable: UC/CSU**

C S 49 FOUNDATIONS OF COMPUTER PROGRAMMING 2.5 Units
Advisory: Satisfactory score on the mathematics placement test or MATH 105 or 108; concurrent enrollment in ESLL 25 or ENGL 209.
2 hours lecture, 2 hours laboratory. (48 hours total per quarter)
Introduction to basic computer programming concepts using an object-oriented language. Intended for students interested in C S 1A or C S 2A, but would like a more gradual entry to computing foundations. Coding topics include hands-on practice with software engineering tools, simple programs, variables, control structures, functions, and input /output. Concept topics include the comprehension of specifications, adherence to style guidelines, and the importance of testing to ensure that programs are usable, robust and modifiable. **FHGE: Non-GE; Transferable: UC/CSU**

C S 50A NETWORK BASICS (CCNA) 5 Units
4 hours lecture, 3 hours laboratory. (84 hours total per quarter)
Introduction to the architecture, structure, functions, components, and models of the Internet and other computer networks. The principles and structure of IP addressing and the fundamentals of Ethernet concepts, media, and operations are introduced to provide a foundation for the curriculum. Students will be able to build simple LANs, perform basic configurations for routers and switches, and implement IP addressing schemes. **FHGE: Non-GE; Transferable: CSU**

C S 50B ROUTING PROTOCOLS (CCNA) 5 Units
Advisory: C S 50A.
4 hours lecture, 3 hours laboratory. (84 hours total per quarter)
This course describes the architecture, components, and operations of routers, and explains the principles of routing and routing protocols. Students will be given the opportunity to configure a router for basic and advanced functionality. Students will be able to configure and troubleshoot routers and resolve common issues with RIPv1, RIPv2, EIGRP, and OSPF in both IPv4 and IPv6 network. **FHGE: Non-GE; Transferable: CSU**

C S 50C SWITCHED NETWORKS (CCNA) 5 Units
Advisory: C S 50A.
4 hours lecture, 3 hours laboratory. (84 hours total per quarter)
This course describes the architecture, components, and operations of a converged switched network. Students learn about the hierarchical network design model and how to configure a switch for basic and advanced functionality. By the end of this course, students will be able to troubleshoot and resolve common issues with Virtual LANs, VTP, and inter-VLAN routing in a converged network. Students will also develop the knowledge and skills needed to implement a Wireless LAN in a small-to-medium network. **FHGE: Non-GE; Transferable: CSU**

C S 50D CONNECTING NETWORKS–WANS (CCNA) 5 Units
Advisory: C S 50A, 50B and 50C.
4 hours lecture, 3 hours laboratory. (84 hours total per quarter)
This course discusses the WAN technologies and network services required by converged applications in a complex network. The course enables students to understand the selection criteria of network devices and WAN technologies to meet network requirements. Students learn how to configure and troubleshoot network devices and resolve common issues with data link protocols. Students will also develop the knowledge and skills needed to implement IPSec and virtual private network (VPN) operations in a complex network. **FHGE: Non-GE; Transferable: CSU**

C S 50E INTRODUCTION TO IP NETWORK SECURITY 5 Units
Advisory: C S 50A, 50B, 50C and 50D or equivalent knowledge and skills.
4 hours lecture, 3 hours laboratory. (84 hours total per quarter)
Next step for students who want to enhance their CCNA-level skill set and help meet the growing demand for network security professionals. Provides an introduction to the core security concepts and skills needed for the installation, troubleshooting, and monitoring of network devices to maintain the integrity, confidentiality, and availability of data and devices. Prepares students for entry-level security career opportunities and the globally recognized Cisco CCNA Security certification. **FHGE: Non-GE; Transferable: CSU**

C S 52A ADVANCED IP ROUTING PROTOCOLS & SERVICES (CCNP) 5 Units
Advisory: C S 50B or equivalent experience.
4 hours lecture, 3 hours laboratory. (84 hours total per quarter)
The ROUTE course is designed to help students advance their knowledge and skills and work independently on complex network solutions. Students will plan, configure and verify the implementation of secure enterprise LAN and WAN routing solutions using a range of routing protocols. Configuration of solutions to support branch offices and mobile workers will be presented. This course uses the official Cisco Academy CCNP ROUTE curriculum and is designed to provide preparation for the CCNP ROUTE certification exam. **FHGE: Non-GE; Transferable: CSU**

C S 52B ADVANCED SWITCHING & CAMPUS LAN DESIGN (CCNP) 5 Units
Advisory: C S 50C or equivalent experience.
4 hours lecture, 3 hours laboratory. (84 hours total per quarter)
The course provides the knowledge and skills necessary to to plan, configure and verify the implementation of complex enterprise switching solutions using Cisco's Campus Enterprise Architecture. Secure integration of VLANs, WLANs, voice and video into campus networks is also provided. The material is presented in a lecture and discussion format supplemented by comprehensive laboratory exercises. This course uses the official Cisco Academy CCNP SWITCH curriculum and is designed to provide preparation for the CCNP SWITCH certification exam. **FHGE: Non-GE; Transferable: CSU**

C S 52C ADVANCED NETWORK TROUBLESHOOTING (CCNP) 5 Units
Advisory: C S 52A, 52B or equivalent experience.
4 hours lecture, 3 hours laboratory. (84 hours total per quarter)
This course provides the knowledge and teach the skills necessary to (1) plan and perform regular maintenance on complex enterprise routed and switched networks and (2) use technology-based practices and a systematic ITIL-compliant approach to perform network troubleshooting. This course uses the official Cisco Academy CCNP TSHOOT curriculum and is designed to provide preparation for the CCNP ROUTE certification exam. **FHGE: Non-GE; Transferable: CSU**

C S 54A STORAGE AREA NETWORKS 5 Units
Advisory: C S 50A, 50B and 50C.
4 hours lecture, 3 hours laboratory. (84 hours total per quarter)
This course provides a broad and in-depth knowledge of Storage and Storage networking concepts, applications, and technologies. Storage Fundamentals including storage attachment architectures, the SCSI protocol, disk and tape drive concepts, RAID and JBOD, IP-based SANs, and Storage Networking Issues. Discusses the applications driving SAN adoption. This course is offered as part of the EMC Academic Alliance Program by an EMC trained instructor. This course assists in the preparation for the Information Storage and Management certification exam (E20-001). Students who pass the exam receive the Information Storage Associate (EMCISA) credential. **FHGE: Non-GE; Transferable: CSU**

C S 54B VMWARE VSPHERE INSTALL, CONFIGURE & MANAGE 5 Units
Advisory: C S 50A, 50B, 50C, 54A.
4 hours lecture, 3 hours laboratory. (84 hours total per quarter)
This course covers all aspects of server virtualization and draws its' examples from VMware vSphere. This hands-on training course explores installation, configuration, and management of VMware vSphere¬Æ, which consists of VMware ESXi,—¢ and VMware vCenter Server,—¢. The course is based on ESXi and vCenter Server. Completion of this course satisfies the prerequisite for taking the VMware¬Æ Certified Professional exam. Course is taught by a VMware certified instructor. **FHGE: Non-GE; Transferable: CSU**

C S 54C VMWARE VIEW 5 Units
Advisory: C S 54A, 54B.
4 hours lecture, 3 hours laboratory. (84 hours total per quarter)
This hands-on training course presents skills in the VMware View suite: VMware View Manager, VMware View Composer,and VMware ThinApp. Provides applications oriented administrators with the knowledge and skills to virtualize Windows applications with ThinApp and to choose the best deployment and updating processes for their environment. A methodology for analyzing and designing a View solution for the VMware vSphere infrastructure is included. **FHGE: Non-GE; Transferable: CSU**

C S 54D CLOUD INFRASTRUCTURE & SERVICES 5 Units
Advisory: C S 50A.
4 hours lecture, 3 hours laboratory. (84 hours total per quarter)
Presents the transition from a Classic Data Center environment to a Virtual Data Center. The student will understand Cloud virtualization at each layer – compute, storage, network, desktop, and application – along with business continuity in a Virtual Data Center (VDC) environment. Explanation and discussion of Cloud computing basics, infrastructure components, service management activities, security concerns, and considerations for Cloud adoption. **FHGE: Non-GE; Transferable: CSU**

C S 56A ENTERPRISE WIRELESS LOCAL AREA NETWORKS 5 Units
Advisory: C S 50A.
4 hours lecture, 3 hours laboratory. (84 hours total per quarter)
A broad and in-depth knowledge of Enterprise Wireless LAN Administration. Provides a complete foundation of knowledge for entering into or advancing in the wireless networking industry. From basic RF theory to 802.11 frame exchange processes, this course delivers hands-on training that will benefit the novice as well as the experienced network professional. It provides preparation for the CWNA Certification examination. **FHGE: Non-GE; Transferable: CSU**

C S 60A INSTALLING & CONFIGURING WINDOWS SERVER 2012 5 Units
Advisory: C S 50A.
4 hours lecture, 3 hours laboratory. (84 hours total per quarter)
Introduction to installing, configuring and troubleshooting Windows Server 2012 in an enterprise. It provides both lecture and laboratory exercises to enable the student to (1) plan and build a scalable Active Directory infrastructure, (2) Configure folder security, file filtering and disaster recovery backups, (3) Administer and maintain servers with graphical and PowerShell tools, (4) Set up servers with Group Policies and delegate administrative tasks, and (5)Virtualize servers with Hyper-V and build fault tolerant replica servers. **FHGE: Non-GE; Transferable: CSU**

C S 60B ADMINISTERING WINDOWS SERVER 2012 5 Units
Advisory: C S 60A
4 hours lecture, 3 hours laboratory. (84 hours total per quarter)
Introduction to administering Windows Server 2012 in an enterprise. It provides both lecture and laboratory exercises to enable the student to (1) Deploy, Manage, and Maintain Servers, (2) Configure File and Print Services, (3) Configure Network Services and Access (4) Configure a Network Policy Server Infrastructure, and (5) Configure and Manage Group Policy. **FHGE: Non-GE; Transferable: CSU**

C S 60C CONFIGURING ADVANCED WINDOWS SERVER 2012 SERVICES 5 Units
Advisory: C S 60A, 60B.
4 hours lecture, 3 hours laboratory. (84 hours total per quarter)
Introduction to configuring advanced services on Windows Server 2012. It provides both lecture and laboratory exercises to enable the student to (1) Deploy, Manage, and Maintain Servers, (2) Configure File and Print Services, (3) Configure Network Services and Access, (4) Configure a Network Policy Server Infrastructure, and (5) Configure and Manage Group Policy. **FHGE: Non-GE; Transferable: CSU**

C S 61A WINDOWS 8 CONFIGURATION 5 Units
4 hours lecture, 3 hours laboratory. (84 hours total per quarter)
Introduction to configuring and troubleshooting Windows8 in an enterprise. It provides both lecture and laboratory exercises to enable the student to (1) Plan and perform the installation of Windows 8, (2) Install Windows 8 on computers that are running an existing operating system , (3) Configure disks, partitions, volumes, and device drivers in a Windows 8 system and configure network connectivity, (4) Implement Windows 8 technologies to desktops and network connections (5) Share files and printers, (6) Optimize and maintain Windows 8 based computers (7) Configure mobile computer settings and to enable remote access, (8) Create and configure

virtual machines in Hyper-V for Windows 8 and describe how to use it to support legacy applications. **FHGE: Non-GE; Transferable: CSU**

C S 63A DEVELOPING APPLICATIONS FOR IOS 5 Units
Advisory: C S 1B or 2B.
4 hours lecture, 3 hours laboratory. (84 hours total per quarter)
An introduction to programming the iPhone, iPad and iPod Touch. Covers Objective-C, Cocoa Touch, and the Model/View/Controller architecture. Students will develop useful applications that include common user interface elements, web services, the device's GPS and camera. **FHGE: Non-GE; Transferable: CSU**

C S 64A WRITING APPS FOR THE ANDROID IN JAVA 5 Units
Advisory: C S 1B or 2B.
4 hours lecture, 3 hours laboratory. (84 hours total per quarter)
Introduction to mobile apps programming in Java for the Android. Coding topics include the Android SDK for Eclipse, the ADT Plugin, XML fundamentals and a survey of API methods and objects used to control the Android user interface. Concept topics include layouts, activity lifecycles, runtime binding, intents, location awareness, audio, video, OpenGL ES, and monetizing apps. **FHGE: Non-GE; Transferable: CSU**

C S 80A OPEN SOURCE CONTRIBUTION 5 Units
Advisory: 15 units of computer science core courses and C S 40A.
4 hours lecture, 3 hours laboratory. (84 hours total per quarter)
Introduction to the tools for, and culture of, contributing to open source software projects. Tool-based topics include Git repositories, pull requests, forks, logs, merges, tagging, rebasing and server configuration . Concept topics include commit guidelines, branching workflows, small-team vs. large-team workflows, project maintenance, iterative staging, selecting viable source communities, joining public projects, setting up accurate dev environments, testing and prepping patch merges, and becoming a committer. **FHGE: Non-GE; Transferable: CSU**

C S 81A 3-D GRAPHICS PROGRAMMING 5 Units
Advisory: C S 1B or 2B or 20A or 23A.
4 hours lecture, 3 hours laboratory. (84 hours total per quarter)
Introduction to 3-D graphics programming using OpenGL, intended for anyone interested in gaining 3-D expertise for games, scientific visualization, desktop and mobile apps. Coding topics include a systematic study of the OpenGL API in conjunction with any of these programming languages: Java, C++, C# or Objective C (student's choice). Concept topics include viewports, graphics primitives, 3-D motion matrices, normal vectors, shaders, fragment and pixel buffers, light simulation, polygons, virtual cameras, image pipelines, texture mapping and alpha blending. **FHGE: Non-GE; Transferable: CSU**

C S 82A INTRODUCTION TO SOFTWARE QUALITY ASSURANCE 5 Units
Advisory: Knowledge of an object-oriented programming language.
4 hours lecture, 3 hours laboratory. (84 hours total per quarter)
Introduction to Software Quality Assurance principles, techniques, processes and tools. A team project takes students through the planning and implementation of the test and release of a software product using a current toolset. **FHGE: Non-GE; Transferable: CSU**

C S 83A THEORY OF QUANTUM COMPUTING I 5 Units
Advisory: C S 1B, 18 and MATH 1B.
5 hours lecture. (60 hours total per quarter)
Mathematical tools of quantum information theory and provides understanding and design elementary quantum circuits and algorithms. The first of a sequence, it develops the quantum mechanical foundation needed to understand how quantum computers can beat ordinary computers in certain problem classes by using quantum entanglement and teleportation under the ideal condition of a noiseless channel. The endpoint of the course is a working knowledge of the quantum Fourier transform and Shor algorithm, which can be used to break RSA encryption, the basis of current Internet security. No prior knowledge of quantum mechanics is required. **FHGE: Non-GE; Transferable: CSU**

C S 83B THEORY OF QUANTUM COMPUTING II 5 Units
Advisory: A prior course in quantum computing such as CS 83A.
5 hours lecture. (60 hours total per quarter)
Summarizes key results of computational complexity in both classical and quantum realms, provides a unique quantum mechanical language appropriate for modeling realistically noisy environments, and presents quantum search algorithms. The second in a sequence, it begins by establishing some basic results of classical computing theory in terms of Turing machines and algorithm complexity. The density-operator formulation of quantum mechanics is then developed to provide a mathematical tool for modeling entangled states in noisy quantum channels. The course presents quantum search algorithms, memory-saving techniques and current advances and failures in quantum computing. **FHGE: Non-GE; Transferable: CSU**

C S 83C THEORY OF QUANTUM COMPUTING III 5 Units
Advisory: C S 83B.
5 hours lecture. (60 hours total per quarter)
This course presents classical and quantum information theory as applied to the encoding and error correction of quantum data. The third in a sequence, it begins by presenting quantum entanglement and non-orthogonal measurement. Key results of classical information theory are stated in terms of the complexity classes P and NP, and Shannon entropy is defined and extended to include quantum information. Students receive instruction in different distance measures and bounds for comparing fidelity. Several error correction and stabilizer codes are presented and analyzed. **FHGE: Non-GE; Transferable: CSU**

C S 84A DATABASE-DRIVEN WEB APPLICATION DEVELOPMENT 5 Units
Advisory: C S 31A, 49 and GID 57 or equivalent.
4 hours lecture, 3 hours laboratory. (84 hours total per quarter)
Students evolve simple static websites into dynamic, database-driven web applications. Students will use the popular LAMP framework (Linux, Apache, MySQL, and PHP), in combination with JavaScript, CSS, and HTML5. **FHGE: Non-GE; Transferable: CSU**

C S 84B DISTRIBUTED DATABASES 5 Units
Advisory: C S 31A or equivalent.
4 hours lecture, 3 hours laboratory. (84 hours total per quarter)
An introduction to distributed data management including distributed database design, implementation techniques including concurrency control, query processing and optimization, data replication, integration and peer-to-peer systems. Distributed database solutions are also presented, including data management systems for cloud computing. **FHGE: Non-GE; Transferable: CSU**

COUNSELING

Counseling and Student Services (650) 949-7423
www.foothill.edu/counseling

CNSL 1 COLLEGE SUCCESS 3 Units
3 hours lecture. (36 hours total per quarter)
Examination of factors that contribute to college success, including responsibility/control; competition; task-precision; expectations; wellness; time management; college involvement; family/support systems involvement. Activities include: testing and individualized evaluations; group processing and practicum. **FHGE: Lifelong Learning; Transferable: UC/CSU**

CNSL 5 INTRODUCTION TO COLLEGE 1.5 Units
Formerly: CNSL 50
Advisory: ESLL 236 & 237; not open to students with credit in CNSL 50.
1.5 hour lecture. (18 hours total per quarter)
Introduction to Foothill College academic policies, resources, programs and services; tools for career exploration, determination and decision making; choosing the right classes based on career/academic goals, the transfer process; study skills; time management and formulation of computer based educational plans. **FHGE: Non-GE; Transferable: UC/CSU**

CNSL 51 LEARNING STRATEGIES FOR COLLEGE STUDENTS (PASS THE TORCH PROGRAM) 1 Unit

Prerequisites: Concurrent enrollment in an, English, ESLL or Math course; students are required to attend an orientation with the Pass the Torch Program prior to enrollment.

1 hour lecture. (12 hours total per quarter)

Develop, use, and assess effective and efficient learning strategies, implement a personalized study system. Topics include learning behaviors, attitudes, and styles; goal-setting and self-monitoring; time management, memory and concentration; lecture and textbook note taking; test preparation and test taking; and general strategies for successful college academic success. Students are required to demonstrate evidence of application of learning strategies to current academic coursework and to actively participate in class sessions. This course is specifically targeted for students participating in the Pass the Torch Program; a unique study team project that pairs high achieving community college students with students who self-select to join a study team. **FHGE: Non-GE; Transferable: CSU**

CNSL 52 COLLEGE & LIFE MANAGEMENT 4 Units

Formerly: CNSL 2

Advisory: Not open to students with credit in CNSL 2.

3 hours lecture, 3 hours laboratory. (72 hours total per quarter)

Examination of psycho-social and wellness issues related to personal and academic success. Explores theories and practice for effective goal-setting, communication, health and wellness, learning and social growth. **FHGE: Lifelong Learning; Transferable: CSU**

CNSL 53 EFFECTIVE STUDY 3 Units

3 hours lecture. (36 hours total per quarter)

Approaches to college learning, including diagnosis of difficulties and a development of new skills. **FHGE: Non-GE; Transferable: CSU**

CNSL 72 STRESS, WELLNESS & COPING 3 Units

Advisory: Not open to students with credit in SPED 72.

3 hours lecture. (36 hours total per quarter)

Explore and become familiar with symptoms of stress, depression, and anxiety. Examine the social and psychological factors that contribute to these problems and the patterns of behavior which result. Learn, utilize, and understand effective coping strategies to promote self awareness, personal wellness, and academic success and model these strategies for members of the community. Emphasis placed on mental health and application of self-help skills. **FHGE: Lifelong Learning; Transferable: CSU**

CNSL 85A TRANSFER READINESS 1 Unit

Formerly: CNSL 85H

Advisory: Not open to students with credit in CNSL 85H.

1 hour lecture. (12 hours total per quarter)

Learn to choose a college or university; prepare academically; apply and use counselors and transfer programs to enhance transfer eligibility. **FHGE: Non-GE; Transferable: CSU**

CNSL 86 INTRODUCTION TO LEADERSHIP 1 Unit

Advisory: Eligibility for ENGL 110 or ESLL 25; affiliation with student government or other campus leadership position.

1 hour lecture. (12 hours total per quarter)

Introduction to the dynamics of working groups and the impact of leadership on the effectiveness of groups; examination of the linkage between concepts and theories of leadership to the everyday functioning of student organizations. Affiliation with student government or other campus leadership position is required. **FHGE: Non-GE; Transferable: CSU**

CNSL 87 LEADERSHIP: THEORIES & PRACTICES 1 Unit

Advisory: Eligibility for ENGL 110 or ESLL 25; affiliation with student government or other campus leadership position.

1 hour lecture. (12 hours total per quarter)

Further exploration of leadership application to the everyday functioning of student organizations; understand the role played by structure and governance models in organizational effectiveness. Understand and apply the concepts of team building and communication in groups. Advanced development of leadership goals and application of group goal setting strategies. Affiliation with student government or other campus leadership position required. **FHGE: Non-GE; Transferable: CSU**

CNSL 88 LEADERSHIP: THEORIES, STYLES & REALITIES 1 Unit

Advisory: Eligibility for ENGL 110 or ESLL 25; affiliation with student government or other campus leadership position.

1 hour lecture. (12 hours total per quarter)

Continued development and further study in the dynamics of working groups with a focus on community advocacy, leadership ethics training, and program planning. Affiliation with student government or other campus leadership position required. **FHGE: Non-GE; Transferable: CSU**

CNSL 89 ADVANCED LEADERSHIP REALITIES 1 Unit

Advisory: Eligibility for ENGL 110 or ESLL 25; affiliation with student government of other campus leadership position.

1 hour lecture. (12 hours total per quarter)

Advanced study in the dynamics of working groups and the impact of leadership on the effectiveness of groups; advanced practical application of group and individual leadership techniques. Affiliation with student government of other campus leadership position required. **FHGE: Non-GE; Transferable: CSU**

CNSL 90 INTRODUCTION TO ONLINE LEARNING 1 Unit

Advisory: Familiarity with the Internet; ESLL 25 or higher.

1 hour lecture, 1.5 hours laboratory. (30 hours total per quarter)

Concepts, tools and techniques for success in online learning. Through self-assessment, online interaction, and use of the various tools and resources of the Internet the student will develop an understanding of the skills needed to be successful when engaging in online instruction. **FHGE: Lifelong Learning; Transferable: CSU**

CNSL 90A INTRODUCTORY LEADERSHIP INDEPENDENT STUDY 1 Unit

Formerly: CNSL 86LX

Advisory: Affiliation with student government or other campus leadership position; not open to students with credit in CNSL 86LX.

3 hours laboratory. (36 hours total per quarter)

Practical field experience for students in campus leadership positions. Intended for beginning student government leaders, student ambassador program, club members, heritage month committee members and agents to student government. Requires contract with instructor to determine scope of assignment. **FHGE: Non-GE; Transferable: CSU**

CNSL 90B LEADERSHIP INDEPENDENT STUDY II 1 Unit

Formerly: CNSL 86LY

Advisory: Affiliation with student government or other campus leadership position; not open to students with credit in CNSL 86LY.

3 hours laboratory. (36 hours total per quarter)

Practical field experience for students in campus leadership positions. This course is intended for continuing student leaders in leadership roles in Campus Clubs and Cultural Heritage month committees. Requires contract with instructor to determine scope of assignment. **FHGE: Non-GE; Transferable: CSU**

CNSL 90C LEADERSHIP INDEPENDENT STUDY III 1 Unit

Formerly: CNSL 86LZ

Advisory: Affiliation with student government or other campus leadership position required; not open to students with credit in CNSL 86LZ.

3 hours laboratory. (36 hours total per quarter)

Practical field experience for students in campus leadership positions. Intended for elected and appointed officers of student government with significant leadership roles. Requires contract with instructor to determine scope of assignment. **FHGE: Non-GE; Transferable: CSU**

CNSL 275 EOPS: THE ROAD TO COLLEGE SUCCESS– MORE THAN JUST BOOKS 1 Unit

Formerly: CNSL 175

Advisory: Not open to students with credit in CNSL 175.

1 hour lecture. (12 hours total per quarter)

Course will introduce EOPS/CARE students to various EOPS services, policies and requirements governing programs. Course encourages collaborative learning, educational attainment, promotes student retention, persistence, success. Topics included: financial aid/scholarship applications, identifying campus resources, budgeting and managing money, cultural identity and experiences, goal-setting, self-esteem, career options, managing time. **FHGE: Non-GE**

CREATIVE WRITING

Language Arts (650) 949-7678 www.foothill.edu/la/

CRWR 6 INTRODUCTION TO CREATIVE WRITING 5 Units
Prerequisite: Demonstrated proficiency in English by placement into ENGL 1A as determined by score on the English placement test or through an equivalent placement process.
5 hours lecture. (60 hours total per quarter)
Explicit instruction and practice in writing poetry and short fiction. Assignments include reading, analyzing and responding to published and student work and writing original work. Analysis of public readings and/or interviews with writers. **FHGE: Non-GE; Transferable: UC/CSU**

CRWR 39A INTRODUCTION TO SHORT FICTION WRITING 5 Units
Prerequisite: Demonstrated proficiency in English by placement into ENGL 1A as determined by score on the English placement test or through an equivalent placement process.
5 hours lecture. (60 hours total per quarter)
Explicit instruction and practice in writing a variety of short fiction forms, including short narratives, flash fiction and traditional short stories. Assignments include reading, analyzing and responding to published works and student work, as well as writing original work. Analysis of public readings and/or interviews with writers. **FHGE: Non-GE; Transferable: UC/CSU**

CRWR 39B ADVANCED SHORT FICTION WRITING 5 Units
Prerequisite: CRWR 39A.
5 hours lecture. (60 hours total per quarter)
Explicit instruction and practice in writing a variety of short fiction forms, including short narratives, flash fiction and traditional short stories. Assignments include reading, analyzing and responding to published works and student work, as well as writing original work. Class presentations and workshop leadership. Analysis of public readings and/or interviews with writers. **FHGE: Non-GE; Transferable: UC/CSU**

CRWR 41A POETRY WRITING 5 Units
Advisory: Demonstrated proficiency in English by placement into ENGL 1A as determined by score on the English placement test or through an equivalent placement process.
5 hours lecture, 1 hour laboratory. (72 hours total per quarter)
Explicit instruction and practice in writing poetry. Assignments include reading, analyzing and responding to published and student work and writing original work. **FHGE: Non-GE; Transferable: UC/CSU**

CRWR 41B ADVANCED POETRY WRITING 5 Units
Prerequisite: CRWR 41A.
5 hours lecture, 1 hour laboratory. (60 hours total per quarter)
Explicit instruction and practice in writing poetry. Assignments include reading, analyzing and responding to published and student work and writing original work. Class presentations and workshop leadership. **FHGE: Non-GE; Transferable: UC/CSU**

DANCE

Kinesiology and Athletics (650) 949-7741 www.foothill.edu/dance

Foothill offers DANC activity courses in four different family categories. No single course may be repeated. Enrollment is limited to six courses per family within the Foothill-De Anza Community College District. Refer to the De Anza College Catalog for the corresponding families and courses.

Ballet & Conditioning Family: DANC 1A, 1B, 1C, 14
Dance Performance Family: DANC 7, 8, 9, 11A, 11B, 11C, 12A, 12B, 12C
Social & Cultural Dance Family: DANC 4A, 4B, 4C, 5, 6, 18A, 18B
Dance Technique Family: DANC 2A, 2B, 3A, 3B, 13A, 13B

DANC 1A BEGINNING BALLET 1 Unit
Advisory: This course is included in the Ballet & Conditioning family of activity courses.
3 hours laboratory. (36 hours total per quarter)
Introduction to the elementary fundamentals of classical ballet technique and training. Course includes the basic vocabulary and practice of beginning barre and center floor exercises. **FHGE: Lifelong Learning; Transferable: UC/CSU**

DANC 1B INTERMEDIATE BALLET 1 Unit
Prerequisite: DANC 1A.
Advisory: This course is included in the Ballet & Conditioning family of activity courses.
3 hours laboratory. (36 hours total per quarter)
Continuation into the intermediate fundamentals of ballet technique and training. Includes the intermediate vocabulary and practice of barre and center floor exercises. **FHGE: Lifelong Learning; Transferable: UC/CSU**

DANC 1C ADVANCED BALLET 1 Unit
Prerequisite: DANC 1B.
Advisory: This course is included in the Ballet & Conditioning family of activity courses.
3 hours laboratory. (36 hours total per quarter)
Continuation into the advanced fundamentals of ballet technique and training. Includes the advanced vocabulary and practice of barre and center floor exercises. **FHGE: Lifelong Learning; Transferable: CSU**

DANC 2A BEGINNING MODERN DANCE 1 Unit
Formerly: DANC 2
Advisory: This course is included in the Dance Technique family of activity courses; not open to students with credit in DANC 2 or H P 32.
3 hours laboratory. (36 hours total per quarter)
Introduction to the elementary fundamentals of Modern Dance technique and training. Course includes the basic vocabulary and practice of beginning Modern center barre and floor exercises. **FHGE: Lifelong Learning; Transferable: UC/CSU**

DANC 2B INTERMEDIATE MODERN DANCE 1 Unit
Prerequisite: DANC 2A.
Advisory: This course is included in the Dance Technique family of activity courses.
3 hours laboratory. (36 hours total per quarter)
Continuation into the intermediate fundamentals of Modern technique and training. Includes the intermediate vocabulary and practice of center floor and across the floor exercises. **FHGE: Lifelong Learning; Transferable: CSU**

DANC 3A BEGINNING JAZZ DANCE 1 Unit
Advisory: This course is included in the Dance Technique family of activity courses; not open to student with credit in H P 33.
3 hours laboratory. (36 hours total per quarter)
Introduction to the fundamental technique of jazz dance. Emphasis is placed on class participation so that students may develop their knowledge and understanding of the basic principles of jazz dancing, including warm-up, stretch, isolations and choreography. **FHGE: Lifelong Learning; Transferable: UC/CSU**

DANC 3B INTERMEDIATE JAZZ DANCE 1 Unit
Prerequisite: DANC 3A.
Advisory: This course is included in the Dance Technique family of activity courses; not open to students with credit in H P 33A.
3 hours laboratory. (36 hours total per quarter)
Opportunity to practice and develop intermediate jazz techniques. Emphasis on techniques presented as well as information on historical and stylistic perspectives of this dance form. **FHGE: Lifelong Learning; Transferable: UC/CSU**

DANC 4A BEGINNING BALLROOM & SOCIAL DANCE 1 Unit
Formerly: DANC 4
Advisory:This course is included in the Social & Cultural Dance family of activity courses; not open to students with credit in DANC 4.
3 hours laboratory. (36 hours total per quarter)
Introduction to beginning ballroom and social dance techniques. Instruction and practice in beginning Swing, Cha-Cha, Waltz, Fox Trot, Rhumba and Tango dances. **FHGE: Lifelong Learning; Transferable: UC/CSU**

DANC 4B INTERMEDIATE BALLROOM & SOCIAL DANCE 1 Unit
Prerequisite: DANC 4A.
Advisory: This course is included in the Social & Cultural Dance family of activity courses.
3 hours laboratory. (36 hours total per quarter)
Introduction to intermediate ballroom and social dance techniques. Instruction and practice in beginning Swing, Cha-Cha, Waltz, Fox Trot, Rhumba and Tango dances. **FHGE: Lifelong Learning; Transferable: UC/CSU**

DANC 4C ADVANCED BALLROOM & SOCIAL DANCE 1 Unit
Prerequisite: DANC 4B.
Advisory: This course is included in the Social & Cultural Dance family of activity courses.
3 hours laboratory. (36 hours total per quarter)
Introduction to advanced ballroom and social dance techniques. Instruction and practice in advanced Swing, Cha-Cha, Waltz, Fox Trot, Rhumba and Tango dances. **FHGE: Lifelong Learning; Transferable: UC/CSU**

DANC 5 WORLD DANCE 1 Unit
Advisory: This course is included in the Social & Cultural Dance family of activity courses; not open to students with credit in H P 47D.
3 hours laboratory. (36 hours total per quarter)
Introduction to the history and origins of multicultural dance forms. Students will learn the basic steps, combinations, and finished dances of many traditional world dance forms. **FHGE: Lifelong Learning; Transferable: UC/CSU**

DANC 6 BEGINNING COUNTRY-WESTERN LINE DANCING 1 Unit
Advisory: This course is included in the Social & Cultural Dance family of activity courses; not open to students with credit in H P 47.
3 hours laboratory. (36 hours total per quarter)
Introduction to the fundamental skills for Country and Western Line Dancing. Students will participate in a variety of dance steps designed to develop the coordination, skill, choreography and timing necessary for social line dancing. **FHGE: Lifelong Learning; Transferable: UC/CSU**

DANC 7 CHOREOGRAPHY 1 Unit
Advisory: This course is included in the Dance Performance family of activity courses; not open to students with credit in H P 34.
3 hours laboratory. (36 hours total per quarter)
Introduction to the exploration of the basic principles and theories of choreography and composition and the tools for defining the creative process. **FHGE: Lifelong Learning; Transferable: UC/CSU**

DANC 8 DANCE PRODUCTION: REHEARSAL & PERFORMANCE 2 Units
Advisory: This course is included in the Dance Performance family of activity courses; not open to students with credit in H P 52.
6 hours laboratory. (72 hours total per quarter)
Rehearsal and performance class designed to develop choreography for live performance. **FHGE: Lifelong Learning; Transferable: UC/CSU**

DANC 9 MOVEMENT FOR ACTORS 2 Units
Advisory: This course is included in the Dance Performance family of activity courses; UC will accept for transfer credit either DANC 9 or THTR 38, not both; not open to students with credit in H P 72.
4 hours lecture-laboratory. (48 hours total per quarter)
Principles and practice of body awareness and movement for actors focusing on movement derived from jazz, musical theater, contemporary dance. Emphasis on alignment and centering, concentration and relaxation, development of the kinesthetic sense and exploration of the body/mind connection for the actor. **FHGE: Non-GE; Transferable: UC/CSU**

DANC 10 TOPICS IN DANCE HISTORY 4 Units
Advisory: Not open to students with credit in H P 70.
4 hours lecture. (48 hours total per quarter)
A comprehensive study of the evolution of theatrical dance in the western world from the 16th century through the present day. Includes the eras of French court ballet, ballet d'action, romantic and classical ballet, modern, post-modern and contemporary dance. Examines topics in dance as an art form, including history, traditions, trends; outstanding artists and works; practice in observing and understanding dance in a historical and cultural context. Analysis of dance as an expression of social order, power, classical art, a medium of cultural fusion, and as an expression of individual artists. **FHGE: Humanities; Transferable: UC/CSU**

DANC 11A REPERTORY DANCE I 4 Units
Formerly: DANC 11
Advisory: This course is included in the Dance Performance family of activity courses; not open to students with credit in DANC 11 or PHED 34G.
8 hours lecture-laboratory. (96 hours total per quarter)
Introduction to the basic concepts of dance performance. Includes beginning experience with the rehearsal process, learning dance works and preparation for a performance. Students will be given the opportunity to perform for a live audience and to collaborate with and perform for area Colleges and Universities, civic, local, or charity organizations. **FHGE: Non-GE; Transferable: UC/CSU**

DANC 11B CHOREOGRAPHY FOR PERFORMANCE I 4 Units
Advisory: This course is included in the Dance Performance family of activity courses.
2 hours lecture, 6 hours laboratory. (96 hours total per quarter)
Introduction to the basic concepts of choreography and dance composition. Students will be given the opportunity to create original beginning dance works for individuals and groups to be performed in front of a live audience. Includes beginning dance technique and practice of basic choreographic skills. **FHGE: Non-GE; Transferable: UC/CSU**

DANC 11C DANCE PRODUCTION I 4 Units
Advisory: This course is included in the Dance Performance family of activity courses.
2 hours lecture, 6 hours laboratory. (96 hours total per quarter)
Introduction to the fundamentals of dance production and performance. Includes instruction on how to produce and mount a full-scale theatrical production for public performance, make-up techniques, lighting design and stagecraft. Students will also have the opportunity to perform, choreograph and stagecrew at the beginning dance production skill level. **FHGE: Non-GE; Transferable: UC/CSU**

DANC 12A REPERTORY DANCE II 4 Units
Prerequisite: DANC 11A.
Advisory: This course is included in the Dance Performance family of activity courses.
8 hours lecture-laboratory. (96 hours total per quarter)
Continuation into the intermediate level concepts of dance performance. Includes intermediate experience with the rehearsal process, learning dance works and preparation for a performance. Students will be given the opportunity to perform for a live audience and to collaborate with and perform for area colleges and universities, civic, local, or charity organizations. **FHGE: Non-GE; Transferable: UC/CSU**

DANC 12B CHOREOGRAPHY FOR PERFORMANCE II 4 Units
Prerequisite: DANC 11B.
Advisory: This course is included in the Dance Performance family of activity courses.
2 hours lecture, 6 hours laboratory. (96 hours total per quarter)
Continuation into the intermediate level concepts of choreography and dance composition. Students will be given the opportunity to create intermediate original dance works for individuals and groups to be performed in front of a live audience. Includes intermediate dance technique and practice of complex choreography.
FHGE: Non-GE; Transferable: UC/CSU

DANC 12C DANCE PRODUCTION II 4 Units
Prerequisite: DANC 11C.
Advisory: This course is included in the Dance Performance family of activity courses.
2 hours lecture, 6 hours laboratory. (96 hours total per quarter)
Continuation into the intermediate level of dance production and performance. Includes instruction on how to produce and mount a full-scale theatrical production for public performance, make-up techniques, lighting design and stagecraft. Students will also have the opportunity to perform, choreograph and stagecrew at the intermediate dance production skill level. **FHGE: Non-GE; Transferable: UC/CSU**

DANC 13A INTRODUCTION TO CONTEMPORARY DANCE 1 Unit
Advisory: This course is included in the Dance Technique family of activity courses.
3 hours laboratory. (36 hours total per quarter)
Introduction to the fundamental techniques of Contemporary Dance. Emphasis is placed on development of the knowledge and understanding the principles of Contemporary Dance including basic movement theory, technique and repertoire from global artists. **FHGE: Lifelong Learning; Transferable: UC/CSU**

DANC 13B INTERMEDIATE CONTEMPORARY DANCE 1 Unit
Prerequisite: DANC 13A.
Advisory: This course is included in the Dance Technique family of activity courses.
3 hours laboratory. (36 hours total per quarter)

Continuation into the intermediate Contemporary Dance technique and training. Includes the intermediate vocabulary and practice of barre, center floor exercises and across the floor combinations. **FHGE: Lifelong Learning; Transferable: UC/CSU**

DANC 14 DANCE CONDITIONING 1 Unit
Advisory: This course is included in the Ballet & Conditioning family of activity courses.
3 hours laboratory. (36 hours total per quarter)
Introduction to the principles of dance and conditioning through floor work derived from various dance disciplines including ballet, jazz, contemporary and other psycho-physical disciplines. Topics may include body mechanics, muscle groups critical to dance, flexibility, alignment, self-assessment, dance injury prevention, and strengthening the mind-body-spirit connection. **FHGE: Lifelong Learning; Transferable: UC/CSU**

DANC 18A INTRODUCTION TO HIP-HOP DANCE 1 Unit
Advisory: This course is included in the Social & Cultural Dance family of activity courses.
3 hours laboratory. (36 hours total per quarter)
An introduction to the technique of Hip Hop dance with an integrated fitness approach that focuses on developing the stabilization muscles of the center of the body. Concentration will be on isolations of the muscles of the torso, back, hips, inner and outer thighs, chest and abdominals in conjunction with breathing, postural alignment and body awareness. **FHGE: Lifelong Learning; Transferable: UC/CSU**

DANC 18B INTERMEDIATE HIP-HOP DANCE 1 Unit
Prerequisite: DANC 18A.
Advisory: This course is included in the Social & Cultural Dance family of activity courses.
3 hours laboratory. (36 hours total per quarter)
Continuation into the intermediate fundamentals of Hip Hop technique and training. Includes the intermediate vocabulary and practice of isolations and across the floor exercises. **FHGE: Lifelong Learning; Transferable: UC/CSU**

DANC 70R INDEPENDENT STUDY IN DANCE 1 Unit
DANC 71R 2 Units
DANC 72R 3 Units
DANC 73R 4 Units
3–12 hours per week. (36–144 hours total per quarter)
Provides an opportunity for the student to expand their studies in Dance beyond the classroom by completing a project or an assignment arranged by agreement between the student and instructor. The student is required to contract with the instructor to determine the scope of assignment and the unit value assigned for successful completion. Students may take a maximum of 6 units of Independent Study per department. **FHGE: Non-GE; Transferable: CSU**

DENTAL ASSISTING

Biological and Health Sciences (650) 949-7351
www.foothill.edu/bio/programs/dentala/

D A 50 ORIENTATION TO DENTAL ASSISTING 2.5 Units
Prerequisite: Admission to Dental Assisting Program.
2.5 hours lecture. (30 hours total per quarter)
Preview of dental practice, including specialties, history, professional and legal responsibilities and the role of the dental auxiliary; dental forms, record keeping, patient communication and office personnel relations. Intended for students in the dental assisting program. **FHGE: Non-GE; Transferable: CSU**

D A 51A INTRODUCTION TO CHAIRSIDE DENTAL ASSISTING 8 Units
Prerequisite: Admission to the Dental Assisting Program.
4 hours lecture, 11 hours laboratory, 4 hours clinic. (228 hours total per quarter)
Introduction to chairside assisting; use and care of dental equipment, patient management, instrument identification; overview of common dental procedures such as composite, amalgam, partials, dentures, root canals, crown and bridge appointments; manipulation of dental materials commonly prepared or used by the dental assistant including temporary dressings, impression materials, cement bases and liners, topical agents, composites, resins and amalgams. Intended for students in the dental assisting program. **FHGE: Non-GE; Transferable: CSU**

D A 51B INTERMEDIATE CLINICAL DENTAL ASSISTING 2 Units
Prerequisite: Admission to Dental Assisting Program.
1.5 hours lecture, 2 hours laboratory. (42 hours total per quarter)
Periodontal and oral surgery procedures, equipment, and instruments. Registered Dental Assistant orthodontic function. Fabrication of bleaching splints. Intended for students in the dental assisting program. **FHGE: Non-GE; Transferable: CSU**

D A 51C ADVANCED DENTAL ASSISTING SKILLS 3.5 Units
Prerequisite: Admission to Dental Assisting Program.
2.5 hours lecture, 4 hours laboratory. (78 hours total per quarter)
Continuation of techniques introduced in D A 51A and 51B to include pulp vitality testing, fluoride administration, intraoral/extraoral exam, polishing removable partial and full dentures, dental implants, and pedodontic procedures. Theory and practice of coronal polishing. Intended for students in the dental assisting program. **FHGE: Non-GE; Transferable: CSU**

D A 53A INTRODUCTION TO RADIOGRAPHY I 3 Units
Prerequisite: Admission to Dental Assisting Program.
2 hours lecture, 3 hours laboratory. (60 hours total per quarter)
Introduction to dental radiology for dental assisting students. Emphasis on production, characteristics, biologic effects, radiation safety and protection. Introduction to intraoral long-cone radiographic techniques, film processing and mounting. Intended for students in the dental assisting program. **FHGE: Non-GE; Transferable: CSU**

D A 53B DENTAL RADIOGRAPHY II 2 Units
Prerequisite: Admission to Dental Assisting Program.
1 hour lecture, 3 hours laboratory. (48 hours total per quarter)
Intraoral radiographic technique continued with evaluation of film quality, recognition of landmarks,and film errors. Bitewing radiography is emphasized. Introduction to digital panoramic radiographs and identification of radiolucent and radiopaque landmarks of the head and neck. IIntended for students in the dental assisting program. **FHGE: Non-GE; Transferable: CSU**

D A 53C DENTAL RADIOGRAPHY III 1 Unit
Prerequisite: Admission to Dental Assisting Program.
3 hours laboratory. (36 hours total per quarter)
Continuation of DA 53B. Intraoral technique and film evaluation skills practiced on mannequins and performed on patients. Emphasis on endodontic, occlusal distal-oblique and digital radiographs. Intended for students in the dental assisting program. **FHGE: Non-GE; Transferable: CSU**

D A 56 DENTAL HEALTH EDUCATION 1 Unit
Prerequisite: Admission to Dental Assisting Program.
1 hour lecture. (12 hours total per quarter)
Principles of patient motivation and education; etiology, process and prevention of dental decay and periodontal disease; design and management of a plaque control program, brushing, flossing, adjunctive aids; dietary counseling for caries risk. Intended for students in the dental assisting program. **FHGE: Non-GE; Transferable: CSU**

D A 57 OFFICE EMERGENCY PROCEDURES 2 Units
Prerequisite: Admission to Dental Assisting Program.
2 hours lecture. (24 hours total per quarter)
Overview of psychological or common medical problems which could lead to an emergency situation in a dental office. Emphasis placed on prevention, management, and legal issues of an emergency response. Intended for students in the dental assisting program. **FHGE: Non-GE; Transferable: CSU**

D A 58 SPECIALITY PRACTICE PROCEDURES 1 Unit
Prerequisite: Admission to the Dental Assisting Program.
1 hour lecture. (12 hours total per quarter)
Familiarization with the scope of practice in both general and specialty dental office settings. The emphasis of this survey class will be on the role of the auxiliary personnel in each of the different types of dental practices. Intended for students in the dental assisting program. **FHGE: Non-GE; Transferable: CSU**

D A 60A DENTAL OFFICE BUSINESS PRACTICES I 2 Units
Prerequisite: Admission to Dental Assisting Program.
2 hours lecture. (24 hours total per quarter)
Introduction to appointment management, telephone techniques, communication and patient management, dental and office records management; written correspondence, treatment plan and case presentation; accounts receivables. Intended for students in the dental assisting program. **FHGE: Non-GE; Transferable: CSU**

D A 60B DENTAL OFFICE BUSINESS PRACTICES II 3 Units
Prerequisite: Admission to Dental Assisting Program.
3 hours lecture, 1 hour laboratory. (48 hours total per quarter)
Introduction to purchasing, inventory and cost control; banking, payroll and tax procedures; resume writing and interviewing techniques. Includes billing procedures, collection of accounts, treatment plans and case presentations, dental insurance procedures. Instruction in both manual and computer applications. Intended for students in the dental assisting program. **FHGE: Non-GE; Transferable: CSU**

D A 62A DENTAL SCIENCES I 2 Units
Prerequisite: Admission to Dental Assisting Program.
2 hours lecture, 1 hour laboratory. (36 hours total per quarter)
Discussion of anatomy and morphology of the teeth, the eruption sequence and process; normal occlusion, development and class of malocclusions; anatomy of the skull, arteries and veins, musculature and nervous structures of the head and neck. Intended for students in the dental assisting program. **FHGE: Non-GE; Transferable: CSU**

D A 62B DENTAL SCIENCES II 2 Units
Prerequisite: Admission to Dental Assisting Program.
2 hours lecture. (24 hours total per quarter)
An overview of the embryologic development of the structures and tissues of the head, neck, teeth and oral cavity, histology of the hard and soft tissues of the oral cavity. Developmental and structural defects involving the oral cavity and the teeth. Periodontal diseases, caries process and oral pathology. Intended for students in the dental assisting program. **FHGE: Non-GE; Transferable: CSU**

D A 62C DENTAL SCIENCES III 2 Units
Prerequisite: Admission to Dental Assisting Program.
2 hours lecture. (24 hours total per quarter)
Microbiologic and nutritional conditions related to dentistry; etiology, symptoms, transmission and control of infective and contagious diseases, nutritional physiology, and counseling, effect of nutrition on general dental health. Pharmacology of local anesthetic solutions, analgesic gases, and psychosedatives, and antibiotic agents. Use of nitrous oxide equipment. Intended for students in the dental assisting program. **FHGE: Non-GE; Transferable: CSU**

D A 63 SPECIAL PATIENT POPULATIONS 1 Unit
Prerequisite: Admission to Dental Assisting Program.
1 hour lecture. (12 hours total per quarter)
Discussion and development of techniques and/or equipment needed to meet the needs of special patient populations. Intended for students in the dental assisting program. **FHGE: Non-GE; Transferable: CSU**

D A 71 INFECTION CONTROL & HAZARDOUS WASTE MANAGEMENT 1.5 Units
Prerequisite: Admission to Dental Assisting Program.
1.5 hours lecture. (18 hours total per quarter)
Introduction to infectious diseases important to dentistry. Instruction on disinfection, instrument decontamination, sterilization procedures and tray set-up preparation. Regulatory compliance agencies such as OSHA, CDC and ADA recommendations. Hazardous materials management and waste management. Protocols and emergency procedures for hazardous and biohazardous waste or materials. Intended for students in the dental assisting program. **FHGE: Non-GE; Transferable: CSU**

D A 73 DENTAL ASSISTING SUPERVISED CLINIC 2 Units
Prerequisite: D A 51A.
17 hours clinic. (204 hours total per quarter)
Continuation of techniques introduced in D A 51A; supervised clinical experience in externship environment, chairside dental assisting in general practice and specialty clinics at the UCSF School of Dentistry. Intended for students in the dental assisting program. **FHGE: Non-GE; Transferable: CSU**

D A 74 DENTAL ASSISTING CLINICAL PRACTICE 2 Units
Prerequisite: Admission to Dental Assisting Program.
17 hours clinic. (204 hours total per quarter)
Continuation of techniques introduced in D A 51A, 51B and 73; supervised clinical experience in externship environment; advanced and specialty chair side procedures. Intended for students in the dental assisting program. **FHGE: Non-GE; Transferable: CSU**

D A 85 RDA REVIEW 2 Units
Prerequisites: D A 51A and 51B.
1 hour lecture, 3 hours laboratory. (48 hours total per quarter)
Fabrication, seating, temporary cementation and removal of excess cement for temporary crowns. Information necessary for completion of requirements for national certification and Registered Dental Assisting (RDA) licensure in the State of California. Review of chairside dental assisting procedures to prepare for written and practical examinations. Intended for students in the dental assisting program. **FHGE: Non-GE; Transferable: CSU**

D A 88 PIT & FISSURE SEALANTS 1.5 Units
Prerequisite: Admission to Dental Assisting Program.
1 hour lecture, 2 hours laboratory. (36 hours total per quarter)
Theory and practice for placement of sealants by the Registered Dental Assistant to prevent decay in the pit and fissure areas of the dentition. Intended for students in the dental assisting program. **FHGE: Non-GE; Transferable: CSU**

DENTAL HYGIENE

Biological and Health Sciences (650) 949-7538
www.foothill.edu/bio/programs/dentalh/

D H 50 ORIENTATION TO DENTAL HYGIENE 1 Unit
Prerequisites: AHS 200 and D H 200L.
Advisory: Admission to Dental Hygiene Program.
1.5 hours lecture-laboratory. (18 hours total per quarter)
Overview of dental hygiene as a career. Dental terminology, introduction to instrumentation skills, including: modified pen grasp, fulcrums, adaptation, insertion and activation of the explorer. The course will involve some online homework, observation in clinic, and instrumentation on typodonts. Strategies & skills for student success in the dental hygiene program. Introduction to evidence-based literature in dental hygiene. Intended for students in the dental hygiene program. **FHGE: Non-GE; Transferable: CSU**

D H 52A ORAL BIOLOGY I 3 Units
Prerequisite: Admission to the Dental Hygiene Program.
2 hours lecture, 2 hours lecture-laboratory. (48 hours total per quarter)
Discussion of the anatomy and identification of the teeth, the eruption sequence, normal occlusion, and classification of occlusion. Anatomy of the skull, arteries, veins, and lymphatics, musculature and nervous structures of the head and neck. Intended for students in the dental hygiene program. **FHGE: Non-GE; Transferable: CSU**

D H 52B ORAL BIOLOGY II 3 Units
Prerequisite: D H 52A.
2 hours lecture, 2 hours lecture-laboratory. (48 hours total per quarter)
The embryologic development of the structures and tissues of the head, neck, teeth and oral cavity; histology of the hard and soft tissues of the oral cavity. Anatomy of the tooth crown, root and pulp; development and structural defects involving the oral cavity and the teeth. The normal periodontal tissues, oral mucous membranes, and salivary glands. Intended for students in the dental hygiene program. **FHGE: Non-GE; Transferable: CSU**

D H 53 ASSESSMENT PROCEDURES IN THE DENTAL HYGIENE PROCESS 4 Units
Prerequisite: Admission to the Dental Hygiene Program.
4 hours lecture. (48 hours total per quarter)
The first in a 3 course series in dental hygiene theory and practice. Focus on the principles of assessment techniques as the first phase of the dental hygiene process of care. The rationale for collection of assessment data, and associated clinical procedures will be discussed. Introduces infectious diseases important to dentistry, hazardous materials management, and waste management, and rules of regulatory agencies (OSHA, CDC and ADA). Intended for students in the dental hygiene program. **FHGE: Non-GE; Transferable: CSU**

D H 54 PRE-CLINICAL DENTAL HYGIENE 4 Units
Prerequisite: Admission to Dental Hygiene Program.
1 hour lecture, 12 hours laboratory. (156 hours total per quarter)
The first in a seven-course series in dental hygiene clinical practices. Integrates the scientific and clinical principles underlying the practice of dental hygiene. Clinical procedures and techniques for patient assessment, including prevention of disease

transmission, health history, extra-intraoral examination, gingival evaluation and periodontal examination are taught in a pre-clinical setting. Students will work on typodonts and classmates. The course requires evaluation of clinical performance through demonstration of skill acquisition and level of competency. Field experiences reinforce and amplify the knowledge and skills needed to perform dental hygiene procedures in the clinical setting. Intended for students in the dental hygiene program. **FHGE: Non-GE; Transferable: CSU**

D H 55A FUNDAMENTALS OF PATHOLOGY I 2 Units
Prerequisite: D H 52B.
2 hours lecture. (24 hours total per quarter)
Introduction to general pathology and specific pathologic processes, repair, healing, and regressive changes. Social significance of pathology. Intended for students in the dental hygiene program. **FHGE: Non-GE; Transferable: CSU**

D H 55B FUNDAMENTALS OF PATHOLOGY II 2 Units
Prerequisite: D H 55A.
2 hours lecture. (24 hours total per quarter)
Pathology of the head, neck, and oral structures. Developmental conditions caries, diseases of bacterial and viral origin, neoplasms of the oral cavity. Intended for students in the dental hygiene program. **FHGE: Non-GE; Transferable: CSU**

D H 56 APPLIED PHARMACOLOGY IN DENTISTRY 2 Units
Prerequisites: BIOL 58, D H 61A or licensed dental hygienist or dentist.
2 hours lecture. (24 hours total per quarter)
Study of drugs by groups with special emphasis on those drugs and medications used in dentistry. Physical and chemical properties, dosage and therapeutic effects of each group of drug will be discussed. Dental hygiene implications for patients taking different drugs will be emphasized. Intended for students in the dental hygiene program. **FHGE: Non-GE; Transferable: CSU**

D H 57A PERIODONTICS I 2 Units
Prerequisite: D H 52B.
2 hours lecture. (24 hours total per quarter)
Examination of anatomy and physiology of periodontium. Correlation of basic sciences with the clinical aspects of periodontal diseases. Etiology and pathogenesis of periodontal diseases. Intended for students in the dental hygiene program. **FHGE: Non-GE; Transferable: CSU**

D H 57B PERIODONTICS II 2 Units
Prerequsite: D H 57A.
2 hours lecture. (24 hours total per quarter)
Fundamental principles of periodontology, including normal periodontium, etiology and classification of periodontal disease; relationship of dental deposits to periodontal diseases. Development of periodontal pocket and abscess. Process of bone loss. Intended for students in the dental hygiene program. **FHGE: Non-GE; Transferable: CSU**

D H 57C PERIODONTICS III 2 Units
Prerequisite: D H 57B.
2 hours lecture. (24 hours total per quarter)
Examine the role of the dental hygienist in nonsurgical periodontal therapy, periodontal surgical therapy, and periodontal maintenance therapy. A periodontal competency report both oral and written is required. Intended for students in the dental hygiene program. **FHGE: Non-GE; Transferable: CSU**

D H 59 SURVEY OF DENTISTRY 1 Unit
Prerequisite: Admission to the Dental Hygiene Program.
1 hour lecture, 1 hour laboratory. (24 hours total per quarter)
Introduction to dental procedures in the specialty office with emphasis on dental auxilary duties and collaboration with dental specialties for comprehensive patient/client care. Legal scope of practice for the dental hygienist and appropriate referral protocol is emphasized. Intended for students in the dental hygiene program. **FHGE: Non-GE; Transferable: CSU**

D H 60A INTRODUCTION TO DENTAL RADIOGRAPHY I 2 Units
Prerequisite: Admission to the Dental Hygiene Program.
2 hours lecture. (24 hours total per quarter)
Introduction to dental radiology for students enrolled in the dental hygiene program. Component parts, functions, operations of the dental x-ray unit and radiation safety is emphasized. Relationships between anatomical and radiographic landmarks are analyzed. Intended for students in the dental hygiene program. **FHGE: Non-GE; Transferable: CSU**

D H 60B DENTAL RADIOGRAPHY II 1 Unit
Prerequisite: D H 60A.
3 hours laboratory. (36 hours total per quarter)
Introduction to the radiology laboratory intended for the first year student enrolled in the dental hygiene program. Emphasis on dental x-ray techniques, film development and mounting. Radiation safety protection is practiced for all laboratory procedures. All films will be viewed for self-critique and instructor evaluation. Intended for students in the dental hygiene program. **FHGE: Non-GE; Transferable: CSU**

D H 60C DENTAL RADIOGRAPHY III .5 Unit
Prerequisite: D H 60B.
1 hour lecture-laboratory. (12 hours total per quarter)
Radiology course for second year dental hygiene students. Emphasis on correlating oral diseases to radiologic findings. Includes distal-oblique projections and application of the S.L.O.B. rule. Introduction to digital panoramic radiology. Intended for students in the dental hygiene program. **FHGE: Non-GE; Transferable: CSU**

D H 60D DENTAL RADIOGRAPHY IV .5 Unit
Prerequisite: D H 60C.
1 hour lecture-laboratory. (12 hours total per quarter)
Radiology course intended for second year students enrolled in the dental hygiene program. Emphasis on the understanding of radiographic interpretation of periodontal and dental diseases. Continued application of digital radiography with use of sensors and scanners. Intended for students in the dental hygiene program. **FHGE: Non-GE; Transferable: CSU**

D H 60E DENTAL RADIOGRAPHY V .5 Unit
Prerequisite: D H 60D.
1 hour lecture-laboratory. (12 hours total per quarter)
Final course in a series on dental radiography for students enrolled in the dental hygiene program. Increase in patient requirements and the attainment 90% scores or higher on film evaluations. Emphasis is on time efficiency, technique accuracy and patient management. Increased skill in film exposures, processing and the interpretation of dental diseases. Intended for students in the dental hygiene program. **FHGE: Non-GE; Transferable: CSU**

D H 61A CLINICAL TECHNIQUE 6 Units
Prerequisites: D H 52A and 54.
3 hours lecture, 12 hours laboratory. (180 hours total per quarter)
Continuation of dental hygiene clinical practice and instrumentation techniques including: periodontal examination, scaling and root planing, sharpening. Adjunctive dental hygiene procedures taught include: fluorides, selective coronal polishing. Clinical activities utilize typodonts and student partners. The course requires evaluation of clinical performance through demonstration. Supportive labs and observation to reinforce and amplify the knowledge and skills needed to perform dental hygiene procedures in the clinical setting for D H 61A. Intended for students in the dental hygiene program. **FHGE: Non-GE; Transferable: CSU**

D H 61B INTRODUCTION TO CLINIC 4.5 Units
Prerequisites: Completion of D H 61A and 52B with grade of "C" or higher; possession of a current CPR certificate.
3 hours lecture, 9 hours clinic. (144 hours total per quarter)
Introduction to clinical dental hygiene practice. Emphasis on assessing, planning, and implementing comprehensive dental hygiene care on patients in a clinical setting. Students apply knowledge, critical thinking, and basic clinical skills acquired in previous completed dental hygiene courses. Students will also learn about dental hygiene care for diverse patient populations and management of patients with special needs. Intended for students in the dental hygiene program. **FHGE: Non-GE; Transferable: CSU**

D H 62A CLINICAL DENTAL HYGIENE I 2.5 Units
Prerequisite: D H 61B.
.5 hour lecture, 10 hours clinic. (126 hours total per quarter)
Continuation of dental hygiene clinical practice. Assessing, planning, implementing, and evaluating dental hygiene care on patients in a clinical setting. Development of progress in clinical performance with each successive academic period. Intended for students in the dental hygiene program. **FHGE: Non-GE; Transferable: CSU**

D H 62B CLINICAL DENTAL HYGIENE II 6 Units
Prerequisite: D H 62A.
1 hour lecture, 30 hours clinic. (372 hours total per quarter)
Continuation of clinical dental hygiene practice providing comprehensive dental hygiene care in a clinic setting on patients. Intended for students in the Dental Hygiene Program. **FHGE: Non-GE; Transferable: CSU**

D H 62C CLINICAL DENTAL HYGIENE III 6 Units
Prerequisite: D H 62B.
1 hour lecture, 30 hours clinic. (372 hours total per quarter)
Continuation of clinical dental hygiene practice providing comprehensive dental hygiene care in a clinic setting on patients. Intended for students in the dental hygiene program. **FHGE: Non-GE; Transferable: CSU**

D H 62D CLINICAL DENTAL HYGIENE IV 6 Units
Prerequisite: D H 62C.
1 hour lecture, 30 hours clinic. (372 hours total per quarter)
Continuation of clinical dental hygiene practice providing comprehensive dental hygiene care in a clinic setting on patients. Development of progress in clinical performance with each successive academic period. Intended for students in the dental hygiene program. **FHGE: Non-GE; Transferable: CSU**

D H 63C COMMUNITY DENTAL HEALTH I 3 Units
Prerequisite: Admission to the Dental Hygiene Program.
2 hours lecture, 1.5 hours lecture-laboratory. (42 hours total per quarter)
Introduction to community dental health problems and disparities that exist in health care. The science of epidemiology, research and writing skills, and biostatistics. An analysis of current dental health issues and initial development of a community dental health program. Evaluation of scientific literature will be developed. Intended for students in the dental hygiene program. **FHGE: Non-GE; Transferable: CSU**

D H 63D COMMUNITY DENTAL HEALTH II 3 Units
Prerequisite: D H 63C.
2 hours lecture, 1.5 hours lecture-laboratory. (42 hours total per quarter)
Continuation of D H 63C. Emphasis on the steps to developing community dental health programs, including health promotion programs. Local, state, and federal departments of public health services, types of fluoridation, and school-based dental health programs and screenings. Evidence-based decision making will be applied to the dental public health setting. Intended for students in the dental hygiene program. **FHGE: Non-GE; Transferable: CSU**

D H 64 ETHICS, LAW & DENTAL OFFICE PRACTICES 2 Units
Prerequisites: Admission to the Dental Hygiene Program.
2 hours lecture. (24 hours total per quarter)
Ethics, jurisprudence and practice aspects of dental hygiene practice. Emphasis will be placed on the challenges of providing ethical care in the clinical setting. The laws and regulations effecting the practice of dental hygiene will be analyzed and the scope of practice of dental professionals as outlined by the California Dental Practice Act will be examined. Intended for students in the dental hygiene program. **FHGE: Non-GE; Transferable: CSU**

D H 65 CLINICAL LOCAL ANESTHESIA 2.5 Units
Prerequisites: D H 54 or completion of a ADA approved dental hygiene program; possession of a current CPR certificate.
2 hours lecture, 1.5 hours laboratory. (42 hours total per quarter)
Review of pharmacology, anatomy, physiology, and emergency procedures associated with local anesthetic procedures. Preparation for and administration of conduction and infiltration anesthesia in dental procedures. Laboratory and clinical experience in administration. Intended for students in the Dental Hygiene Program. **FHGE: Non-GE; Transferable: CSU**

D H 66 SOFT TISSUE CURETTAGE 1 Unit
Prerequisite: D H 65.
1 hour lecture. (12 hours total per quarter)
Training for the dental hygiene student or dental hygienist in performing soft tissue curettage. Intended for students in the Dental Hygiene Program. **FHGE: Non-GE; Transferable: CSU**

D H 67 NITROUS OXIDE/OXYGEN ANALGESIA 1 Unit
Prerequisite: Admission to the Dental Hygiene Program.
2 hours lecture-laboratory. (24 hours total per quarter)
The study of nitrous oxide/oxygen analgesia used in the dental practice. Emphasis will be placed on understanding the mechanism of sedation, risks and benefits associated with nitrous oxide sedation, how to administer and properly document the use of nitrous oxide. Intended for students in the dental hygiene program. **FHGE: Non-GE; Transferable: CSU**

D H 68A RADIOGRAPHIC INTERPRETATION 2 Units
Prerequisites: D H 60A and 60B.
2 hours lecture. (24 hours total per quarter)
Interpretation of intraoral and panoramic radiographs. Emphasis on normal, atypical and pathological structures. Identification of dental anomalies, dental materials and the interpretation of disease. Analysis of the progression of dental caries, periodontal disease, and periapical lesions. Intended for students in the dental hygiene program. **FHGE: Non-GE; Transferable: CSU**

D H 70R INDEPENDENT STUDY IN DENTAL HYGIENE 1 Unit
D H 71R 2 Units
D H 72R 3 Units
D H 73R 4 Units
3–12 hours per week. (36–144 hours total per quarter)
Provides an opportunity for the student to expand their studies in Dental Hygiene beyond the classroom by completing a project or an assignment arranged by agreement between the student and instructor. The student is required to contract with the instructor to determine the scope of assignment and the unit value assigned for successful completion. Students may take a maximum of 6 units of Independent Study per department. **FHGE: Non-GE; Transferable: CSU**

D H 71 OFFICE EMERGENCY PROCEDURES 2 Units
Prerequisite: Admission to the Dental Hygiene Program.
2 hours lecture. (24 hours total per quarter)
This course is a study of common medical emergencies that may occur during delivery of dental care. Emphasis is placed on methods to prevent emergencies from occurring and procedures to manage emergency situations. Ethical and legal aspects in assisting during emergencies are also discussed. Intended for students in the dental hygiene program. **FHGE: Non-GE; Transferable: CSU**

D H 72 DENTAL MATERIALS 3 Units
Prerequisite: Admission to the Dental Hygiene Program.
2 hours lecture, 3 hours laboratory. (60 hours total per quarter)
Properties of dental materials, characteristics and manipulation of dental materials and the equipment used in the manipulation of these materials with an emphasis on dental hygiene care. Course also covers caries risk assessment, hazardous waste management and MSDS. Intended for students in the dental hygiene program. **FHGE: Non-GE; Transferable: CSU**

D H 73 DENTAL HEALTH EDUCATION 2 Units
Prerequisite: Admission to the Dental Hygiene Program.
Advisory: PSYC 1.
2 hours lecture. (24 hours total per quarter)
Fundamentals of patient education to include: communication theory, development of client/clinician relationships, mechanical plaque removal techniques, antimicrobial therapies, nutritional counseling for dental hygiene, smoking cessation counseling, patient motivation with particular attention to psychological, social, and economic, cultural & life stage factors. Emphasis on prevention of dental diseases through effective patient education. Preventive dental products will be reviewed and analyzed. Intended for students in the dental hygiene program. **FHGE: Non-GE; Transferable: CSU**

D H 75A CLINICAL DENTAL HYGIENE THEORY I 1.5 Units
Prerequisite: Admission to the Dental Hygiene Program.
1 hour lecture, 3 hours laboratory. (48 hours total per quarter)
Discussion and demonstration of supplemental dental hygiene functions: digital intraoral photography, dental hygiene instrumentation, ultrasonic and microultrasonic scaling techniques. Supportive course to reinforce and amplify the knowledge and skills needed to perform dental hygiene procedures in the clinical setting for D H 62B. Intended for students in the dental hygiene program. **FHGE: Non-GE; Transferable: CSU**

D H 75B CLINICAL DENTAL HYGIENE THEORY II 1.5 Units
Prerequisite: Admission to the Dental Hygiene Program.
1 hour lecture, 3 hours laboratory. (48 hours total per quarter)

Discussion and demonstration of supplemental dental hygiene functions, advanced instrumentation techniques, chemotherapeutics, advanced local anesthesia techniques, air polishing, implants in dentistry, orthodontic therapy and new technology in dental hygiene. Supportive course to reinforce and amplify the knowledge and skills needed to perform dental hygiene procedures in the clinical setting for D H 62C. Intended for students in the dental hygiene program. **FHGE: Non-GE; Transferable: CSU**

D H 75C CLINICAL DENTAL HYGIENE THEORY III 1.5 Units
Prerequisite: Admission to the Dental Hygiene Program.
1 hour lecture, 3 hours laboratory. (48 hours total per quarter)
This course assists the student in identifying an appropriate patient for clinical state and/or regional board licensing exam for Dental Hygienists and in identifying and anticipating methods which will influence a successful board experience. Supportive course to reinforce and amplify the knowledge and skills needed to perform dental hygiene procedures. Intended for students in the dental hygiene program.
FHGE: Non-GE; Transferable: CSU

D H 200L INTRODUCTION TO DENTAL HYGIENE 1 Unit
2 hours lecture-laboratory. (24 hours total per quarter)
Introduction to the profession of dental hygiene. Emphasis on dental terminology, communication skills, licensure requirements and clinical and lab techniques related to dental hygiene clinical practice. Discussion of the requirements for the dental hygiene program. Intended for students in the dental hygiene program. **FHGE: Non-GE**

DIAGNOSTIC MEDICAL SONOGRAPHY

Biological and Health Sciences (650) 949-7538
www.foothill.edu/bio/programs/ultra/

DMS 50A DIAGNOSTIC MEDICAL SONOGRAPHY PRINCIPLES & PROTOCOLS 4 Units
Prerequisites: BIOL 40A, 40B and 40C.
Corequisites: DMS 50B, 60A and 72A.
4 hours lecture, 1 hour laboratory. (60 hours total per quarter)
An intensive course about fundamentals of ultrasound principles, protocols, and scanning involving the major abdominal organ structures, gynecology, obstetrics, and vessels. Sonographic terminology, orientation and descriptions of normal and abnormal structures. It is assumed the student has a thorough knowledge of gross and sectional anatomy. Intended for students in the diagnostic medical sonography program. **FHGE: Non-GE; Transferable: CSU**

DMS 50B SONOGRAPHY & PATIENT CARE 2 Units
Prerequisite: AHS 200 or equivalent.
Corequisites: DMS 50A, 60A and 72A.
2 hours lecture. (24 hours total per quarter)
Defines the student sonographer's role on the medical team. It prepares the student to enter the clinical environment including instruction in sonographer safety and ergonomics. Legal, ethical, legislative and regulatory issues including scope of practice and standards. Patient care techniques, clinical assessment, diagnosis and treatment. Interacting with cultural, age, and the special needs populations. Professionalism, competency-based education and leadership. Intended for students in the diagnostic medical sonography program. **FHGE: Non-GE; Transferable: CSU**

DMS 51A SECTIONAL ANATOMY 3 Units
Prerequisites: BIOL 40A, 40B and 40C or equivalent.
3 hours lecture. (36 hours total per quarter)
Sectional human anatomy for health care professionals, students of Allied Health and nursing professions. Emphasis on transverse, coronal and sagittal planes and correlation to other imaging modalities. Discussions include pathology-related alterations to sectional anatomy images. Intended for students in the diagnostic medical sonography program. **FHGE: Non-GE; Transferable: CSU**

DMS 52A PHYSICAL PRINCIPLES OF DIAGNOSTIC MEDICAL SONOGRAPHY I 2 Units
Prerequisite: DMS 50A.
2 hours lecture. (24 hours total per quarter)
Principles of diagnostic ultrasound, wave characteristics, artifacts, propagation, acoustic variables, and review of mathematical skills. Intended for students in the diagnostic medical sonography program. **FHGE: Non-GE; Transferable: CSU**

DMS 52B PHYSICAL PRINCIPLES OF DIAGNOSTIC MEDICAL SONOGRAPHY II 2 Units
Prerequisite: DMS 52A.
2 hours lecture. (24 hours total per quarter)
A continuation of DMS 52A with an emphasis on transducers, pulsed waves, real-time imaging and image display. Intended for students in the diagnostic medical sonography program. **FHGE: Non-GE; Transferable: CSU**

DMS 52C PHYSICAL PRINCIPLES OF DIAGNOSTIC MEDICAL SONOGRAPHY III 2 Units
Prerequisite: DMS 52B.
2 hours lecture. (24 hours total per quarter)
A continuation of DMS 52B with an emphasis on advanced principles in medical ultrasound instrumentation, harmonic imaging, volume rendering, hemodynamics, use of doppler imaging and sonographic quality control procedures. Preparation for national examinations. Intended for students in the diagnostic medical sonography program. **FHGE: Non-GE; Transferable: CSU**

DMS 53A DIAGNOSTIC MEDICAL SONOGRAPHY I 2 Units
Prerequisite: DMS 50A.
2 hours lecture, 1 hour laboratory. (36 hours total per quarter)
Anatomy and physiology related to the major abdominal organs and major abdominal vessels. Assessment including physical, clinical symptoms, and laboratory findings. Related pathology and its sonographic appearance involving these structures. Scanning protocols, technical factors and image quality. One hour per week will be spent in completing online exams and working on patient case studies. Intended for students in the diagnostic medical sonography program. **FHGE: Non-GE; Transferable: CSU**

DMS 53B DIAGNOSTIC MEDICAL SONOGRAPHY II 2 Units
Prerequisite: DMS 53A.
2 hours lecture, 1 hour laboratory. (36 hours total per quarter)
Anatomy and physiology related to major and superficial structures and organs including sonography of abdominal organs and superficial structures. Assessment including physical, clinical symptoms, laboratory findings, and pathology including the sonographic appearances. Scanning protocols, technical factors and image quality. One hour per week will be spent in completing online exams and working on patient case studies. Intended for students in the diagnostic medical sonography program.
FHGE: Non-GE; Transferable: CSU

DMS 53C DIAGNOSTIC MEDICAL SONOGRAPHY III 2 Units
Prerequisite: DMS 53B.
2 hours lecture, 1 hour laboratory. (36 hours total per quarter)
Anatomy, physiology and pathology of abdominal organs not yet covered, neurosonography, superficial structures, transplant, and the pediatric patient. Use of sonography in the operating room with a review of aseptic technique. Discussion of related medical ethics and legal issues. One hour per week will be spent in completing online exams and working on patient case studies. Intended for students in the diagnostic medical sonography program. **FHGE: Non-GE; Transferable: CSU**

DMS 54A GYNECOLOGY 2 Units
Prerequisite: DMS 50A.
2 hours lecture, .5 hour laboratory. (30 hours total per quarter)
Anatomy and physiology of the nongravid pelvis. Pathology, sonographic appearance, and clinical symptoms of the female patient. Sonographic protocols and measurements with correlations to accepted standards. One hour per week will be spent in completing online exams and working on patient case studies. Intended for students in the diagnostic medical sonography program. **FHGE: Non-GE; Transferable: CSU**

DMS 54B GYNECOLOGY & OBSTETRICS 2 Units
Prerequisite: DMS 54A.
2 hours lecture, .5 hour laboratory. (30 hours total per quarter)
Anatomy and physiology of the nongravid pelvis and first trimester pregnancy. Pathology, sonographic appearance, and clinical symptoms of the female patient. Sonographic protocols and measurements with correlations to accepted standards. One-half hour per week will be spent in completing online exams and working on patient case studies. Intended for students in the diagnostic medical sonography program. **FHGE: Non-GE; Transferable: CSU**

DMS 55A OBSTETRICS I 2 Units
Prerequisite: DMS 54B.
2 hours lecture, .5 hour laboratory. (30 hours total per quarter)
Normal fetal growth and sonographic measurements with correlation to accepted standards. Development of the placenta, amniotic fluid and cord. Abnormalities, pathology and maternal complications. One-half hour per week will be spent in completing online exams and working on patient case studies. Intended for students in the diagnostic medical sonography program. **FHGE: Non-GE; Transferable: CSU**

DMS 55B OBSTETRICS II 2 Units
Prerequisite: DMS 55A.
2 hours lecture, .5 hour laboratory. (30 hours total per quarter)
Advanced obstetrical sonography. Abnormal 2nd and 3rd trimester fetal growth and sonographic measurements with correlations to accepted standards. Abnormalities, pathology and maternal complications. One-half hour per week will be spent in completing online exams and working on patient case studies. Intended for students in the diagnostic medical sonography program. **FHGE: Non-GE; Transferable: CSU**

DMS 56A VASCULAR SONOGRAPHY 3 Units
Prerequisite: DMS 50A.
3 hours lecture. (36 hours total per quarter)
Vascular terminology, principles including doppler physics. Interpretation of frequency spectral analysis. Intracranial, cerebrovascular and peripheral venous applications related to vascular technology. Normal, abnormal and pathologic states of the human vascular system. Intended for students in the diagnostic medical sonography program. **FHGE: Non-GE; Transferable: CSU**

DMS 56B ADVANCED APPLICATIONS OF VASCULAR TECHNOLOGY 2 Units
Prerequisite: DMS 56A.
2 hours lecture. (24 hours total per quarter)
A continuation of DMS 56A for the advanced principles & theory of noninvasive vascular technology. Comprehensive study of arterial and venous applications including peripheral arterial, abdominal vascular, and assessment of the reproductive tract. Designed to help prepare individuals for the National Board for credentialing as a Registered Vascular Technologist. Intended for students in the diagnostic medical sonography program. **FHGE: Non-GE; Transferable: CSU**

DMS 60A CRITIQUE & PATHOLOGY I 2 Units
Prerequisites: BIOL 40A, 40B and 40C.
Corequisites: DMS 50A, 50B and 72A.
2 hours lecture. (24 hours total per quarter)
Interpretation and critique of normal and abnormal anatomy with correlation of didactic, clinical and image information. Emphasis on communication skills via written and oral case presentations and critiques. Intended for students in the diagnostic medical sonography program. **FHGE: Non-GE; Transferable: CSU**

DMS 60B CRITIQUE & PATHOLOGY II 2 Units
Prerequisite: DMS 60A.
2 hours lecture. (24 hours total per quarter)
Interpretation and critique of normal and abnormal anatomy with correlation of didactic, clinical and image information. Written and oral case presentations with emphasis on abdominal subjects. Intended for students in the diagnostic medical sonography program. **FHGE: Non-GE; Transferable: CSU**

DMS 60C CRITIQUE & PATHOLOGY III 2 Units
Prerequisite: DMS 60B.
2 hours lecture. (24 hours total per quarter)
Interpretation and critique of normal and abnormal anatomy with correlation of didactic, clinical and image information. Written and oral case presentations with emphasis on gynecological and abdominal subjects. Intended for students in the diagnostic medical sonography program. **FHGE: Non-GE; Transferable: CSU**

DMS 60D CRITIQUE & PATHOLOGY IV 2 Units
Prerequisite: DMS 60C.
2 hours lecture. (24 hours total per quarter)
Interpretation and critique of normal and abnormal anatomy with correlation of didactic, clinical and image information. Written and oral case presentations with emphasis on obstetrical subjects. Intended for students in the diagnostic medical sonography program. **FHGE: Non-GE; Transferable: CSU**

DMS 60E CRITIQUE & PATHOLOGY V 2 Units
Prerequisite: DMS 60D.
2 hours lecture. (24 hours total per quarter)
Interpretation and critique of normal and abnormal anatomy with correlation of didactic, clinical and image information. Written and oral case presentations with emphasis on superficial parts, pediatric, neonatal and vascular subjects. Intended for students in the diagnostic medical sonography program. **FHGE: Non-GE; Transferable: CSU**

DMS 60F CRITIQUE & PATHOLOGY VI 2 Units
Prerequisite: DMS 60E.
2 hours lecture. (24 hours total per quarter)
Interpretation and critique of normal and abnormal anatomy with correlation of didactic, clinical and image information. Written and oral case presentations with emphasis on superficial parts, pediatric, neonatal and vascular subjects. Intended for students in the diagnostic medical sonography program. **FHGE: Non-GE; Transferable: CSU**

DMS 70A CLINICAL PRECEPTORSHIP I 8.5 Units
Prerequisites: DMS 72A.
32 hours laboratory. This is a 13 week course. (416 hours total per quarter)
A continuation of DMS 72A. Preceptorship to obtain the technical expertise with emphasis on mastery of knowledge, skills, and abilities required performing sonographic studies and procedures. Emphasis is on elementary level for abdominal and gynecological examinations as to delineate complete anatomic and functional information for interpretation. Intended for students in the diagnostic medical sonography program. **FHGE: Non-GE; Transferable: CSU**

DMS 70B CLINICAL PRECEPTORSHIP II 8 Units
Prerequisite: DMS 70A.
32 hours laboratory. (384 hours total per quarter)
Preceptorship in a medical setting allows the student to obtain the technical expertise with emphasis on mastery of knowledge, skills, and abilities required performing sonographic studies and procedures. The student is exposed to varied methodologies and practice philosophies in a variety of clinical settings. Major emphasis is on the knowledge and performance for abdominal, obstetrics, and gynecology examinations. Intended for students in the diagnostic medical sonography program. **FHGE: Non-GE; Transferable: CSU**

DMS 70C CLINICAL PRECEPTORSHIP III 8.5 Units
Prerequisite: DMS 70B.
32 hours laboratory. This is a 13 week course. (416 hours total per quarter)
Preceptorship in a medical setting that allows the student to obtain the technical expertise with emphasis on mastery of knowledge, skills, and abilities required performing sonographic studies and procedures. Major emphasis is on intermediate-advanced level of knowledge and competency for abdominal, gynecology, obstetrics, and vascular sonography. Intended for students in the diagnostic medical sonography program. **FHGE: Non-GE; Transferable: CSU**

DMS 70D CLINICAL PRECEPTORSHIP IV 8.5 Units
Prerequisite: DMS 70C.
32 hours laboratory. This is a 13 week course. (416 hours total per quarter)
Preceptorship in a medical setting that allows students to obtain the technical expertise with emphasis on the advanced mastery of knowledge, skills, and abilities required performing all types of sonographic studies and procedures. Intended for students in the diagnostic medical sonography program. **FHGE: Non-GE; Transferable: CSU**

DMS 70E CLINICAL PRECEPTORSHIP V 8.5 Units
Prerequisite: DMS 70D.
32 hours laboratory. This is a 13 week course. (416 hours total per quarter)
Preceptorship in a medical setting that allows students to obtain the technical expertise with emphasis on the advanced-graduate mastery of knowledge, skills, and abilities required performing all types of sonographic studies and procedures. Major emphasis is on terminal competencies leading to program completion. Intended for students in the diagnostic medical sonography program. **FHGE: Non-GE; Transferable: CSU**

DMS 70R INDEPENDENT STUDY IN DIAGNOSTIC 1 Unit
DMS 71R MEDICAL SONOGRAPHY 2 Units
DMS 72R 3 Units
DMS 73R 4 Units
3–12 hours per week. (36–144 hours total per quarter)
Provides an opportunity for the student to expand their studies in Diagnostic Medical Sonography beyond the classroom by completing a project or an assignment arranged by agreement between the student and instructor. The student is required to contract with the instructor to determine the scope of assignment and the unit value assigned for successful completion. Students may take a maximum of 6 units of Independent Study per department. **FHGE: Non-GE; Transferable: CSU**

DMS 72A DIAGNOSTIC MEDICAL SONOGRAPHY PROCEDURES & APPLICATIONS 11.5 Units
Prerequisites: BIOL 40A, 40B and 40C.
Corequisites: DMS 50A, 50B and 60A.
1 hour lecture, 32 hours laboratory. (396 hours total per quarter)
Instruction to develop the fundamental skills, procedures and applications for sonographic image acquisition. Includes instruction in establishing technical quality, interpretation, analysis, and case presentation. Includes hands-on participation in a structured lab setting with emphasis on simulation and live scanning exercises plus clinical preceptorship. Intended for students in the diagnostic medical sonography program. **FHGE: Non-GE; Transferable: CSU**

DMS 72E DIAGNOSTIC MEDICAL SONOGRAPHY PROCEDURES & APPLICATIONS 1 Unit
Prerequisite: DMS 70D.
3 hours laboratory. (36 hours total per quarter)
Advanced proficiency levels toward image acquisition, implementing technical quality, interpretation and case analysis with an emphasis on the advanced practice sonographer. Will demonstrate skills through hands-on participation in a controlled lab setting with both simulation and live scanning exercises and demonstration of instructional techniques. Intended for students in the diagnostic medical sonography program. **FHGE: Non-GE; Transferable: CSU**

DMS 80A ADVANCED SONOGRAPHIC PRINCIPLES 4 Units
Prerequisite: DMS 60D.
3 hours lecture, 3 hours laboratory. (72 hours total per quarter)
Continuation of all courses as well as new developments with advanced analysis of current sonographic practice. Final preparation for completion and participation of national registry examinations. Student presentation and critique of neoplastic cases. Intended for students in the diagnostic medical sonography program.
FHGE: Non-GE; Transferable: CSU

ECONOMICS

Business and Social Sciences (650) 949-7322 www.foothill.edu/bss/

ECON 1A PRINCIPLES OF MACROECONOMICS 5 Units
Prequisite: MATH 220.
Advisory: Demonstrated proficiency in English by placement into ENGL 1A as determined by score on the English placement test or through an equivalent placement process; MATH 105.
5 hours lecture. (60 hours total per quarter)
Fundamental economic concepts; determination of national income and employment; income fluctuation; money and the banking system; government monetary and fiscal policies; current economic problems; economic development; international trade. ECON 1A or ECON 1B may be taken in either order. **FHGE: Social & Behavioral Sciences; Transferable: UC/CSU**

ECON 1B PRINCIPLES OF MICROECONOMICS 5 Units
Prerequisite: MATH 220.
Advisory: Demonstrated proficiency in English by placement into ENGL 1A as determined by score on the English placement test or through an equivalent placement process; MATH 105.
5 hours lecture. (60 hours total per quarter)
Micro analysis of economic life. Allocation of resources. Consumer behavior. Pricing and output decisions. Distribution of wealth and income. Nature and characteristics of business enterprises. International trade. Comparative economic systems. ECON 1A and ECON 1B may be taken in either order. **FHGE: Social & Behavioral Sciences; Transferable: UC/CSU**

ECON 9 POLITICAL ECONOMY 4 Units
Advisory: Demonstrated proficiency in English by placement into ENGL 1A as determined by score on the English placement test or through an equivalent placement process; not open to students with credit in ECON 9H, POLI 9 or 9H.
4 hours lecture. (48 hours total per quarter)
Analysis of the contending theoretical formulations of International Political Economy (IPE) emphasizing the interconnection between economics and politics in the broad context of a global economy and the formulation of national public policy. Economic and political policy issues of current national and international significance are emphasized. **FHGE: Social & Behavioral Sciences; Transferable: UC/CSU**

ECON 9H HONORS POLITICAL ECONOMY 4 Units
Prerequisite: Honors Institute participant.
Advisory: Demonstrated proficiency in English by placement into ENGL 1A as determined by score on the English placement test or through an equivalent placement process; not open to students with credit in ECON 9, POLI 9 or 9H.
4 hours lecture. (48 hours total per quarter)
Analysis of the contending theoretical formulations of International Political Economy (IPE) emphasizing the interconnection between economics and politics in the broad context of a global economy and the formulation of national public policy. Economic and political Policy issues of current national and international significance are emphasized. As an honors course, it is a full thematic seminar with advanced teaching methods focusing on extensive writing, reading, and research assignments, student lectures, group discussions and interactions. Distinguishing features include: heightened focus on and evaluation of global objectives and components of developed and developing nations, increased depth of analysis and breadth of examination, higher level of student critical thinking. Expanded learning outcomes and fuller description of these focused elements. **FHGE: Social & Behavioral Sciences; Transferable: UC/CSU**

ECON 18 CONTEMPORARY ECONOMIC ISSUES 4 Units
4 hours lecture. (48 hours total per quarter)
Course stresses the application of economic theory to contemporary issues with particular emphasis on the role of government and public policy. Economic models and reasoning will be employed to understand causes and possible solutions to problems such as environmental degradation, financial bubbles and crises, income inequality, health care provision, and effectiveness of aid to developing countries. Students will be exposed not only to the issues but to a unique manner in which to frame the discussion. This exposure will assist students in their future economic and non-economic coursework as well as in becoming well-informed citizens with critical-thinking capabilities. **FHGE: Non-GE; Transferable: UC/CSU**

ECON 25 INTRODUCTION TO THE GLOBAL ECONOMY 4 Units
Advisory: ECON 1A and 1B.
4 hours lecture. (48 hours total per quarter)
Analysis of increasing economic integration in the post-WW II era with a focus on international trade and investment. Introduction to international economic organizations such as the WTO and IMF. **FHGE: Social & Behavioral Sciences; Transferable: UC/CSU**

ECON 54H HONORS INSTITUTE SEMINAR IN ECONOMICS 1 Unit
Formerly: ECON 34, 34H
Prerequisite: Honors Institute participant.
Advisory: Not open to students with credit in ECON 34 or 34H.
1 hour lecture. (12 hours total per quarter)
A seminar in directed readings, discussions and projects in economics. Specific topics to be determined by the instructor. **FHGE: Non-GE; Transferable: CSU**

ECON 70R INDEPENDENT STUDY IN ECONOMICS 1 Unit
ECON 71R 2 Units
ECON 72R 3 Units
ECON 73R 4 Units
3–12 hours per week. (36–144 hours total per quarter)
Provides an opportunity for the student to expand their studies in Economics beyond the classroom by completing a project or an assignment arranged by agreement between the student and instructor. The student is required to contract with the instructor to determine the scope of assignment and the unit value assigned for successful completion. Students may take a maximum of 6 units of Independent Study per department. **FHGE: Non-GE; Transferable: CSU**

EMERGENCY MEDICAL TECHNICIAN

Biological and Health Sciences **(650) 949-7538**
www.foothill.edu/bio/programs/emt/

EMT 303 EMERGENCY MEDICAL TECHNICIAN: BASIC CONTINUING EDUCATION 1.5 Units
Prerequisites: Students must either possess a current EMT-1 certificate or a certification which has been expired for no more than 24 months (must complete before the end of that month); current certification in American Red Cross CPR-BLS for the Professional Rescuer or American Heart Association CPR for the Healthcare Provider.
3 hours lecture-laboratory. (36 hours total per quarter)
36 hour course which meets the education requirements as specified by the California Emergency Medical Services Authority, the Emergency Medical Authority of Santa Clara County and the National Registry of EMT (NREMT). Intended for both pre-employed personnel and those persons currently employed by a fire department or ambulance service within the County of Santa Clara. Review and update the knowledge and skills required for basic certification. **FHGE: Non-GE**

EMT 304 EMERGENCY MEDICAL TECHNICIAN: BASIC PART A 3 Units
Prerequisite: HLTH 55 or First Responder Course or equivalent work experience as determined by the instructor.
Advisory: EMT 304 and 305 may not be taken concurrently.
7 hours lecture-laboratory. (84 hours total per quarter)
Intended to instruct a student to the level of Emergency Medical Technician-1 who serves as a vital link in the chain of the health care team. It is recognized that the majority of prehospital emergency medical care will be provided by the EMT-1. Includes all skills necessary for the individual to provide emergency medical care at a basic life support level with a fire department, or other specialized service. First of two courses required to be eligible to take the California written and practical exam for certification as an Emergency Medical Technician I. **FHGE: Non-GE**

EMT 305 EMERGENCY MEDICAL TECHNICIAN: BASIC PART B 4 Units
Prerequisite: Successful completion of EMT 304 in the last six months.
Advisory: EMT 305 is part two of two courses required to be eligible to take the California State written and practical exam for certification as an Emergency Medical Technician-I; EMT 304 and 305 may not be taken concurrently.
7 hours lecture-laboratory, 2 hours clinic. (108 hours total per quarter)
Second of two courses required to be eligible to take the California State written and practical exam for certification as an Emergency Medical Technician - I. Intended to instruct a student to the level of Emergency Medical Technician-Basic who serves as a vital link in the chain of the health care team. Includes all skills necessary for the individual to provide emergency medical care at a basic life support level with a fire department, ambulance, or other specialized service. **FHGE: Non-GE**

ENGINEERING

Physical Sciences, Mathematics & Engineering **(650) 949-7259**
www.foothill.edu/psme/

ENGR 6 ENGINEERING GRAPHICS 4 Units
Advisory: ENGL 110 or ESLL 25 and MATH 220.
3 hours lecture, 3 hours laboratory. (72 hours total per quarter)
The application of orthographic projection to detail and assembly drawings, with examples from various engineering fields. Geometric construction, sketching, dimensioning for interchangeable assembly and specification of materials. Graphical analysis, documentation and presentation of engineering information. Theory of orthographic projection and its application to graphical solution of the more advanced three-dimensional space problems. Investigation of relationships between points, lines, planes and solids. Use of solid modeling computer program in carrying out the above course components. **FHGE: Non-GE; Transferable: UC/CSU**

ENGR 10 INTRODUCTION TO ENGINEERING 5 Units
Formerly: ENGR 20
Prerequisite: MATH 220.
Advisory: ENGL 110 or ESLL 25; not open to students with credit in ENGR 20; UC will accept for transfer credit either ENGR 10 or ENGR 49, not both.
4 hours lecture, 3 hours laboratory. (84 hours total per quarter)
This is a first experience in engineering, this course is open to all students intending to major in engineering or wanting to try out engineering. Students will gain experience with project management and design, insights from discussions on ethics and environmental impact and skills in written and oral technical communication. **FHGE: Non-GE; Transferable: UC/CSU**

ENGR 12 COMPUTER ARCHITECTURE & ORGANIZATION 5 Units
Prerequisite: C S 1A or 2A.
Advisory: C S 1C or 2C; not open to students with credit in C S 10.
4 hours lecture, 3 hours laboratory. (84 hours total per quarter)
Introduction to the organization, architecture and machine-level programming of computer systems. Topics include mapping of high-level language constructs into assembly code, internal data representations, numerical computation, virtual memory, pipelines, caching, multitasking, MIPS architecture, MIPA assembly language code, interrupts, input/output, peripheral storage processing, and comparison of CISC (Intel) and RISC (MIPS) instruction sets. **FHGE: Non-GE; Transferable: UC/CSU**

ENGR 25 INTRODUCTION TO FRESH WATER 5 Units
5 hours lecture. (60 hours total per quarter)
Introduction to freshwater resources from multiple scientific and policy perspectives. Review of basic concepts, water issues affecting cities, farms, open space, and multiple-use landscapes are studied. Students will be able to perform basic calculations related to water quantity, flow, and energy generation from hydropower, have greater insight into how water policy is made and implemented, be introduced to cost, financing, and rate-making challenges in the water sector, have practice breaking a complex water problem into important parts and be knowledgeable about important water issues in California and worldwide. **FHGE: Non-GE; Transferable: UC/CSU**

ENGR 28 INTRODUCTION TO BIOENGINEERING 4 Units
Advisory: Not open to students with credit in BIOL 28.
4 hours lecture. (48 hours total per quarter)
An introduction to the field of bioengineering. Topics covered will include an overview of basic biological systems and biochemistry for non-biology majors, how the basic principles of engineering and physics can be applied to problems in biological science, and an overview of current trends in bioengineering including: medical devices, biomaterials, bioinstrumentation, computational biology, and agricultural biotechnology. **FHGE: Non-GE; Transferable: CSU; UC pending**

ENGR 35 STATICS 5 Units
Prerequisites: MATH 1B and PHYS 4A.
5 hours lecture. (60 hours total per quarter)
Principles of statics as applied to particles and rigid bodies in two and three dimensions under concentrated and distributed force systems. Equilibrium conditions in structures, machines, beams and cables. Determination of centroids and moments of inertia. Dry friction and methods of virtual work. **FHGE: Non-GE; Transferable: UC/CSU**

ENGR 37 INTRODUCTION TO CIRCUIT ANALYSIS 5 Units
Prerequisites: MATH 1B and PHYS 4B.
5 hours lecture. (60 hours total per quarter)
Analysis of lumped, linear circuits in steady state DC and AC. Principals and Laws are used such as Ohm's Law and Kirchhoff's Law, Thevenin's and Norton's Theorem. Method of analyze circuit also include Linearity, Superposition, Source Transformation, and Maximum Power Transfer. First and second order circuits' complete response, AC power and steady-state analysis, frequency and transient response and circuits using op-amps. **FHGE: Non-GE; Transferable: UC/CSU**

ENGR 37L CIRCUIT ANALYSIS LABORATORY 2 Units
Corequisite: ENGR 37.
1 hour lecture-laboratory, 3 hours laboratory. (48 hours total per quarter)
Practical verification of theorems and concepts learned in ENGR 37 through experimentation. Included will be experiments in DC and AC circuits involving the utilization of a variety of instruments such as DC/AC meters, regulated power supplies, signal generators, oscilloscopes and frequency counters. **FHGE: Non-GE; Transferable: UC/CSU**

ENGR 39 ENERGY, SOCIETY & THE ENVIRONMENT 5 Units
Advisory: MATH 10 or 57.
4 hours lecture, 3 hours laboratory. (84 hours total per quarter)

Guides the general education student without a science or technology background through humanity's efforts to harness and generate energy, for industry, work, habitat and recreation. Serves as a formal introduction to work, energy and efficiency, from human's earliest endeavors building pyramids to the development of railroads, the automobile and airplane, nuclear power, and alternative energy sources. Topics include energy, work, and power, steam and internal combustion engine, electricity, cars and transportation, and atomic energy. Emphasis on the environmental impact from acid rain, smog and the greenhouse effect, to pollution from coal, natural gas, and petroleum extraction, to nuclear accidents. Includes a comprehensive overview of sustainable energy systems, megacities, LEED and high efficiency buildings, and integrated food, water, and transportation services. Discussion and reflection on global population and consumption driven economic models. **FHGE: Natural Sciences; Transferable: UC/CSU**

ENGR 40 INTRODUCTION TO CLEAN ENERGY TECHNOLOGY 5 Units
Advisory: CHEM 25 or equivalent; ability to do basic engineering calculations including use of spreadsheets.
4 hours lecture, 3 hours laboratory. (84 hours total per quarter)
Introduces the technical student to the field of clean energy technology, including modern energy systems and utility infrastructure, fossil fuel and renewable energy power generation, solar photovoltaic (PV) and wind technology, buildings as systems, green and LEED building, smart energy and active distribution (microgrid concept), transportation energy and advanced transportation solutions, and the future of sustainable energy systems. Overview of the energy industry, environmental and economic considerations, and key research and policy areas for clean and sustainable energy solutions. Provides students with a conceptual framework and foundation to proceed to more advanced study, as well as exploring emerging clean energy careers. **FHGE: Non-GE; Transferable: UC/CSU**

ENGR 45 PROPERTIES OF MATERIALS 5 Units
Prerequisites: CHEM 1B and MATH 1C.
Corequisite: Completion of, or concurrent enrollment in PHYS 4B.
4 hours lecture, 1 hour lecture-laboratory, 2 hours laboratory. (84 hours total per quarter)
Properties of engineering materials related to basic structure; applications to the selection and use of engineering materials. **FHGE: Non-GE; Transferable: UC/CSU**

ENGR 47 DYNAMICS 5 Units
Prerequisite: ENGR 35.
5 hours lecture. (60 hours total per quarter)
Intended for engineering majors planning to transfer to four-year institutions. It covers the fundamentals of kinematics and kinetics of particles and rigid bodies. Topics include general and relative motion, force and acceleration, work and energy, and impulse and momentum analyzed in two and three dimensions. Provides an introduction to vibrations and oscillations. **FHGE: Non-GE; Transferable: UC/CSU**

ENGR 49 ENGINEERING PROFESSION 1 Unit
Advisory: UC will accept for transfer credit either ENGR 10 or ENGR 49, not both.
1 hour lecture. (12 hours total per quarter)
A study of the engineering profession, its requirements, opportunities and responsibilities. Exposure to engineers and their educational, personal, and career paths. Review of engineering ethics. Students formulate a career plan. **FHGE: Non-GE; Transferable: UC/CSU**

ENGR 62A INTRODUCTION TO 3-D PRINTING & RAPID PROTOTYPE DESIGN 4 Units
4 hours lecture. (48 hours total per quarter)
Introduction to career options and the fundamental processes used in the 3D design and model-making industry. Guest speakers, company tours, and career guides in addition to lectures and group discussions will give students an overview of the job skills and technologies required for various disciplines within the industry.
FHGE: Non-GE; Transferable: CSU

ENGR 62B 3-D PRINTING: BASIC MODEL MAKING 5 Units
Prerequisites: ENGR 6 and 62A.
4 hours lecture, 3 hours labratory. (84 hours total per quarter)
Introduction to the principles of three-dimensional design as they relate to model making for 3D printing and rapid prototyping applications. Students will develop forms and shapes using a variety of materials and model-making techniques, with an emphasis on plastic and metal processes. In addition to modeling with basic materials, students begin to develop skills using quick, visual model-development materials, including foam core, cardboard and clay. **FHGE: Non-GE; Transferable: CSU**

ENGR 62C 3-D PRINTING: ADVANCED MODEL MAKING 5 Units
Prerequisite: ENGR 62B.
4 hours lecture, 3 hours laboratory. (84 hours total per quarter)
Focus on more advanced and complex methods used throughout the model-making industry. Students will develop skills in using computer-aided design and manufacturing equipment and software to fabricate models. Designs will be created on three-dimensional solid modeling software and transferred to a three-dimensional computer aided manufacturing software for coding and post processing. Students will fabricate parts on a variety of equipment which may include CNC mills and lathes, laser cutters, and two and three-dimensional rapid modeling equipment.
FHGE: Non-GE; Transferable: CSU

ENGR 62D 3-D RAPID MODEL MAKING & PROTOTYPE DEVELOPMENT 5 Units
Prerequisite: ENGR 62C.
4 hours lecture, 3 hours laboratory. (84 hours total per quarter)
In this project development course students focus upon fabrication of a variety of complex models using advanced model-making equipment and rapid prototyping. Students program, set-up, and operate 3D modeling machines. Field trips may be required. **FHGE: Non-GE; Transferable: CSU**

ENGR 70R INDEPENDENT STUDY IN ENGINEERING 1 Unit
ENGR 71R 2 Units
ENGR 72R 3 Units
ENGR 73R 4 Units
3–12 hours per week. (36–144 hours total per quarter)
Provides an opportunity for the student to expand their studies in Engineering beyond the classroom by completing a project or an assignment arranged by agreement between the student and instructor. The student is required to contract with the instructor to determine the scope of assignment and the unit value assigned for successful completion. Students may take a maximum of 6 units of Independent Study per department. **FHGE: Non-GE; Transferable: CSU**

ENGR 81 ELECTRIC POWER SYSTEMS 5 Units
Advisory: ENGR 39, 40, MATH 105.
4 hours lecture, 3 hours laboratory. (84 hours total per quarter)
Introduces the technical professional and engineering student to the field of modern power systems, from electrical power generation to transmission and distribution to electrical power networks in buildings. Overview of AC and DC power, electrical power infrastructure, operation of motors and generators, capacitors and inductors, and real and reactive power. Develops a working knowledge of how electrical utilities work, including both power production and distribution as well as electricity markets. The course will conclude with challenges faced by technology, the smart grid of the 21st century. **FHGE: Non-GE; Transferable: CSU**

ENGR 82 PHOTO VOLTAIC & SOLAR CELL DESIGN 5 Units
Prerequisite: ENGR 40.
Advisory: ENGR 81; CHEM 25 or equivalent; introductory college physics; ability to do basic engineering calculations including use of spreadsheets.
4 hours lecture, 3 hours laboratory. (84 hours total per quarter)
Introduces the technical student and working professional to the field of photovoltaic technology, including design, fabrication technology, commercial applications and grid incorporation. Gives an overview of the solar industry, environmental and economic considerations, and key research and policy areas for clean and sustainable energy solutions. Provides students with a conceptual and practical framework to proceed to more advanced study towards careers in the solar technology. **FHGE: Non-GE; Transferable: CSU**

ENGR 83 SMART ENERGY SYSTEMS 5 Units
Advisory: ENGR 40, 81 and 82.
4 hours lecture, 3 hours laboratory. (84 hours total per quarter)
Introduces the technical professional and engineering student to the emerging field of smart energy systems, active power management, and ‚fòsmart grid' technologies. Topics include SCADA and Phasor networks for monitoring power systems and distribution automation, distributed energy management systems (DEMS) to integrate Renewable Energy (RE) with building/campus EMS/BMS, integration of renewables, and system requirements for an Electric vehicle (EV) charging infrastructure. Includes an overview of goals, challenges, and milestones for developing a ‚fòsupergrid' for integrating utility scale wind, low emission baseload energy, and systemwide management tools for network stability. **FHGE: Non-GE; Transferable: CSU**

ENGR 83A INTRODUCTION TO BIOMEDICAL ENGINEERING 5 Units

5 hours lecture. (60 hours total per quarter)

Introduction to the field of biomedical engineering. Due to the nature of this highly interdisciplinary field, the students will be introduced to a wide variety of problems that biomedical engineers work to solve. Covers a variety of applications, such as, implantable devices, bioinstrumentation, biomaterials, and bioelectric phenomena. Provides a general understanding of the biomedical device industry in terms of its size and scope, current trends and the wide range of products involved with emphasis on biomedical companies in California. Provides an overview of the development of a medical device from initial conception through development, testing, validation, manufacture, clinical trials and final approval by regulatory agencies. Strongly recommended as a first class for those with no previous biomedical device industry experience. **FHGE: Non-GE; Transferable: CSU**

ENGR 83B DESIGN & MANUFACTURING IN THE BIOMEDICAL ENGINEERING FIELD 5 Units

5 hours lecture. (60 hours total per quarter)

An introduction to the design and manufacturing of medical devices with special focus on the unique design manufacturing challenges that are necessary to achieve World Class Manufacturing excellence. Describes the fundamental systems used in the design, development, and manufacturing of medical devices and how these relate to industry regulations. Specific topics include: material and process selection considerations, aseptic processes, clean-room techniques, sterilization processes, clinical testing, lot traceability, introduction to automation and control systems, testing and instrumentation lab and manufacturing controls. **FHGE: Non-GE; Transferable: CSU**

ENGR 83C INTRODUCTION TO MEDICAL DEVICE REGULATIONS 5 Units

5 hours lecture. (60 hours total per quarter)

Introduction to certification standards and the agencies involved in the regulatory processes specific to the medical device industry. Topics include Food and Drug Administration regulations, international regulations and quality certification processes. **FHGE: Non-GE; Transferable: CSU**

ENGR 83D INTRODUCTION TO QUALITY ASSURANCE 5 Units

5 hours lecture. (60 hours total per quarter)

Provides students with an in-depth understanding of the role quality plays in an industrial environment regulated by the Food and Drug Administration (FDA). The responsibilities of quality assurance during the engineering, manufacturing, and production of a product. Topics will include management responsibilities, design control, production and process controls, continuous improvement, and methods and tools used to support quality assurance. The ISO standards, the regulatory requirements mandated by the FDA. **FHGE: Non-GE; Transferable: CSU**

ENGR 83E INTRODUCTION TO DOCUMENTATION 5 Units

5 hours lecture. (60 hours total per quarter)

This course focuses on establishing and managing documentation and related systems in the area of medical device manufacturing. Fundamentals of governmental requirements that impact medical device documentation, the benefits and elements of a documented configuration management system, and the details to establish related systems, policies and tools. **FHGE: Non-GE; Transferable: CSU**

ENGR 102 BUILDING SCIENCE & PERFORMANCE ENGINEERING 5 Units

Advisory: ENGR 40, 81.

4 hours lecture, 3 hours laboratory. (84 hours total per quarter)

Introduces practicing engineers, practitioners and engineering students to the field of building energy efficiency and green building technology, with an emphasis on building science and performance engineering. Key topics include understanding buildings as integrated systems, lighting, ventilation, heating and cooling, and energy efficiency as a design principle. Includes an overview of energy programs for financing energy efficiency projects, sustainable design assistance; field engineering (commissioning and auditing); and integration of renewable energy (BIPV). Prepares working students to effectively practice in this field. Laboratory includes real commissioning and auditing work on existing buildings, economic analysis of projects, and working with industry professionals to apply building efficiency skills to real buildings. **FHGE: Non-GE**

ENGLISH

Language Arts (650) 949-7250 www.foothill.edu/la/

ENGL 1A COMPOSITION & READING 5 Units

Prerequisite: Demonstrated proficiency in English by placement as determined by score on the English placement test or through an equivalent placement process.

Advisory: Not open to students with credit in ENGL 1AH; students may enroll in ENGL 1A or 1T, but not both, for credit.

5 hours lecture. (60 hours total per quarter)

Techniques and practice of expository and argumentative writing based on critical reading and thinking about texts. Reading focused primarily on works of non-fiction prose, chosen to represent a broad spectrum of opinions and ideas, writing styles, and cultural experiences. Fulfills the Foothill College reading and composition requirement for the AA/AS degree and the university-transfer general education requirement in English reading and written composition. **FHGE: English; Transferable: UC/CSU**

ENGL 1AH HONORS COMPOSITION & READING 5 Units

Prerequisites: Demonstrated proficiency in English by placement as determined by score on the English placement test or through an equivalent placement process; Honors Institute participant.

Advisory: Not open to students with credit in ENGL 1A or ENGL 1T.

5 hours lecture. (60 hours total per quarter)

Techniques and practice of expository and argumentative writing based on critical reading and thinking about texts. Reading focused primarily on works of non-fiction prose, chosen to represent a broad spectrum of opinions and ideas, writing styles, and cultural experiences. Fulfills the Foothill College reading and composition requirement for the AA/AS degree and the university-transfer general education requirement in English reading and written composition. The honors section offers rigorous preparation in analytic reading and writing skills for students intending to transfer to a four-year college or university. Course provides opportunity to engage contemporary social and ethical issues through small group discussion, a structured sequence of papers requiring higher-level thinking tasks, and collaborative projects. Emphasis is placed on multiple drafts and substantive revision to produce articulate writing appropriate to academic disciplines. Research paper is required. **FHGE: English; Transferable: UC/CSU**

ENGL 1B COMPOSITION, CRITICAL READING & THINKING 5 Units

Prerequisite: One of the following: ENGL 1A, 1AH, 1S & 1T or ESLL 26.

Advisory: Not open to students with credit in ENGL 1BH.

5 hours lecture. (60 hours total per quarter)

Further development in the technique and practice of analytical, critical, and argumentative writing through critical reading of literature. Course focuses on literary works from major genres to promote appreciation of literature and represent a broad spectrum of opinions and ideas, writing styles, and cultural experiences. Formal instruction in composition and critical thinking. **FHGE: Communication & Analytical Thinking; Transferable: UC/CSU**

ENGL 1BH HONORS COMPOSITION, CRITICAL READING & THINKING 5 Units

Prerequisites: One of the following: ENGL 1A, 1AH, 1S & 1T or ESLL 26; Honors Institute participant.

Advisory: Not open to students with credit in ENGL 1B.

5 hours lecture. (60 hours total per quarter)

Further development in the technique and practice of analytical, critical, and argumentative writing through critical reading of literature. Course focuses on literary works from major genres to promote appreciation of literature and represent a broad spectrum of opinions and ideas, writing styles, and cultural experiences. Formal instruction in composition and critical thinking. The honors section offers a challenging intellectual environment for students intending to transfer to a four-year college or university. Class discussion and assignments focus on literature as a reflection of multiple perspectives, social constructs, and cultural values. Course fosters an understanding and appreciation of various literary genres and includes logic and literary theory. Emphasis on rhetorical strategies and stylistic refinements for effective persuasive writing across the disciplines. Enrichment activities include attendance at plays, author readings, public lectures, and independent or collaborative study on a contemporary author. **FHGE: Communication & Analytical Thinking; Transferable: UC/CSU**

ENGL 1C ADVANCED COMPOSITION 4 Units
Prerequisite: One of the following: ENGL 1A, 1AH, 1S & 1T or ESLL 26.
Advisory: Not open to students with credit in ENGL 1CH or 2.
4 hours lecture. (48 hours total per quarter)
Advanced study and practice of expository and argumentative writing. Focus is on reading and writing assignments from across the disciplines to further improve and refine reading, grammar, composition, and critical thinking skills for students preparing to transfer to four-year colleges and universities. **FHGE: Non-GE; Transferable: UC/CSU**

ENGL 1CH HONORS ADVANCED COMPOSITION 4 Units
Prerequisites: One of the following: ENGL 1A, 1AH, 1S & 1T or ESLL 26; Honors Institute participant.
Advisory: Not open to students with credit in ENGL 1C or 2.
4 hours lecture. (48 hours total per quarter)
Advanced study and practice of expository and argumentative writing. Focus on reading and writing assignments from across the disciplines to refine critical reading, rhetoric, writing style, and critical thinking skills. The honors section is intensive in content, involving both writing and meta-analysis of complex texts. Includes collaborative evaluations of the content, evidence, organizing principles and style of a variety of texts. Course encourages students to examine assumptions, implications and unintended consequences of rhetorical and content choices. Includes focus on primary sources and the interpretations of these documents in contemporaneous writing. Course expands and enhances the student's ability to write with fluency, effectiveness, and intellectual rigor. **FHGE: Non-GE; Transferable: UC/CSU**

ENGL 1S INTEGRATED COMPOSITION & READING 5 Units
Formerly: ENGL 42S
Prerequisite: Eligibility based on appropriate assessment information: CPT reading score of 55 (based on Ability to Benefit (ATB) standards) or ENGL 110 placement.
Corequisite: ENGL 242A.
Advisory: Faculty recommendation for enrollment; if the student intends to use ENGL 1S & 1T combination to satisfy the Foothill General Education Requirement for Area II, English, the student must complete ENGL 1S & 1T. Also, to receive UC transfer credit for ENGL 1A, the student must complete ENGL 1S & 1T, and UC will transfer 5 units maximum for the combination of these two courses.
5 hours lecture. (60 hours total per quarter)
Integrated reading and writing pathway that scaffolds instruction in freshman composition outcomes over two quarters, ENGL 1S and ENGL 1T respectively. Over this 2 quarter stretch, students read substantive quantities of college-level texts and write a total of 10,000 words, comprised of a minimum of 10 compositions (7 out-of-class and 3 in-class) to practice the techniques of critical reading, critical thinking, and written communication. Reading focused primarily on works of non-fiction prose, including published and student writing, chosen to represent a broad spectrum of opinions and ideas, writing styles, and cultural experiences. **FHGE: Non-GE; Transferable: UC/CSU**

ENGL 1T INTEGRATED COMPOSITION & READING 5 Units
Formerly: ENGL 42T
Prerequisite: ENGL 1S.
Corequisite: ENGL 242B.
Advisory: Student should enroll with the same instructor as taken for ENGL 1S; if the student intends to use ENGL 1S & 1T combination to satisfy the Foothill General Education Requirement for Area II, English, the student must complete ENGL 1S & 1T. Also, to receive UC transfer credit for ENGL 1A, the student must complete ENGL 1S & 1T, and UC will transfer 5 units maximum for the combination of these two courses; student may enroll in ENGL 1T or 1A, but not both, for credit.
5 hours leture. (60 hours total per quarter)
Integrated reading and writing pathway that scaffolds instruction in freshman composition outcomes over two quarters, ENGL 1S and ENGL 1T respectively. Over this 2 quarter stretch, students read substantive quantities of college-level texts and write a total of 10,000 words, comprised of a minimum of 10 compositions (7 out-of-class and 3 in-class) to practice the techniques of critical reading, critical thinking, and written communication. Reading focused primarily on works of non-fiction prose, including published and student writing, chosen to represent a broad spectrum of opinions and ideas, writing styles, and cultural experiences. ENGL 1T is the second half of ENGL 1S & T. **FHGE: English; Transferable: UC/CSU**

ENGL 5 GAY & LESBIAN LITERATURE 4 Units
Advisory: Demonstrated proficiency in English by placement into ENGL 1A as determined by score on the English placement test or through an equivalent placement process; not open to students with credit in ENGL 5H.
4 hours lecture. (48 hours total per quarter)
Introduction to the history and development of gay and lesbian literature as a continuous theme in the development of mainstream literary traditions and, more recently, as a separate and distinct literary genre. Readings selected to represent a variety of historical periods and contrasting societal attitudes toward same-sex relationships, ranging from ancient Greek and Roman texts to contemporary American poetry, fiction, drama, and non-fiction prose. Emphasis on the emergence of contemporary gay/lesbian literatures and identities in the United States in the twentieth century within the broader context of on-going class, race, gender, religious, political, and aesthetic debates. **FHGE: Humanities; Transferable: UC/CSU**

ENGL 5H HONORS GAY & LESBIAN LITERATURE 4 Units
Prerequisite: Honors Institute participant.
Advisory: Demonstrated proficiency in English by placement into ENGL 1A as determined by score on the English placement test or through an equivalent placement process; not open to students with credit in ENGL 5.
4 hours lecture. (48 hours total per quarter)
Introduction to the history and development of gay and lesbian literature as a continuous theme in the development of mainstream literary traditions and, more recently, as a separate and distinct literary genre. Readings selected to represent a variety of historical periods and contrasting societal attitudes towards same-sex relationships, ranging from ancient Greek and Roman texts to contemporary American poetry, fiction, drama, and non-fiction prose. Emphasis on the emergence of contemporary gay-lesbian literatures and identities in the United States in the twentieth century within the broader context of ongoing class, race, gender, religious, political, and aesthetic debates. Honors work challenges students to a greater level of sophisticated scholarship through extensive research and literature reviews, critical essays, and opportunities for scholarly presentation. This honors course offers students an enriching and rigorous environment through learner-centered pedagogy, student-generated discussions, and self-directed projects. Students will also actively engage in in-depth analysis and critical evaluation of literary texts.
FHGE: Humanities; Transferable: UC/CSU

ENGL 7 NATIVE AMERICAN LITERATURE 4 Units
Advisory: Demonstrated proficiency in English by placement into ENGL 1A as determined by score on the English placement test or through an equivalent placement process; not open to students with credit in ENGL 7H.
4 hours lecture. (48 hours total per quarter)
Introduction to the history, development, and diversity of Native American literatures from pre-contact civilizations to present-day tribal cultures. Readings in traditional creation myths, songs, and stories from a variety of tribal cultures; nineteenth and twentieth century autobiographical narratives; and significant works of fiction, poetry, and non-fiction prose by contemporary Native American authors. Emphasis on the specific religious, linguistic, historical, political and cultural context of Native American literary achievements. **FHGE: Humanities; United States Cultures & Communities; Transferable: UC/CSU**

ENGL 7H HONORS NATIVE AMERICAN LITERATURE 4 Units
Prerequisite: Honors Institute participant.
Advisory: Demonstrated proficiency in English by placement into ENGL 1A as determined by score on the English placement test or through an equivalent placement process; not open to students with credit in ENGL 7.
4 hours lecture. (48 hours total per quarter) Introduction to the history, development, and diversity of Native American literatures from pre-contact civilizations to present-day tribal cultures. Readings in traditional creation myths, songs, and stories from a variety of tribal cultures; nineteenth and twentieth century autobiographical narratives; and significant works of fiction, poetry, and non-fiction prose by contemporary Native American authors. Emphasis on the specific religious, linguistic, historical, political and cultural context of Native American literary achievements. Honors work challenges students to be more analytical through expanded assignments including, but not limited to, research-driven literature reviews, research essays, and outside enrichment opportunities. The honors course offers motivated students an enriching and rigorous environment by means of a learner-centered pedagogy, student-generated discussions, self-directed yet supervised projects, and the emphasis and application of analysis, synthesis, and evaluation.
FHGE: Humanities; United States Cultures & Communities; Transferable: UC/CSU

ENGL 8 CHILDREN'S LITERATURE 4 Units
Advisory: Demonstrated proficiency in English by placement into ENGL 1A as determined by score on the English placement test or through an equivalent placement process.
4 hours lecture. (48 hours total per quarter)
A survey of children's literature from many periods and cultures, including classics, picture books, folktales, fairy tales, biography, poetry, fantasy and fiction. Emphasis on the ideas, didactic and sociological, reflecting relationships among cultures in America included in books usually read by children. Special emphasis on books that explore the cross-cultural influences of our shared oral tradition and folklore as well as the issues arising from a diverse mix of cultures in the U.S. **FHGE: Non-GE; Transferable: UC/CSU**

ENGL 11 INTRODUCTION TO POETRY 4 Units
Prerequisite: Demonstrated proficiency in English by placement into ENGL 1A as determined by score on the English placement test or through an equivalent placement process.
Advisory: Not open to students with credit in ENGL 11H.
4 hours lecture. (48 hours total per quarter)
Analysis and discussion of forms, techniques and meanings of poetry, with emphasis on modern examples in English or translation to develop the student's ability to read, understand, and evaluate a poem. **FHGE: Non-GE; Transferable: UC/CSU**

ENGL 11H HONORS INTRODUCTION TO POETRY 4 Units
Prerequisites: Demonstrated proficiency in English by placement into ENGL 1A as determined by score on the English placement test or through an equivalent placement process; Honors Institute participant.
Advisory: Not open to students with credit in ENGL 11.
4 hours lecture. (48 hours total per quarter)
Analysis and discussion of forms, techniques and meanings of poetry, with emphasis on modern examples in English or translation to develop the student's ability to read, understand, and evaluate a poem. Honors work challenges students to be more analytical through expanded assignments including, but not limited to, research-driven literature reviews, reflection papers, and outside enrichment opportunities. The honors course offers accelerated students an enriching and demanding environment by means of a learner-centered pedagogy, student-generated and student led discussions, self-directed, yet supervised, creative projects, and the emphasis and application of higher-level thinking skills: analysis, synthesis and evaluation.
FHGE: Non-GE; Transferable: UC/CSU

ENGL 12 AFRICAN AMERICAN LITERATURE 4 Units
Advisory: Demonstrated proficiency in English by placement into ENGL 1A as determined by score on the English placement test or through an equivalent placement process.
4 hours lecture. (48 hours total per quarter)
Literature by African Americans beginning in slavery and continuing on into the 20th and 21st centuries. Discovery of many of the current stereotypes in American cultural mythology about African Americans. Study of the complex and varying forms of resistance and creation African Americans have developed. Definition of issues and strategies in writings from the 19th, 20th and 21st centuries, including audience, identity (self), gender, family, culture, politics, spirituality and language. Intended for students wishing to transfer and/or students interested in African American literature. **FHGE: United States Cultures & Communities, Humanities; Transferable: UC/CSU**

ENGL 14 TRAVELING THE WORLD THROUGH CONTEMPORARY LITERATURE 4 Units
Advisory: Demonstrated proficiency in English by placement into ENGL 1A as determined by score on the English placement test or through an equivalent placement process.
4 hours lecture. (48 hours total per quarter)
Selected fiction written between I950 and the present, with emphasis on English, Canadian, and international works in translation. Students are introduced to various thematic and stylistic trends in contemporary fiction; use of current scientific discoveries, historical theories, religious and cultural developments. **FHGE: Humanities; Transferable: UC/CSU**

ENGL 16 INTRODUCTION TO LITERATURE 4 Units
Prerequisite: One of the following: ENGL 1A, 1AH, 1S & 1T or ESLL 26.
4 hours lecture. (48 hours total per quarter)
Introduction to literary study through texts from a wide range of genres, including poetry, drama, fiction, and creative nonfiction. Focus on analytical reading and literary analysis, including effective use of critical theory and secondary source research. Intended for students desiring further development of literary analytical skills and literary appreciation. **FHGE: Humanities; Transferable: UC/CSU**

ENGL 17 INTRODUCTION TO SHAKESPEARE 4 Units
Prerequisite: Demonstrated proficiency in English by placement into ENGL 1A as determined by score on the English placement test or through an equivalent placement process.
4 hours lecture. (48 hours total per quarter)
Detailed analysis of representative sonnets, and history, tragedy, comedy, and romance dramas through lecture and discussion. Consideration of the Elizabethan world.
FHGE: Humanities; Transferable: UC/CSU

ENGL 18A VAMPIRE LITERATURE: MULTICULTURAL REPRESENTATIONS OF THE BLOODSUCKER 4 Units
Advisory: Demonstrated proficiency in English by placement into ENGL 1A as determined by score on the English placement test or through an equivalent placement process.
4 hours lecture. (48 hours total per quarter)
Survey of vampire literature across a variety of cultures. Discussion and analysis (both written and oral) of vampiric literary texts within various theoretical and historical contexts, including the gothic, the psychoanalytic, gender and sexuality, race and the "other," cultural studies, theories of corporeality. Emphasis on historical and cross-cultural analyses. **FHGE: Humanities; Transferable: UC/CSU**

ENGL 22 WOMEN WRITERS 4 Units
Advisory: Demonstrated proficiency in English by placement into ENGL 1A as determined by score on the English placement test or through an equivalent placement process.
4 hours lecture. (48 hours total per quarter)
An examination of the works of 19th and 20th Century multicultural women poets, novelists, dramatists, and essayists and their contribution to English and American literature. Includes independent research and the creation of a major project on author, genre, work or theme. **FHGE: Humanities; Transferable: UC/CSU**

ENGL 24 UNMASKING COMICS: THE DAWN OF THE GRAPHIC NOVEL 4 Units
Advisory: Demonstrated proficiency in English by placement into ENGL 1A as determined by score on the English placement test or through an equivalent placement process.
4 hours lecture. (48 hours total per quarter)
Introduction to the history of graphic communication, emphasizing the burgeoning and dynamic form of contemporary graphic narrative: from memoir writing, to crime fiction, to the superhero, to socio-political writing. Explore how the history and evolution of this distinct literary genre has made it a relevant form of expression for artists and writers across the world and how reading comics challenges traditional modes of reading. Because this form of storytelling is used by artists all over the world to express the human condition and specific socio-cultural insight, the course inspires world-wide cross cultural awareness. **FHGE: Humanities; Transferable: UC/CSU**

ENGL 31 LATINO/A LITERATURE 4 Units
Advisory: Demonstrated proficiency in English by placement into ENGL 1A as determined by score on the English placement test or through an equivalent placement process.
4 hours lecture. (48 hours total per quarter)
Reading and discussion of Latino/a literature and its relationship to social issues and identity politics of Latinos/as. Critical examination of fiction, poetry, essays, and drama by and about the Latino/a communities, including those of Mexican, Puerto Rican, Cuban, Caribbean, and South and Central American descent. **FHGE: Humanities; Transferable: UC/CSU**

ENGL 40 ASIAN AMERICAN LITERATURE 4 Units
Advisory: Demonstrated proficiency in English by placement into ENGL 1A as determined by score on the English placement test or through an equivalent placement process; not open to students with credit in ENGL 40H.
4 hours lecture. (48 hours total per quarter)
Introduction to Asian American literature. Readings in 20th Century works, with an emphasis on three relevant themes: problems of identity as they relate to class, gender, mixed heritages, and sexuality; politics and the history of Asian American activism and resistance; and diversity of cultures within the Asian American community. **FHGE: United States Cultures & Communities, Humanities; Transferable: UC/CSU**

ENGL 40H HONORS ASIAN AMERICAN LITERATURE 4 Units
Prerequisite: Honors Institute Participant
Advisory: Demonstrated proficiency in English by placement into ENGL 1A as determined by score on the English placement test or through an equivalent placement process; not open to students with credit in ENGL 40.
4 hours lecture. (48 hours total per quarter)
Introduction to Asian American literature. Readings in twentieth-century works, with an emphasis on three relevant themes: problems of identity as they relate to class, gender, mixed heritages, and sexuality; politics and the history of Asian American activism and resistance; and diversity of cultures within the Asian American community. Honors work challenges students to a greater sophistication of scholarship through extensive research and literature reviews, critical essays, and opportunities for scholarly presentation. This honors course offers students an enriching and rigorous environment through learner-centered pedagogy, student-generated discussions, and self-directed projects. Students will also actively engage in in-depth analysis and critical evaluation of literary texts. **FHGE: United States Cultures & Communities, Humanities; Transferable: UC/CSU**

ENGL 46A MONSTERS, MADNESS & MAYHEM: ENGLISH LITERATURE FROM ITS EARLIEST BEGINNINGS TO MILTON 4 Units
Prerequisite: One of the following: ENGL 1A, 1AH, 1S & 1T or ESLL 26.
4 hours lecture. (48 hours total per quarter)
A survey of selected literary works beginning with the earliest Old English period (Caedmon's Hymn, Beowulf, etc), Middle English period (the Gawain poet, Chaucer, etc) and the early modern period (Spenser, Shakespeare, Donne, Milton, etc) focusing on the development of literary genres within specific historical and cultural contexts. **FHGE: Humanities; Transferable: UC/CSU**

ENGL 46B REASON, REBELLION & ROMANTICISM: ENGLISH LITERATURE FROM 1660–1830 4 Units
Prerequisite: One of the following: ENGL 1A, 1AH, 1S & 1T or ESLL 26.
4 hours lecture. (48 hours total per quarter)
A survey of selected canonical literary works and authors beginning with the English Restoration period (Milton, Dryden, etc), the Neoclassical/Enlightenment period (Swift, Pope, etc.) and the Romantic period (Blake, Shelley, etc.) focusing on the emergence and development of literary genres and styles in response to specific historical, sociocultural, and philosophical movements. **FHGE: Humanities; Transferable: UC/CSU**

ENGL 46C WARS & WASTELANDS: ENGLISH LITERATURE FROM THE VICTORIAN PERIOD TO THE PRESENT 4 Units
Prerequisite: One of the following: ENGL 1A, 1AH, 1S & 1T or ESLL 26.
4 hours lecture. (48 hours total per quarter)
Reading and critical analysis of representative works, emphasizing social and cultural backgrounds, from the Victorian to the Modern Period. **FHGE: Humanities; Transferable: UC/CSU**

ENGL 47A WORLD LITERATURE I 5 Units
Prerequisite: One of the following: ENGL 1A, 1AH, 1S & 1T or ESLL 26.
5 hours lecture. (60 hours total per quarter)
A comparative study of selected works, in translation and in English, of literature from around the world, including Europe, the Middle East, Africa, Asia, and other areas, from antiquity through the seventeenth century. A cross-cultural examination of global literatures within broader historical, cultural, political, and social frameworks, including the contexts of class, race and ethnicity, gender, religion, and aesthetics. **FHGE: Non-GE; Transferable: UC/CSU**

ENGL 47B WORLD LITERATURE II 5 Units
Prerequisite: One of the following: ENGL 1A, 1AH, 1S & 1T or ESLL 26.
5 hours lecture. (60 hours total per quarter)
A comparative study of selected works, in translation and in English, of literature from around the world, including Europe, the Middle East, Africa, Asia, and other areas, from the seventeenth century to the present. A cross-cultural examination of global literatures within broader historical, cultural, political, and social frameworks, including the contexts of class, race and ethnicity, gender, religion, and aesthetics. **FHGE: Non-GE; Transferable: UC/CSU**

ENGL 48A THE NATURE OF AMERICAN LITERATURE: 1492–1862 4 Units
Prerequisite: One of the following: ENGL 1A, 1AH, 1S & 1T or ESLL 26.
4 hours lecture. (48 hours total per quarter)
Representative works of American literature from Columbus's first voyage through the Civil War, focusing on the nature of entirely new literary forms, new cultural voices, and new ecological landscapes. Selections from Native American myths, legends, and autobiographies; reports of early Spanish explorers; English colonial histories and Puritan poetry; African American slave narratives and poems; Revolutionary War political texts; frontier tall tales; Gothic short stories; romantic fiction; and nature writing. Special emphasis on the contributions of diverse cultures in forging a distinctively American literature, landscape, and identity. **FHGE: Humanities; Transferable: UC/CSU**

ENGL 48B AMERICAN LITERATURE IN THE GILDED AGE: 1865–1914 4 Units
Prerequisite: One of the following: ENGL 1A, 1AH, 1S & 1T or ESLL 26.
4 hours lecture. (48 hours total per quarter)
Introduction to representative works of multicultural American Literature in the wake of the Civil War (1865-1914) including satirical works by Mark Twain; the experimental poetry of Walt Whitman and Emily Dickinson; autobiographical and political texts by African American leaders Booker T. Washington and W.E.B. Dubois; Mexican vaquero fiction; early Asian American texts; and Native American autobiographies. Emphasis on the radical innovations in literary forms, themes, language, and philosophy which shaped America's new identity as an emerging world power within a period of fierce conflicts within American society over race, class, and gender roles. **FHGE: Humanities; Transferable: UC/CSU**

ENGL 48C MODERN AMERICAN LITERATURE: 1914–PRESENT 4 Units
Prerequisite: One of the following: ENGL 1A, 1AH, 1S & 1T or ESLL 26.
4 hours lecture. (48 hours total per quarter)
Introduction to multicultural American Literature in the Modern Age (1914-present) with emphasis on the courageous contributions and literary innovations of diverse authors of Asian American, African American, Anglo American, Latino American, and Native American heritage, including Harlem Renaissance authors such as Hughes and Hurston; the radically experimental fiction of Hemingway, Fitzgerald, and Faulkner; the rise of modernist poets such as Eliot, Stevens, and Williams; Beat Generation authors such as Kerouac and Ginsberg; Native American authors such as Momaday and Erdrich; feminist poets such as Plath and Rich; and Asian American writers such as Bulosan and Hong Kingston. Special emphasis on the role of these diverse writers in continuously redefining the nature of American literature in the 20th Century, and thereby reshaping American national identity as the United States becomes a global superpower. **FHGE: Humanities; Transferable: UC/CSU**

ENGL 50C TECHNICAL WRITING 5 Units
Advisory: Demonstrated proficiency in English by placement into ENGL 1A as determined by score on the English placement test or through an equivalent placement process; not open to students with credit in ENGL 3.
5 hours lecture. (60 hours total per quarter)
Preparation of written texts for proposals, presentations, reports, user manuals, handbooks, newsletters, grants and applications, memos, brochures, email, and Internet Web sites. Emphasis on clear, concise language and visual document design. Logical organization and awareness of audience, purpose and process. Effective integration of text, graphics, charts, photos and illustrations. **FHGE: Communication & Analytical Thinking; Transferable: CSU**

ENGL 110 INTRODUCTION TO COLLEGE WRITING 5 Units
Prerequisite: Eligibility based on assessment or successful completion of ENGL 209.
Advisory: Not open to students with credit in ENGL 108.
5 hours lecture. (60 hours total per quarter)
Intended for students requiring explicit instruction and practice in writing expository essays, emphasizing clear sentence structure and logical development. Assignments include summary and synthesis of texts, critical analysis, as well as personal writing. Instruction includes rules of and practice on punctuation skills. Lecture, discussion, collaborative, and individualized instruction. **FHGE: Non-GE**

ENGL 209 INTRODUCTION TO COLLEGE READING 5 Units
Formerly: ENGL 100
Advisory: Not open to students with credit in ENGL 100 or 108.
5 hours lecture. (60 hours total per quarter)
Techniques of critical analysis for reading-college level prose, focusing primarily on expository/argumentative essays and textbook materials. Students learn to comprehend text holistically, identifying and expressing critical elements of comprehension. Practice and testing to be done on authentic text of one or more page length and with written responses. Lecture, discussion, group work, and individualized instruction. **FHGE: Non-GE**

ENGL 242A CRITICAL THINKING: STUDENT-MANAGED PORTFOLIO DEVELOPMENT 2 Units
Corequisite: ENGL 1S.
2 hours lecture. (24 hours total per quarter)
A survey of basic theory, design, and implementation strategies for the student-managed formative portfolio. Students write a total of at least 1000 words, with emphasis on the reflective and evaluative processes necessary for portfolio development. Practice in managing and maintaining the information and artifacts of a portfolio as a comprehensive analysis of the student learning experience. Use of portfolio development to increase meta-cognitive awareness of the integration between reading and writing processes; of the student's location within discourse communities, including the campus community; and of the behaviors necessary for college success. **FHGE: Non-GE**

ENGL 242B CRITICAL THINKING: PORTFOLIO MANAGEMENT & PUBLICATION 2 Units
Prerequisite: ENGL 242A.
Corequisite: ENGL 1T.
2 hours lecture. (24 hours total per quarter)
Application of basic theory, design, and implementation strategies for the student-managed summative portfolio. Students write a total of at least 1000 words, with emphasis on the reflective and evaluative processes necessary for portfolio development. Management and publication of the artifacts of a summative portfolio as a comprehensive demonstration of the student learning experience across the curriculum. Use of portfolio publication to demonstrate meta-cognitive awareness of the integration between reading and writing processes; of the student's location within discourse communities, including the campus community; and of the behaviors necessary for college success. Students will demonstrate ability to transfer knowledge and learning across disciplines. **FHGE: Non-GE**

ENGL 250A NARRATIVE READING & WRITING: PUENTE 5 Units
Formerly: ENGL 104A
Advisory: Not open to students with credit in ENGL 100, 104A or 108.
5 hours lecture. (60 hours total per quarter)
Introduction to short narrative forms of college-level reading and writing: (auto) biography, narrative reporting, story-telling, interviews, short expository essays, summary, and testimonials. Materials used to be theme-based from Latino/Mexican American and multi-ethnic authors. Narrative and expository structure used to teach the fundamentals of analytical reading and writing. Lecture, discussion, group work, and individualized instruction. **FHGE: Non-GE**

ENGL 250B ANALYTICAL READING & WRITING: PUENTE 5 Units
Formerly: ENGL 104B
Prerequisite: ENGL 250A.
Advisory: Not open to students with credit in ENGL 110, 104B or 108.
5 hours lecture. (60 hours total per quarter)
Introduction to short analytical forms of college-level reading and writing: essays, critiques, editorials, reports, summary, commentary. Materials used to be theme-based from Latino/Mexican American and multi-ethnic authors. Lecture, discussion, group work, and individualized instruction. **FHGE: Non-GE**

ENGLISH FOR SECOND LANGUAGE LEARNERS

Language Arts (650) 949-7250 www.foothill.edu/la/

ESLL 25 COMPOSITION & READING 5 Units
Formerly: ESL 25
Prerequisites: Appropriate placement test score or a grade of "C" or better in ESLL 236 and 237; intended for students whose native language is not English.
Advisory: Completion of, or concurrent enrollment in ESLL 235 strongly recommended; concurrent enrollment in ESLL 246 and/or 247 strongly recommended; not open to students with credit in ESL 25 or 257.
5 hours lecture. (60 hours total per quarter)
Development of critical reading skills using selected readings which present a range of cultural experiences and perspectives. Practice in writing expository essays based on personal experience, observations, and class readings with a review of acceptable English sentence structure. Does not fulfill the composition requirements for the Associate degree. **FHGE: Non-GE; Transferable: UC/CSU**

ESLL 26 ADVANCED COMPOSITION & READING 5 Units
Formerly: ESL 26
Prerequisites: Appropriate placement test score or a grade of "C" or better in ESLL 25; intended for students whose native language is not English.
Advisory: Concurrent enrollment in ESLL 246 and/or 247 strongly recommended; not open to students with credit in ESL 26.
5 hours lecture. (60 hours total per quarter)
The techniques and practice of expository and argumentative writing based on critical reading and thinking. Reading focused on essays and articles, chosen to represent a broad spectrum of opinions and ideas, writing styles, and cultural experiences and perspectives. Research paper synthesizing information from a range of current sources to form a persuasive argument. Fulfills the composition requirement for the A.A. degree. **FHGE: English; Transferable: UC/CSU**

ESLL 225 DEVELOPING LISTENING/SPEAKING SKILLS 5 Units
Formerly: ESL 155
Prerequisite: Appropriate placement score or ESLL 210B.
Advisory: Not open to students with credit in ESL 155.
5 hours lecture. (60 hours total per quarter)
Development of ability to listen to everyday English and to participate in everyday conversations. Introduction to academic listening and classroom interactional skills, discussion skills and the language of group work dynamics. Pronunciation work to develop clear speech and comprehension of naturally spoken English. Reading and writing tasks related to listening and speaking. **FHGE: Non-GE**

ESLL 226 HIGH-INTERMEDIATE GRAMMAR 5 Units
Formerly: ESL 156
Prerequisite: Appropriate placement test score or ESLL 210B.
Advisory: Concurrent enrollment in ESLL 227; not open to students with credit in ESL 156.
5 hours lecture. (60 hours total per quarter)
A high-intermediate English course for non-native speakers focusing on comprehension, communication, and grammatical accuracy. Emphasis on understanding and communication of new information, conjectures, and logical relationships in spoken and written contexts. Computer or workbook activities to reinforce knowledge of structures. **FHGE: Non-GE**

ESLL 227 HIGH-INTERMEDIATE READING SKILLS 5 Units
Formerly: ESL 157
Advisory: Appropriate placement test score and concurrent enrollment in ESLL 226 recommended; intended for students whose native language is not English; not open to students with credit in ESL 157.
5 hours lecture. (60 hours total per quarter)
An upper intermediate-level reading course focusing on higher level comprehension skills and strategies for dealing with pre-college-level reading. Computer and/or workbook activities to reinforce knowledge of material and skills. **FHGE: Non-GE**

ESLL 228 DEVELOPING LANGUAGE SKILLS FOR INTERNATIONAL STUDENTS 10 Units
Formerly: ESL 158
Prerequisites: TOEFL score of 475 to 499; restricted to international students whose native language is not English.

Advisory: Not open to students with credit in ESL 158.
10 hours lecture. (120 hours total per quarter)
A high intermediate/low-advanced course in grammar, writing, reading, and speaking for international students who are about to enter a college academic program. Focus to improve students language skills. **FHGE: Non-GE**

ESLL 235 LISTENING/SPEAKING FOR ACADEMIC PURPOSES 5 Units
Formerly: ESL 165
Prerequisite: Appropriate placement test score or ESLL 225.
Advisory: Successful completion of ESLL 226 and ESLL 227 strongly recommended; intended for students whose native language is not English; not open to students with credit in ESL 165.
5 hours lecture. (60 hours total per quarter)
A listening/speaking course focusing on preparing students for listening to authentic lectures and classroom discussions. Practice with classroom interactional, discussion and presentation skills. Pronunciation work to develop intelligible speech and ability to comprehend naturally spoken English in academic contexts. Level appropriate reading and writing tasks in connection with these activities. **FHGE: Non-GE**

ESLL 236 ADVANCED GRAMMAR 5 Units
Formerly: ESL 166
Prerequisite: Appropriate placement test score or ESLL 226 and 227.
Advisory: Concurrent enrollment in ESLL 237 recommended; intended for students whose native language is not English, not open to students with credit in ESL 166.
5 hours lecture. (60 hours total per quarter)
An advanced English course for non-native speakers focusing on comprehension, communication and grammatical accuracy. Emphasis on understanding and communication of abstract ideas as well as concrete new information in spoken and written contexts. Computer or workbook activities to reinforce knowledge of structures. **FHGE: Non-GE**

ESLL 237 BASIC COMPOSITION SKILLS 5 Units
Formerly: ESL 167
Prerequisite: Appropriate placement test score or a grade of "C" or better in ESLL 226 and 227.
Corequisite: Concurrent enrollment in or a grade of "C" or better or ESLL 236.
Advisory: Intended for students whose native language is not English; not open to students with credit in ESL 167.
5 hours lecture. (60 hours total per quarter)
A basic course for non-native speakers focusing on techniques of college writing, emphasizing clear prose. Lecture, discussion, and individualized instruction. Emphasis on the production of short compositions containing well-developed paragraphs and a variety of standard English sentences. Does not meet the graduation requirement in composition. **FHGE: Non-GE**

ESLL 246 APPLIED GRAMMAR & EDITING SKILLS 3 Units
Formerly: ESL 176
Prerequisite: Completion of ESLL 236 or an appropriate score on the ESL placement test.
Corerequisite: Concurrent enrollment in ESLL 25, 26, ENGL 110, 1A or 1B.
Advisory: Not open to students with credit in ESL 176.
3 hours lecture. (36 hours total per quarter)
Identify and edit for patterns of grammatical errors in original writing. Develop individual error profile. Address pertinent grammar issues through review of grammatical rules, various grammar exercises, and editing of sample papers and original work. **FHGE: Non-GE**

ESLL 247 ADVANCED VOCABULARY DEVELOPMENT FOR READING & WRITING 3 Units
Formerly: ESL 177
Prerequisite: Appropriate placement test score or successful completion of ESLL 236 and 237.
Advisory: Intended for students whose native language is not English; not open to students with credit in ESL 177.
3 hours lecture. (36 hours total per quarter)
Expansion of academic vocabulary to meet the specific vocabulary needs for students in an academic setting. Multiple exposures to target words in meaningful contexts and rich information about each word. May be repeated one time as course content changes. **FHGE: Non-GE**

ESLL 248 ADVANCED GRAMMAR REVIEW 3 Units
Formerly: ESL 186
Prerequisite: ESLL 236 or an appropriate score on the ESL Placement Test.
Advisory: Not open to students with credit in ESL 186.
3 hours lecture. (36 hours total per quarter)
A review of essential grammar and greater in-depth examination of grammatical and lexical structures used in academic and professional writing designed for nonnative speakers of English. This course is delivered entirely online. **FHGE: Non-GE**

ESLL 249 ADVANCED READING 4 Units
Prerequisites: ESLL 236 and 237 or eligibility for ESLL 25.
4 hours lecture. (48 hours total per quarter)
An advanced-level reading course to instruct ESLL students in techniques of critical analysis for reading college-level prose, focusing primarily on authentic expository/argumentative essays and textbook materials written for a native speaker audience. Students are provided the skills to comprehend text holistically, identifying and expressing critical elements of comprehension. Practice and testing to be done on authentic, multi-page texts with written responses. Lecture, discussion, and group work. **FHGE: Non-GE**

ESLL 250 RHETORICAL GRAMMAR FOR SECOND LANGUAGE LEARNERS 4 Units
Prerequisites: ESLL 236 and 237 or appropriate placement test score for ESLL 25.
Advisory: Concurrent enrollment in ESLL 25, 26, ENGL 1A, 1AH, 1T, 1B, or 1C.
4 hours lecture. (48 hours total per quarter)
Instruction in grammar from a rhetorical perspective (within the context of constructing paragraphs and extended texts) as it pertains to personal, academic, and professional writing. Topics include review of grammar terminology (metalanguage); study of the possible uses of various sentence patterns to achieve rhetorically successful texts; sentence conciseness and focus; clause and phrase structures used for emphasis, economy, and paragraph development; coherence strategies to produce logical connections between and among ideas in texts. **FHGE: Non-GE**

ENVIRONMENTAL HORTICULTURE & DESIGN

Biological and Health Sciences (650) 949-7249
www.foothill.edu/bio/programs/hort/

HORT 10 ENVIRONMENTAL HORTICULTURE & THE URBAN LANDSCAPE 5 Units
4 hours lecture, 3 hours laboratory. (84 hours total per quarter)
Environmental horticulture encompasses the planning, design, construction, and management of the urban landscape. Relevant topics include ecosystem restoration and management, landscape ecology, sustainable landscape management, sustainable use of natural resources, urban horticulture, and urban landscape design. This course is required for Horticulture certificates and degrees, and is intended for students in the horticulture program but members of the public and professional community are invited to enroll.This course is approved for IGETC AREA 5 and for CSU GE AREA B-2. **FHGE: Natural Sciences; Transferable: UC/CSU**

HORT 15 ORIENTATION TO ENVIRONMENTAL HORTICULTURE 4 Units
Formerly: HORT 50A
Advisory: Not open to students with credit in HORT 50A.
3.5 hours lecture, 1.5 hours laboratory. (60 hours total per quarter)
Survey of the many facets and component sciences of environmental horticulture. Exploration of the multitude of career options available in the green industry. An introduction to the vocabulary of the environmental sciences including the terminology used in the identification of plants. Foundations of plant science such as plant structure, plant growth, and the environmental needs of plants. **FHGE: Non-GE; Transferable: UC/CSU**

HORT 21 PLANT MATERIALS I 3 Units
Formerly: HORT 51A
Advisory: Completion of, or concurrent enrollment in HORT 15 strongly recommended; not open to students with credit in HORT 51A.
2 hours lecture, 3 hours laboratory. (60 hours total per quarter)
Identification, taxonomy, habits of growth, cultural and environmental requirements of woody plants grown in California. Emphasis on the use and maintenance of evergreen broadleaf trees in the landscape. Plants are observed in lab, on campus, and at off-site locations. **FHGE: Non-GE; Transferable: UC/CSU**

HORT 22 PLANT MATERIALS II 3 Units
Formerly: HORT 51B
Advisory: Completion of, or concurrent enrollment in HORT 15 strongly recommended; not open to students with credit in HORT 51B.
2 hours lecture, 3 hours laboratory. (60 hours total per quarter)
Identification, taxonomy, habits of growth, cultural and environmental requirements of woody plants grown in California. Emphasis on the use and maintenance of evergreen and deciduous shrubs in the landscape. Plants are observed in lab, on campus, and at off-site locations. **FHGE: Non-GE; Transferable: UC/CSU**

HORT 23 PLANT MATERIALS: CALIFORNIA NATIVE PLANTS 2 Units
Formerly: HORT 51D
Advisory: Completion of, or concurrent enrollment in HORT 15 strongly recommended; not open to students with credit in HORT 51D.
1 hour lecture, 3 hours laboratory. (48 hours total per quarter)
Identification, taxonomy, habits of growth, cultural and environmental requirements of plants native to California landscapes. Emphasis on a wide variety of native species including trees, shrubs, ground covers, and herbaceous plants. Plants are observed in lab, on campus, and at off-site locations. **FHGE: Non-GE; Transferable: UC/CSU**

HORT 24 PLANT MATERIALS: GROUND COVERS & VINES 2 Units
Formerly: HORT 51E
Advisory: Completion of, or concurrent enrollment in HORT 15 strongly recommended; not open to students with credit in HORT 51E.
1 hour lecture, 3 hours laboratory. (48 hours total per quarter)
Identification, taxonomy, habits of growth, cultural and environmental requirements of woody and herbaceous ground covers and vines grown in California. Emphasis on the use and maintenance of evergreen and deciduous plants used as ground covers, vines, or espaliers in ornamental landscapes. Plants are observed in lab, on campus, and at off-site locations. **FHGE: Non-GE; Transferable: UC/CSU**

HORT 25 PLANT MATERIALS: BAMBOOS & PALMS 2 Units
Formerly: HORT 51F
Advisory: Completion of, or concurrent enrollment in HORT 15 strongly recommended; not open to students with credit in HORT 51F.
1 hour lecture, 3 hours laboratory. (48 hours total per quarter)
Identification, taxonomy, habits of growth, cultural and environmental requirements of bamboos and palms grown in California. Emphasis on the use and maintenance of these two categories of monocots, each with markedly different forms. Plants are observed in lab, on campus, and at off-site locations. **FHGE: Non-GE; Transferable: UC/CSU**

HORT 26 PLANT MATERIALS: PERENNIALS & ANNUALS 2 Units
Formerly: HORT 51H
Advisory: Completion of, or concurrent enrollment in HORT 15 strongly recommended; not open to students with credit in HORT 51H.
1 hour lecture, 3 hours laboratory. (48 hours total per quarter)
Identification, taxonomy, habits of growth, cultural and environmental requirements of herbaceous plants grown in California. Emphasis on the use and maintenance of significant perennial and annual species with significant features such as flower and foliage displays. Plants are observed in lab, on campus, and at off-site locations. **FHGE: Non-GE; Transferable: UC/CSU**

HORT 30 HORTICULTURAL PRACTICES: SOILS 3 Units
Formerly: HORT 52A
Advisory: Completion of, or concurrent enrollment in HORT 15 recommended; not open to students with credit in HORT 52A.
2 hours lecture, 3 hours laboratory. (60 hours total per quarter)
Fundamentals of soil science including examination of soil formation, physical and chemical properties of soil, relationships between soil, water and plants, and biological factors of soil. Examination of soil samples and interpretation of soil reports and surveys. Basics of plant fertility requirements and soil related topics such as composting, environmental issues, and soils in construction. **FHGE: Non-GE; Transferable: UC/CSU**

HORT 31 HORTICULTURAL PRACTICES: PLANT PROPAGATION 3 Units
Formerly: HORT 52B
Advisory: Completion of, or concurrent enrollment in HORT 15 strongly recommended; not open to students with credit in HORT 52B.
2 hours lecture, 3 hours laboratory. (60 hours total per quarter)
Principles of plant propagation with an emphasis on techniques that are used in the nursery and greenhouse industries. Seeds, cuttings, grafting techniques, and the separation and division of specialized structures. **FHGE: Non-GE; Transferable: UC/CSU**

HORT 40 LANDSCAPE DESIGN: GRAPHIC COMMUNICATION 4 Units
Formerly: HORT 60A
Advisory: Not open to students with credit in HORT 60A.
3 hours lecture, 3 hours laboratory. (72 hours total per quarter)
An introductory survey of the basic principles of design communication, landscape graphics, and design process. Graphic mediums and tools, graphic vocabulary, graphic skills, reprographic techniques, plan reading, and presentation skill development. The application of lines, symbols, and lettering to create typical landscape drawings. **FHGE: Non-GE; Transferable: UC/CSU**

HORT 43 THE TIMELESS GARDEN 3 Units
3 hours lecture. (36 hours total per quarter)
The history of gardens from the Hanging Gardens of Babylon to the romantic landscapes of England to contemporary garden design. Emphasis is on major historical landscapes in terms of their cultural, social, political, and economic impacts. **FHGE: Non-GE; Transferable: UC/CSU**

HORT 45 LANDSCAPE DESIGN: COMPUTER APPLICATIONS 3 Units
Formerly: HORT 60E
Advisory: HORT 40 and a basic understanding of the operation of computers is strongly recommended; not open to students with credit in HORT 60E.
2 hours lecture, 3 hours laboratory. (60 hours total per quarter)
Introduction to the use of computer applications in landscape design. Overview of software for computer aided design and drafting (CADD), and related landscape graphic oriented software. Focus on development of basic command skills utilized in landscape design software applications, including 2D drawing, editing, creation of layers, exporting to other programs and as a pdf for printing. Vectorworks software is utilized in this course. **FHGE: Non-GE; Transferable: UC/CSU**

HORT 52C HORTICULTURE PRACTICES: PLANT INSTALLATION & MAINTENANCE 3 Units
Advisory: Completion of, or concurrent enrollment in HORT 15 strongly recommended.
2 hours lecture, 3 hours laboratory. (60 hours total per quarter)
Horticultural principles and practices for management of plants and gardens. Proper selection and maintenance of trees, shrubs, and ground covers. Fine gardening techniques used by landscape gardeners. Transplanting and planting containerized and boxed plant material. Preparation of planting areas and post-planting care of landscape plants. Techniques for pruning of various species. Operation of equipment and tools used in gardening. **FHGE: Non-GE; Transferable: CSU**

HORT 52E HORTICULTURAL PRACTICES: GREENHOUSE MANAGEMENT 2 Units
Advisory: Completion of, or concurrent enrollment in HORT 15 recommended.
1 hours lecture, 3 hours laboratory. (48 hours total per quarter)
Commercial greenhouse management as related to the production of plants in California. Emphasis is on greenhouse operations. Class will focus on organization, management, and production practices used in large and small-scale commercial greenhouse plant production. Greenhouse operations and the utilization of technology will be emphasized through use of on-campus facilities and observation of off-site operations. **FHGE: Non-GE; Transferable: CSU**

HORT 52F HORTICULTURAL PRACTICES: INTERIORSCAPING **3 Units**

Advisory: Completion of, or concurrent enrollment in HORT 15 is strongly recommended.
2 hours lecture, 3 hours laboratory. (60 hours total per quarter)
Design, installation, and maintenance practices utilized in interior landscapes. Includes the identification, selection, culture, and care of plants suitable for interior use and special events. Identification of approximately 50 tropical plants. Analysis of environmental factors which affect plant health, appearance, and longevity. Container and growing media selection. **FHGE: Non-GE; Transferable: CSU**

HORT 52G HORTICULTURAL PRACTICES: TURFGRASS MANAGEMENT **3 Units**

Advisory: Completion of, or concurrent enrollment in HORT 15 strongly recommended.
2 hours lecture, 3 hours laboratory. (60 hours total per quarter)
Turf identification and planting techniques. Turf maintenance and management practices for golf courses, athletic fields, parks, and areas surrounding commercial buildings and private residences. Examination of soils, irrigation, weeds, diseases and pests as they pertain to turfgrass. **FHGE: Non-GE; Transferable: CSU**

HORT 52H HORTICULTURE PRACTICES: INTEGRATED PEST MANAGEMENT **3 Units**

Advisory: Completion of, or concurrent enrollment in, HORT 15 strongly recommended.
2 hours lecture, 3 hours laboratory. (60 hours total per quarter)
Problems of and control solutions for diseases, insects, and weeds in landscapes and gardens. Ecologically based Integrated Pest Management (IPM) practices for handling plant pathogens, insect infestations, and unwanted vegetation. Emphasis on identification, life cycles, and symptoms of diseases, insects, and weeds. **FHGE: Non-GE; Transferable: CSU**

HORT 52J HORTICULTURAL PRACTICES: NURSERY MANAGEMENT **2 Units**

Advisory: Completion of, or concurrent enrollment in HORT 15 recommended.
1 hours lecture, 3 hours laboratory. (48 hours total per quarter)
Commercial & retail nursery management practices as related to the production and sale of plants in California. Emphasis is on nursery operations. Class will focus on the organization, management, and production practices used in large and small-scale commercial and/or retail nursery plant production. Nursery design and utilization of technology will be emphasized through the use of on-campus facilities and observation of off-site operations. **FHGE: Non-GE; Transferable: CSU**

HORT 54A LANDSCAPE CONSTRUCTION: GENERAL PRACTICES **4 Units**

3 hours lecture, 3 hours laboratory. (72 hours total per quarter)
General practices of construction as applied to landscape projects. Basic tools and equipment, building materials and hardware, and installation techniques utilized in landscape construction. Focus is on hardscape applications including paving, walls, decks, and related wood structures. Review of safety practices, careers in landscape construction, and contractor licensing. **FHGE: Non-GE; Transferable: CSU**

HORT 54B LANDSCAPE CONSTRUCTION: TECHNICAL PRACTICES **3 Units**

2.5 hours lecture, 1.5 hours laboratory. (48 hours total per quarter)
Technical aspects of landscape construction projects. Landscape surveying & grading techniques, surface & subsurface hydraulics, landscape drainage systems, erosion control & soil conservation, fences & gates, and building codes. Estimating landscape materials, construction costs, and preparation of project bids and contracts. **FHGE: Non-GE; Transferable: CSU**

HORT 54C LANDSCAPE CONSTRUCTION: IRRIGATION PRACTICES **3 Units**

2.5 hours lecture, 1.5 hours laboratory. (48 hours total per quarter)
Methods and materials used in the irrigation of ornamental landscapes. Selection of materials and operational theory of irrigation equipment. Installation techniques for sprinkler and drip irrigation systems. Water conservation features and maintenance of irrigation systems. **FHGE: Non-GE; Transferable: CSU**

HORT 54D LANDSCAPE CONSTRUCTION: APPLIED PRACTICES **2 Units**

Advisory: HORT 54A strongly recommended.
1 hour lecture, 3 hours laboratory. (48 hours total per quarter)
The practical application of landscape construction practices to actual projects. Emphasis on field work which may include the design and construction of landscape amenities, carpentry, paving, or wall projects. Training on motorized equipment, such as tractors and backhoes used in landscape construction. **FHGE: Non-GE; Transferable: CSU**

HORT 55A GREEN INDUSTRY MANAGEMENT: BUSINESS PRACTICES **3 Units**

3 hours lecture. (36 hours total per quarter)
Introductory survey of green industry management and business practices. Geared to people in such fields as landscape construction, nursery management, and landscape design, this course focuses on helping individuals successfully organize, manage, and/or market their agency or small business. The class utilizes both a theoretical and hands-on approach to the application of common business principles. **FHGE: Non-GE; Transferable: CSU**

HORT 55B GREEN INDUSTRY MANAGEMENT: EMPLOYEE PRACTICES **3 Units**

3 hours lecture. (36 hours total per quarter)
Employee management practices including the recruitment, motivation, and development of new employees. Also covered are effective customer service techniques, workplace diversity, the use of employee manuals, identifying and training new and potential managers, development of leadership skills, scheduling, and the role of the supervisor. **FHGE: Non-GE; Transferable: CSU**

HORT 60B LANDSCAPE DESIGN: THEORY **3 Units**

Advisory: HORT 40 and/or drafting skills strongly recommended.
2 hours lecture, 3 hours laboratory. (60 hours total per quarter)
Principles of landscape design theory. Intermediate studies in and applications of graphic communication, creative problem solving, design theory, and presentation skills. Residential site analysis and landscape design case studies. **FHGE: Non-GE; Transferable: CSU**

HORT 60C LANDSCAPE DESIGN: IRRIGATION **3 Units**

Advisory: HORT 54C strongly recommended.
2.5 hours lecture, 1.5 hours laboratory. (48 hours total per quarter)
Principles of irrigation design for ornamental landscapes. Includes history of irrigation, advanced site analysis, irrigation design theory, equipment selection and layout, controller scheduling, long-term maintenance, and water conservation issues. Process of producing irrigation plans, details, and specifications. **FHGE: Non-GE; Transferable: CSU**

HORT 60D LANDSCAPE DESIGN: PLANTING **3 Units**

Advisory: HORT 40 and 60B or equivalent; HORT 21, 22 & 26 strongly recommended.
2 hours lecture, 3 hours laboratory. (60 hours total per quarter)
The use of ornamental and native plant materials to express basic design principles in the landscape. Planting design theory as it applies to the aesthetic, cultural, ecological, and functional use of plant materials in the landscape. Graphics used for presenting planting designs. Special focus on the use of plants in garden designs. **FHGE: Non-GE; Transferable: CSU**

HORT 60F LANDSCAPE DESIGN: PROCESS **3 Units**

Advisory: HORT 40 and 60B.
2 hours lecture, 3 hours laboratory. (60 hours total per quarter)
Principles of landscape design process. Application of residential site analysis, program development, and landscape design theory to one or more residential scale projects. Project planning and budgeting. Landscape designer, client, and green industry professional interactions. **FHGE: Non-GE; Transferable: CSU**

HORT 60G LANDSCAPE DESIGN: INTERMEDIATE COMPUTER APPLICATIONS **3 Units**

Advisory: HORT 40 and 45 strongly advised; CADD experience or training strongly advised; knowledge of computer operation strongly advised.
2 hours lecture, 3 hours laboratory. (60 hours total per quarter)
Advanced use of Vectorworks as a landscape design and drafting tool. Topics covered include structuring of drawings using layers, improving drawing skills using tool commands and shortcuts, importing and rescaling pdfs for basemaps, importing images, creating viewports and sheet layers. Also covered will be customizing tool bars, expanding plant database, and importing/exporting/printing drawings. Introduction to three-dimensional drawing using Vectorworks and related programs. **FHGE: Non-GE; Transferable: CSU**

HORT 80A ENVIRONMENTAL HORTICULTURE FALL SKILLS 2 Units
Formerly: HORT 80
Advisory: Not open to students with credit in HORT 80.
4 hours lecture-laboratory. (48 hours total per quarter)
Course provides skills development and internship opportunities in Environmental Horticulture for the Fall season. This is an extension of classroom instruction covering topics such as mulching, irrigation winterization, late season landscape construction practices, and protection for frost sensitive plantings. Offers students the opportunity through a combination of practical field experience, independent research, student internship, and industry related educational opportunities, to explore problems and required skills in the green industry. **FHGE: Non-GE; Transferable: CSU**

HORT 80B ENVIRONMENTAL HORTICULTURE WINTER SKILLS 2 Units
4 hours lecture-laboratory. (48 hours total per quarter)
Course provides skills development and internship opportunities in Environmental Horticulture for the Winter season. This is an extension of classroom instruction covering topics such as woody tree & shrub pruning, drainage practices, winter plant protection, and rainwater harvesting. Offers students the opportunity through a combination of practical field experience, independent research, student internship, and industry related educational opportunities, to explore problems and required skills in the green industry. **FHGE: Non-GE; Transferable: CSU**

HORT 80C ENVIRONMENTAL HORTICULTURE SPRING SKILLS 2 Units
4 hours lecture-laboratory. (48 hours total per quarter)
Course provides skills development and internship opportunities in Environmental Horticulture for the Spring season. This is an extension of classroom instruction covering topics such as the initiation of landscape construction projects, pest & diseases, vegetable crops, composting, and water management. Offers students the opportunity through a combination of practical field experience, independent research, student internship, and industry related educational opportunities, to explore problems and required skills in the green industry. **FHGE: Non-GE; Transferable: CSU**

HORT 80D ENVIRONMENTAL HORTICULTURE SUMMER SKILLS 2 Units
4 hours lecture-laboratory. (48 hours total per quarter)
Course provides skills development and internship opportunities in Environmental Horticulture for the Summer season. This is an extension of classroom instruction covering topics such as irrigation system maintenance, fruit tree pruning, water conservation practices, and summer landscape maintenance. Offers students the opportunity through a combination of practical field experience, independent research, student internship, and industry related educational opportunities, to explore problems and required skills in the green industry. **FHGE: Non-GE; Transferable: CSU**

HORT 90A CONTAINER PLANTINGS IN THE LANDSCAPE 1 Unit
.75 hours lecture, .5 hours laboratory. (15 hours total per quarter)
Utilization of container plantings in both interior environments and exterior landscapes. Design theory, selection of containers, plant selection, and planting methods. Soil preparation and irrigation techniques. **FHGE: Non-GE; Transferable: CSU**

HORT 90C GARDEN PONDS & WATER FEATURES 1 Unit
.75 hours lecture, .5 hours laboratory. (15 hours total per quarter)
Introduction to the aesthetics of garden water features and the techniques used in their design, construction, and maintenance. Use of fish, plants, and other natural systems in garden ponds and pools. **FHGE: Non-GE; Transferable: CSU**

HORT 90D HERBS: IDENTIFICATION, USE & FOLKLORE 1 Unit
.75 hour lecture, .5 hour laboratory. (15 hours total per quarter)
An introductory look at the use and folklore of herbs grown for specific cultural purposes. Herbs noted for their culinary, aromatic, or medicinal properties. **FHGE: Non-GE; Transferable: CSU**

HORT 90E HORTICULTURAL & LANDSCAPE PHOTOGRAPHY 1 Unit
.75 hour lecture, .5 hour laboratory. (15 hours total per quarter)
Introduction to basic photographic equipment and techniques utilized in photographing landscapes and horticulturally related elements. Emphasis on assisting green industry professionals in photographing ornamental plants, landscape construction or business-related projects, and landscape designs. **FHGE: Non-GE; Transferable: CSU**

HORT 90F LANDSCAPE DESIGN: BASIC PRINCIPLES 1 Unit
.75 hour lecture, .5 hour laboratory. (15 hours total per quarter)
An overview of the basic principles of landscape design. Presents basic graphic communication concepts. Also explores the concept of master planning residential landscapes, and designing with plant material and related landscape elements.
FHGE: Non-GE; Transferable: CSU

HORT 90G LANDSCAPE DESIGN FORUM 1 Unit
.75 hours lecture, .5 hours laboratory. (15 hours total per quarter)
Design topics for residential landscapes. Covers current concepts and trends in the landscape design industry through topical presentations, guest speakers, and discussion groups. Explores methods for evaluating successful landscape designs and their implementation. **FHGE: Non-GE; Transferable: CSU**

HORT 90H LANDSCAPE LIGHTING 1 Unit
.75 hours lecture, .5 hours laboratory. (15 hours total per quarter)
Basic theory, design, and installation techniques for lighting residential landscapes. The effective use of conventional and low-voltage lighting for improving landscape aesthetics and the functional use of outdoor spaces. **FHGE: Non-GE; Transferable: CSU**

HORT 90I LANDSCAPE SUSTAINABILITY PRACTICES 1 Unit
.75 hours lecture, .5 hours laboratory. (15 hours total per quarter)
Principles and practices utilized in the design, implementation, and maintenance of sustainable landscapes and gardens. Reviews ecological principles of sustainability for efficient energy use in the environment. **FHGE: Non-GE; Transferable: CSU**

HORT 90K LANDSCAPING WITH EDIBLES 1 Unit
.75 hours lecture, .5 hours laboratory. (15 hours total per quarter)
The use of edible plants in residential landscapes. Practice and feasibility of integrating edible plants into landscape designs. Identification of ornamental plant materials which produce edible fruit, foliage, flowers or other edible parts. **FHGE: Non-GE; Transferable: CSU**

HORT 90L PLANT PROPAGATION: BASIC SKILLS 1 Unit
.75 hours lecture, .5 hours laboratory. (15 hours total per quarter)
Introduction to propagation of plants by sexual and asexual methods. Seeding, cutting, grafting, division of specialized structures, and micro-propagation discussed and demonstrated. Discussions include growing media, fertilizers, hormones, and other plant supplements. **FHGE: Non-GE; Transferable: CSU**

HORT 90M PLANT NUTRITION & FERTILIZATION 1 Unit
.75 hour lecture, .5 hour laboratory. (15 hours total per quarter)
Introduction to plant nutrient requirements and methods for providing proper plant nutrition. Topics include review of basic nutrient requirements, forms of nutrients used by plants, nutrient deficiency identification, methods for delivering nutrients to plants, manufacture of fertilizers, fertilizer formulations, fertilizer delivery methods, and organic nutrient sources. **FHGE: Non-GE; Transferable: CSU**

HORT 90N PLANT MATERIALS: FALL COLOR 1 Unit
.75 hours lecture, .5 hours laboratory. (15 hours total per quarter)
Identification, taxonomy, habits of growth, cultural and environmental requirements of plants which exhibit noticeable fall color. Color characteristics includes stems, foliage, flowers, and fruit. Plants are observed in lab, on campus, and at off-site locations.
FHGE: Non-GE; Transferable: CSU

HORT 90P PRUNING: BASIC SKILLS 1 Unit
.75 hours lecture, .5 hours laboratory. (15 hours total per quarter)
Methods of pruning deciduous and evergreen plant materials. Emphasis on pruning common landscape plants, fruit trees, and roses. Selection of suitable pruning tools, techniques for pruning safely, and use and maintenance of tools and equipment.
FHGE: Non-GE; Transferable: CSU

HORT 90Q RESIDENTIAL IRRIGATION SYSTEMS 1 Unit
.75 hours lecture, .5 hours laboratory. (15 hours total per quarter)
Basic design and installation techniques for residential landscapes. Course takes a hands-on approach to understanding the materials and techniques used in installing both drip and spray irrigation systems. Examines methods for evaluating performance of existing irrigation systems. **FHGE: Non-GE; Transferable: CSU**

HORT 90R SEASONAL FLORAL DESIGN 1 Unit
.75 hours lecture, .5 hours laboratory. (15 hours total per quarter)
Floral design geared to the preparation of seasonal and holiday floral arrangements using commercially grown fresh and dried materials and other ornamentation. Concentrates on seasonal-specific floral designs and emphasizes the techniques and mechanics used in retail florist shop design. **FHGE: Non-GE; Transferable: CSU**

HORT 90S SUSTAINABLE INTEGRATED PEST MANAGEMENT (IMP) 1 Unit
.75 hours lecture, .5 hours laboratory. (15 hours total per quarter)
Advanced topics in sustainability build on core IPM practices. Class provides additional techniques for managing specific insects, diseases, and weeds using a multi-faceted approach to pest management. Theoretical and practical aspects of sustainability are presented within the framework of specific landscape situations. **FHGE: Non-GE; Transferable: CSU**

HORT 90U LANDSCAPE DESIGN: PERSPECTIVE SKETCHING 1 Unit
.75 hour lecture, .5 hour laboratory. (15 hours total per quarter)
Basic perspective sketching for landscape design presentations. Setup and rendering of one-point and two-point perspectives, including location of horizon lines and vanishing points, height determination, positioning of objects, and rendering techniques for plants, people, structures, and hardscape. Emphasis is on creating one point, quick sketch perspectives for presentation to clients. **FHGE: Non-GE; Transferable: CSU**

HORT 90V SUSTAINABLE ORGANIC GARDENING 1 Unit
.75 hours lecture, .5 hours laboratory. (15 hours total per quarter)
Principles and practices utilized in the design, implementation, and maintenance of sustainable organic gardens. Sustainable gardening practices that produce successful, environmentally responsible produce and crops. **FHGE: Non-GE; Transferable: CSU**

HORT 90X WATER CONSERVATION IN LANDSCAPE DESIGN 1 Unit
.75 hours lecture, .5 hours laboratory. (15 hours total per quarter)
Applies principles of water conservation to landscape design and construction projects. Landscape designs which incorporate water-conserving principles strive to limit the need for water and strike a balance between softscape and hardscape elements. **FHGE: Non-GE; Transferable: CSU**

HORT 90Y CACTI & SUCCULENTS 1 Unit
.75 hourS lecture, .5 hour laboratory. (15 hours total per quarter)
Identification, taxonomy, habits of growth, cultural and environmental requirements of plants grown in California. Emphasis on the use and maintenance of cacti and succulents with significant design features and landscape uses. Plants are observed in lab, on campus, and at off-site locations. **FHGE: Non-GE; Transferable: CSU**

HORT 90Z ORNAMENTAL GRASSES 1 Unit
.75 hour lecture, .5 hour laboratory. (15 hours total per quarter)
Identification, taxonomy, habits of growth, cultural and environmental requirements of ornamental grasses grown in California. Emphasis on the use and maintenance of these monocots. Plants are observed in lab, on campus, and at off-site locations. **FHGE: Non-GE; Transferable: CSU**

HORT 91A COMPOSTING THEORY & TECHNIQUES 1 Unit
.75 hours lecture, .5 hours laboratory. (15 hours total per quarter)
Comprehensive introduction to the theory and practices utilized in composting of organic materials. Course provides a combination of classroom lectures, demonstrations, and lab activities geared to providing a clear understanding of various composting techniques including sustainable waste management practices, recycling of organics, backyard composting, and vermicomposting. **FHGE: Non-GE; Transferable: CSU**

HORT 91B SKETCHUP FOR LANDSCAPE DESIGNERS 1 Unit
Advisory: HORT 40.
.75 hours lecture, .5 hour laboratory. (15 hours total per quarter)
An overview and application of Google Sketchup to three-dimensional rendering for the landscape designer. Emphasizing the basics of drawing setup, creation and editing, this class will show the designers how to turn their 2D drawings into a presentation drawing that illustrates their ideas in photo-like rendering techniques. Importing and use of the three-dimensional tools available in the free Sketchup download will be included in the instruction. Intended for students seeking a landscape design career or professionals upgrading their skills. **FHGE: Non-GE; Transferable: CSU**

FIRE SCIENCE

Biological and Health Sciences (650) 949-7249 www.foothill.edu/bio/

JFS 307 FIRE FIGHTER I ACADEMY 20 Units
Advisory: The student will be required to pass a physical agility test. Further information to be provided to the student upon enrollment.
480 hours total.
Instruction on basic fire fighting skills, laws and regulations affecting the fire service. It will provide the student with knowledge and skills to safely perform, under minimal supervision, essential and advanced fire ground tasks, basic rescue, basic fire prevention and fire investigation task and to use, inspect, and maintain fire fighting and rescue equipment. Curriculum is intended to provide the minimum training required by the State of California Fire Marshal in the field of Fire technology as it relates to firefighters. Students will receive a Fire Fighter 1 Academy certificate at the completion of this course. **FHGE: Non-GE**

JFS 308A FIRE CONTINUED PROFESSIONAL TRAINING (CPT) 2 Units
Prerequisite: JFS 307 or equivalent.
44 hours total.
Provides training which is required by the California State Fire Marshall to keep firefighters current with new equipment, policies, laws, medical training and fire skills needed to be prepared in the line of duty. Curriculum is used by multiple agencies, all requiring different training hour requirements. This course has less laboratory hours than JFS 308B. **FHGE: Non-GE**

JFS 308B FIRE CONTINUED PROFESSIONAL TRAINING 2 (CPT) 2 Units
Prerequisite: JFS 307 or equivalent.
54 hours total.
Intended for current fire personnel, and provides training which is required by the California State Fire Marshall to keep firefighters current with new equipment, policies, laws, medical training and fire skills needed to be prepared in the line of duty. Provides advanced hands on training for firefighters. **FHGE: Non-GE**

GEOGRAPHY

Business and Social Sciences (650) 949-7322 www.foothill.edu/bss/

GEOG 1 PHYSICAL GEOGRAPHY 5 Units
Advisory: Demonstrated proficiency in English by placement into ENGL 1A as determined by score on the English placement test or through an equivalent placement process; MATH 220.
4 hours lecture, 1 hour lecture-laboratory, 2 hours laboratory. (84 hours total per quarter)
Study of the Earth's surface, including the earth's dimensions and systems; atmospheric processes; patterns of climate, vegetation and soils; and features, processes and interactions of land, water and various energy sources. Use of maps for interpretation. **FHGE: Natural Sciences; Transferable: UC/CSU**

GEOG 2 HUMAN GEOGRAPHY 4 Units
Advisory: Demonstrated proficiency in English by placement into ENGL 1A as determined by score on the English placement test or through an equivalent placement process.
4 hours lecture. (48 hours total per quarter)
The cultural geographic landscape. Study of the human population from origins to the present with an emphasis on the future. Examination of population densities, migrations and settlements; races, languages and religions; patterns of land use and major environmental perceptions and problems. Analysis of energy, mineral, and food resources and how cultures utilize them. **FHGE: Social & Behavioral Sciences; Transferable: UC/CSU**

GEOG 5 INTRODUCTION TO ECONOMIC GEOGRAPHY 4 Units
Advisory: Demonstrated proficiency in English by placement into ENGL 1A as determined by score on the English placement test or through an equivalent placement process.
4 hours lecture. (48 hours total per quarter)
Introduction to the geography of economic activity; the world wide distribution and characteristics of agriculture, forestry, fishing, mining, manufacturing, transportation, high technology and international trade. **FHGE: Social & Behavioral Sciences; Transferable: UC/CSU**

GEOG 9 CALIFORNIA GEOGRAPHY 4 Units
4 hours lecture. (48 hours total per quarter)
Study of extreme regional variations within California. Factors contributing to landscape change. Examination of exploration, settlement, economic development, and urban-industrial-transportation patterns. Extensive use of maps, GIS, Internet and current events. **FHGE: Non-GE; Transferable: UC/CSU**

GEOG 10 WORLD REGIONAL GEOGRAPHY 4 Units
Advisory: Demonstrated proficiency in English by placement into ENGL 1A as determined by score on the English placement test or through an equivalent placement process.
4 hours lecture. (48 hours total per quarter)
Survey of the world's major culture regions and major nations. Physical, cultural, economic features. Emphasis on historical influences on population growth, transportation networks, natural environment, potential and problems. Location, importance and impact of the foremost features of countries, states, major cities, rivers and landform regions. **FHGE: Social & Behavioral Sciences; Transferable: UC/CSU**

GEOG 11 INTRODUCTION TO MAPPING & SPATIAL REASONING 4 Units
Advisory: MATH 220; not open to students with credit in GIST 11.
4 hours lecture. (48 hours total per quarter)
Introduction to the fundamental concepts of GeoSpatial Technology, including Geographic Information Systems (GIS), Remote Sensing (RS) and Global Positioning Systems (GPS), map reading, and cartography. Exploration of how geospatial technologies are used in addressing human and environmental issues and can promote sustainability. **FHGE: Communication & Analytical Thinking; Transferable: UC/CSU**

GEOG 12 INTRODUCTION TO GEOSPATIAL TECHNOLOGY 4 Units
Advisory: GEOG 11 or GIST 11; not open to students with credit in GIST 12.
3 hours lecture, 3 hours laboratory. (72 hours total per quarter)
Study of Geospatial Technology including Geographic Information Systems (GIS), Global Positioning Systems (GPS), cartography, remote sensing, and spatial analysis. Application of Geographic Information Systems (GIS) science to spatial data management. Assessment of vector and raster systems, scale, resolution, map projection, coordinate systems and georeferencing. Identification and acquisition of spatial data. **FHGE: Non-GE; Transferable: UC/CSU**

GEOG 54H HONORS INSTITUTE SEMINAR IN GEOGRAPHY 1 Unit
Formerly: GEOG 34, 34H
Prerequisite: Honors Institute participant.
Advisory: Not open to students with credit in GEOG 34 or 34H.
1 hour lecture. (12 hours total per quarter)
A seminar in directed readings, discussions and projects in geography. Specific topics to be determined by the instructor. **FHGE: Non-GE; Transferable: CSU**

GEOG 70R INDEPENDENT STUDY IN GEOGRAPHY 1 Unit
GEOG 71R 2 Units
GEOG 72R 3 Units
GEOG 73R 4 Units
3–12 hours per week. (36–144 hours total per quarter)
Provides an opportunity for the student to expand their studies in Geography beyond the classroom by completing a project or an assignment arranged by agreement between the student and instructor. The student is required to contract with the instructor to determine the scope of assignment and the unit value assigned for successful completion. Students may take a maximum of 6 units of Independent Study per department. **FHGE: Non-GE; Transferable: CSU**

GEOSPATIAL TECHNOLOGY

Business and Social Sciences (650) 949-7322 www.foothill.edu/bss/

GIST 11 INTRODUCTION TO MAPPING & SPATIAL REASONING 4 Units
Advisory: MATH 220; not open to students with credit in GEOG 11.
4 hours lecture. (48 hours total per quarter)
Introduction to the fundamental concepts of GeoSpatial Technology, including Geographic Information Systems (GIS), Remote Sensing (RS) and Global Positioning Systems (GPS), map reading, and cartography. Exploration of how geospatial technologies are used in addressing human and environmental issues and can promote sustainability. **FHGE: Communication & Analytical Thinking; Transferable: UC/CSU**

GIST 12 INTRODUCTION TO GEOSPATIAL TECHNOLOGY 4 Units
Advisory: GEOG 11 or GIST 11; not open to students with credit in GEOG 12.
3 hours lecture, 3 hours laboratory. (72 hours total per quarter)
Study of Geospatial Technology including Geographic Information Systems (GIS), Global Positioning Systems (GPS), cartography, remote sensing, and spatial analysis. Application of Geographic Information Systems (GIS) science to spatial data management. Assessment of vector and raster systems, scale, resolution, map projection, coordinate systems and georeferencing. Identification and acquisition of spatial data. **FHGE: Non-GE; Transferable: UC/CSU**

GIST 52 GEOSPATIAL DATA ACQUISITION & MANAGEMENT 4 Units
Formerly: GEOG 52
Advisory: Successful completion of GEOG 11 or GIST 11 and GEOG 12 or GIST 12; not open to students with credit in GEOG 52.
3 hours lecture, 3 hours laboratory. (72 hours total per quarter)
Study of Geographic Information Systems (GIS) science and its applications to spatial data management. Data acquisition using GPS, digitizing and scanning techniques. Data management. Editing and verifying. Raster data manipulation and importing. Database management. Advanced queries and database manipulation. **FHGE: Non-GE; Transferable: CSU**

GIST 53 ADVANCED GEOSPATIAL TECHNOLOGY & SPATIAL ANALYSIS 4 Units
Prerequisite: GEOG 12 or GIST 12.
Advisory: GIST 11 and 52.
1 hour lecture, 2 hours lecture-laboratory, 6 hours laboratory. (108 hours total per quarter)
Introduction to problem-solving and decision making using geospatial analysis techniques, applicable to a range of disciplines. **FHGE: Non-GE; Transferable: CSU**

GIST 54A SEMINAR IN SPECIALIZED APPLICATIONS OF GEOGRAPHIC INFORMATION SYSTEMS I 2 Units
Formerly: GEOG 54A
Advisory: Not open to students with credit in GEOG 54A.
2 hours lecture. (24 hours total per quarter)
Seminar on the diverse applications of Geographic Information Systems (GIS). Weekly presentations by guest speakers. **FHGE: Non-GE; Transferable: CSU**

GIST 58 REMOTE SENSING & DIGITAL IMAGE PROCESSING 3 Units
Formerly: GEOG 58
Advisory: Not open to students with credit in GEOG 58.
2 hours lecture, 3 hours laboratory. (60 hours total per quarter)
Physical basis of remote sensing. Aerial photography and high resolution multi-band imaging. Satellite multi-band optical remote sensing. Other forms of remote sensing (RADAR, SAR, LIDAR). Applications of remote sensing. **FHGE: Non-GE; Transferable: CSU**

GIST 59 CARTOGRAPHY, MAP PRESENTATION & DESIGN 2 Units
Formerly: GEOG 59
Advisory: Not open to students with credit in GEOG 59.
1 hour lecture, 3 hours laboratory. (48 hours total per quarter)
Map projections, geodes, coordinate systems. Map composition. Selection of colors and symbols. **FHGE: Non-GE; Transferable: CSU**

GIST 90A INTRODUCTION TO GIS FOR K–12 TEACHERS I: FUNDAMENTALS OF GEOGRAPHIC INFORMATION SYSTEMS SCIENCE **1 Unit**

Formerly: GEOG 90A
Advisory: Not open to students with credit in GEOG 90A.
1 hour lecture. (12 hours total per quarter)
Study of Geographic Information Systems (GIS) science and its applications to spatial data management. Assessment of vector and raster systems, scale, resolution, map projection and coordinate systems. Applications and uses of GIS and data visualization in the classroom and in and out of the classroom. Integration of technology intensive curriculum with the traditional classroom model. **FHGE: Non-GE; Transferable: CSU**

GIST 90B INTRODUCTION TO GIS FOR K–12 TEACHERS II: UTILIZING SPATIAL DATA & DATA ANALYSIS IN THE CLASSROOM **1 Unit**

Formerly: GEOG 90B
Advisory: Not open to students with credit in GEOG 90B.
1 hour lecture. (12 hours total per quarter)
Study of Geographic Information Systems (GIS) science and its applications to spatial data management. Georeferencing and Global Positioning Systems (GPS). Discussion and analysis of uncertainty propagation within a GIS. Applications of quantitative and statistical spatial analytical methods; modeling with GIS in the classroom. Helping students formulate geo-spatial questions. **FHGE: Non-GE; Transferable: CSU**

GIST 90C INTRODUCTION TO GIS FOR K–12 TEACHERS III: DESIGNING & IMPLEMENTING A GIS **1 Unit**

Formerly: GEOG 90C
Advisory: Not open to students with credit in GEOG 90C.
1 hour lecture. (12 hours total per quarter)
Study of Geographic Information Systems (GIS) science and its applications to spatial data management. Designing and creating an original GIS. Database design, fundamentals of data storage, scanning and heads-up digitizing. Finding and accessing free data sources on the Internet. **FHGE: Non-GE; Transferable: CSU**

GIST 101A INTRODUCTION TO MAPPING & COMPUTERIZED CARTOGRAPHY **1 Unit**

Formerly: GEOG 101A
Advisory: Not open to students with credit in GEOG 101A.
1 hour lecture. (12 hours total per quarter)
Introduction to map reading and interpretation for practical purposes. Thematic map types and uses, use of maps in the field, and discussion of computerized mapping systems and Geographic Information Systems (GIS). **FHGE: Non-GE**

GIST 101B A PREFACE TO GIS: COMPUTER-BASED MAPPING & GIS **1 Unit**

Formerly: GEOG 101B
Advisory: Not open to students with credit in GEOG 101B.
1 hour lecture. (12 hours total per quarter)
Non-technical introduction to Geographic Information Systems (GIS) with an emphasis on applications. Includes the application of GIS in a range of disciplines, GIS software and data available, how Global Positioning Systems (GPS) integrate with GIS. Students will be introduced to a variety of free and low cost software and provided with practical exercises. **FHGE: Non-GE**

GIST 101C GLOBAL POSITIONING SYSTEMS (GPS) FUNDAMENTALS **1 Unit**

Formerly: GEOG 101C
Advisory: Not open to students with credit in GEOG 101C.
.5 hours lecture, 1.5 hours laboratory. (24 hours total per quarter)
Introduction to the use of Global Positioning Systems in Geotechnology. Satellite and device history, configuration and accuracy. Data collection in the field with GPS units and integration into digital mapping projects. **FHGE: Non-GE**

GIST 101D TECHNOLOGY CAREERS & WORKFORCE PREPARATION **1 Unit**

Formerly: GEOG 101D
Advisory: Not open to students with credit in GEOG 101D.
1 hour lecture. (12 hours total per quarter)
Job search strategies, resume writing and interview skills for students in technical fields. **FHGE: Non-GE**

GERONTOLOGY

Business and Social Sciences (650) 949-7322 www.foothill.edu/aging

GERN 10 SOCIOLOGY OF AGING **3 Units**

Formerly: GERN 50
Advisory: Not open to students with credit in GERN 50.
3 hours lecture. (36 hours total per quarter)
Introduction to the field of gerontology, the study of aging. It includes an examination of the history of the field and major theories in social gerontology. Explores myths and stereotypes of aging, demography of elders in the United States, patterns of work and retirement, family structures and issues, financial resources, housing options, ethnic and cultural diversity among elders, and federal policies affecting older Americans. **FHGE: Non-GE; Transferable: CSU**

GERN 11 PSYCHOLOGY OF AGING **3 Units**

Formerly: GERN 51
Advisory: Not open to students with credit in GERN 51.
3 hours lecture. (36 hours total per quarter)
An introduction to normal emotional and psychological changes that typically occur in later life, including discussion of common mental health problems that elders can experience: how to recognize them, and what to do to assist the individual and the family. Ethnic and cultural differences in presentation, evaluation, and treatment of mental health problems in various culturally diverse groups will be highlighted. **FHGE: Non-GE; Transferable: UC/CSU**

GERN 15 ISSUES IN DEATH, DYING & BEREAVEMENT ACROSS CULTURES **3 Units**

Formerly: GERN 55
Advisory: not open to students with credit in GERN 55.
3 hours lecture. (36 hours total per quarter)
This course discusses the relationships with death, as an individual, as a health professional, and as a member of society. It explores the universal phenomena of dying, death, and bereavement with a special emphasis on academic and interpersonal skills that allow individuals to increase their understanding and appreciation of cultural differences and similarities, within, among, and between groups. **FHGE: Non-GE; Transferable: UC/CSU**

GERN 52 HEALTH & AGING **3 Units**

3 hours lecture. (36 hours total per quarter)
An introduction to normal physical changes in older adults without significant disability, common diseases and disabilities that occur in old age, health promotion/disease prevention strategies, and health care policies and practices. **FHGE: Non-GE; Transferable: CSU**

GERN 54 CONTINUUM OF CARE OPTIONS **3 Units**

3 hours lecture. (36 hours total per quarter)
An overview of the types of care options available to serve independent and dependent elders; including senior centers, adult day care programs, assisted living and nursing homes. Regulations and management issues will be explored. Role of ombudsmen and advocacy organizations are discussed. A systematic exploration of the continuum of care. **FHGE: Non-GE; Transferable: CSU**

GERN 56 AGING & DIVERSITY **3 Units**

3 hours lecture. (36 hours total per quarter)
Introduction to the cross-cultural and diverse issues of aging, focusing on psychological and social aspects for diverse subgroups within the US. Students will learn to effectively communicate with aging clients of diverse ethnic, religious, gender, sexual orientation, and cultural backgrounds. Through readings, lectures, films, discussions, case studies, and other interactive learning tools, the course will help students to develop the necessary skills to engage and work with aging clients with diverse backgrounds and perspectives. Personal reflections, experiences, beliefs and behaviors will be explored. **FHGE: Non-GE; Transferable: CSU**

GRAPHICS & INTERACTIVE DESIGN

Fine Arts and Communication **(650) 949-7262**
www.foothill.edu/graphicdesign/

Foothill offers art activity courses in six different family categories. No single course may be repeated. Enrollment is limited to six courses per family within the Foothill-De Anza Community College District. Refer to the De Anza College Catalog for the corresponding families and courses.

Printmaking Family: ART 38 or GID 44, ART 39 or GID 46, ART 40 or GID 38, ART 49 or GID 48, ART 37 or GID 42, GID 39
Book Arts & Paper: ART 6, ART 96 or GID 90, GID 73, 91, 94

GID 1 HISTORY OF GRAPHIC DESIGN 4 Units
Advisory: Not open to students with credit in ART 36 or GRDS 36.
4 hours lecture. (48 hours total per quarter)
Study of the development of visual communication in art, graphic design, illustration and popular culture. Emphasis on the role, impact and interpretation of images, symbols, and typography used in informative and persuasive media. **FHGE: Humanities; Transferable: UC/CSU**

GID 2 THE HISTORY OF THE PRINTED BOOK 4 Units
4 hours lecture. (48 hours total per quarter)
A study of the Printed Book covering the last 500 years before and after Gutenberg. Emphasis will be on significant milestones of published books from Incunabula (1400-1500) to present covering printing, papermaking, bookbinding and typography. Manuscripts, hand printed books, machine printed books, and fine press/artist books will be discussed. All major type designers, type-cutters and printers will be covered. **FHGE: Non-GE; Transferable: CSU**

GID 33 GRAPHIC DESIGN STUDIO I 4 Units
Formerly: GID 50
Advisory: Not open to students with credit in GID 50 or GRDS 53.
3 hours lecture, 3 hours laboratory. (72 hours total per quarter)
Introduction to graphic design and visual communication. Projects include composition, typography, image editing and logo design. Design principles are explored through creative projects. Students practice fundamental software skills using Adobe Photoshop, Illustrator, and InDesign to complete the graphic design activities in this course. **FHGE: Non-GE; Transferable: UC/CSU**

GID 34 GRAPHIC DESIGN STUDIO II 4 Units
Formerly: GID 51
Prerequisite: GID 33.
Advisory: Not open to students with credit in GID 51.
3 hours lecture, 3 hours laboratory. (72 hours total per quarter)
Continuation of GID 33. Students engage in problem solving with real-world graphic design projects. Focus on creative solutions that effectively use type, image, and layout. Projects include brochure, advertisement, interface, and package design. Creative ideas are explored in sketches, rough layouts, and finished comps. Students learn software skills using Adobe InDesign, Illustrator, and Photoshop to complete the graphic design activities in this course. **FHGE: Non-GE; Transferable: UC/CSU**

GID 35 GRAPHIC DESIGN STUDIO III 4 Units
Formerly: GID 52
Prerequisite: GID 33.
Advisory: Not open to students with credit in GID 52.
3 hours lecture, 3 hours laboratory. (72 hours total per quarter)
Continuation of GID 34. Students design and produce a real-world graphic design campaign. Focus on creative solutions that effectively use type, image, and layout. Projects include branding, identity, newsletter, web site, and package design. Creative ideas are explored in sketches, rough layouts, comps, and final presentations. Students learn software skills using Adobe Acrobat, InDesign, Illustrator, Photoshop, and Dreamweaver to complete the graphic design activities in this course. **FHGE: Non-GE; Transferable: UC/CSU**

GID 36 TYPOGRAPHY 4 Units
Formerly: GID 54
Advisory: GID 33 and 41 or proficiency using Illustrator software; not open to students with credit in GID 54 or GRDS 62.
3 hours lecture, 3 hours laboratory. (72 hours total per quarter)
Exploration and experimentation with letter forms and page layout for expressive communication. Fundamental typographic principles, font recognition, and analysis of both historical and post modern design theory. Emphasis on content, form, and technique for effective use of typography in ads, posters, newsletters and other visual communications. **FHGE: Non-GE; Transferable: UC/CSU**

GID 37 CARTOONING 4 Units
Formerly: GID 72
Advisory: Not open to students with credit in GID 72 or GRDS 73A.
3 hours lecture, 3 hours laboratory. (72 hours total per quarter)
Fundamentals of drawing cartoons for mass communication with a variety of styles and techniques. Emphasis on skills, concepts, humor, and design. Exploration of career opportunities. **FHGE: Non-GE; Transferable: UC/CSU**

GID 38 PRINT ARTS I 4 Units
Advisory: ART 4A and 5A; this course is included in the Printmaking family of activity courses; not open to students with credit in ART 69 or GRDS 69.
3 hours lecture, 3 hours laboratory. (72 hours total per quarter)
Introduction to the printmaking processes of relief, intaglio, screenprinting and monoprinting. Theory and practice making limited-edition and one-of-a-kind fine art prints. **FHGE: Non-GE; Transferable: UC/CSU**

GID 39 PRINT ARTS II 4 Units
Prerequisite: GID 38.
Advisory: This course is included in the Printmaking family of activity courses.
3 hours lecture, 3 hours laboratory. (72 hours total per quarter)
Continuation of GID 38. Multi-color printing and photographic processes for relief, intaglio, screenprinting and lithography. Theory and practice making limited-edition and one-of-a-kind fine art prints. **FHGE: Non-GE; Transferable: UC/CSU**

GID 40 DIGITAL PRINTMAKING 4 Units
Advisory: ART 14D or GID 41; not open to students with credit in GRDS 71.
3 hours lecture, 3 hours laboratory. (72 hours total per quarter)
Introduction to the creative, expressive and experimental possibilities of using digital media to produce fine art prints. Emphasis on image creation, printing technologies and printing techniques. **FHGE: Non-GE; Transferable: UC/CSU**

GID 41 DIGITAL ART & GRAPHICS 4 Units
Formerly: GID 74
Advisory: Familiarity with computer operating systems, ART 4A or GID 70; ART 5A; PHOT 1; not open to students with credit in GID 74 and GRDS 56.
3 hours lecture, 3 hours laboratory. (72 hours total per quarter)
Introduction to using computers and software for painting, drawing, image processing, photo composites and typography. Emphasis on image making and creative problem solving. **FHGE: Non-GE; Transferable: UC/CSU**

GID 42 ETCHING & INTAGLIO PRINTING 4 Units
Advisory: This course is included in the Printmaking family of activity courses; not open to students with credit in ART 37 or 75.
3 hours lecture, 3 hours laboratory. (72 hours total per quarter)
Beginning techniques in printmaking, including embossing, monoprinting, chine collee, drypoint, softground, line etching, handcoloring, printing and the editioning of plates. **FHGE: Non-GE; Transferable: UC/CSU**

GID 43 ILLUSTRATION & DIGITAL IMAGING 4 Units
Formerly: GID 76
Advisory: ART 4A or GID 70; GID 41 or familiarity with painting and drawing software; not open to students with credit in GID 76 or GRDS 90.
3 hours lecture, 3 hours laboratory. (72 hours total per quarter)
Creation of images to communicate ideas. Traditional and digital media. Emphasis on concept development and communication effectiveness. Development of personal visual vocabulary while learning art making techniques and media, reproduction processes and illustration business practice. **FHGE: Non-GE; Transferable: UC/CSU**

GID 44 RELIEF PRINTING 4 Units
Advisory: This course is included in the Printmaking family of activity courses; not open to students with credit in ART 38.
3 hours lecture, 3 hours laboratory. (72 hours total per quarter)
Introduction to relief printing processes, exploring the techniques of embossing, linoleum block, and collagraph printing. Theory and practice making images for limited-edition and one-of-a-kind fine art prints. **FHGE: Non-GE; Transferable: UC/CSU**

GID 45 DIGITAL SOUND, VIDEO & ANIMATION 4 Units
Formerly: GID 80
Advisory: Not open to students with credit in ART 88, DRAM 86, GID 80, GRDS 86, MUS 12 or VART 86.
3 hours lecture, 3 hours laboratory. (72 hours total per quarter)
Basic instruction using the computer for emerging media technologies; digital sound, video editing, and animation. Emphasis on time based media and creative problem solving. **FHGE: Non-GE; Transferable: UC/CSU**

GID 46 SCREENPRINTING 4 Units
Advisory: This course is included in the Printmaking family of activity courses; not open to students with credit in ART 39.
3 hours lecture, 3 hours laboratory. (72 hours total per quarter)
Introduction to screen printing processes, exploring the techniques of hand cut stencils , direct drawn stencils and photographic processes. Theory and practice making images for limited-edition and one-of-a-kind fine art prints. **FHGE: Non-GE; Transferable: UC/CSU**

GID 47 MOTION GRAPHICS 4 Units
Formerly: GID 84
Advisory: Not open to students with credit in GID 84, GRDS 87, MDIA 32 or VART 87.
3 hours lecture, 3 hours laboratory. (72 hours total per quarter)
Basic instruction using the computer for motion graphic design, animation, and composite digital video production. Emphasis on time based media and its application to creative problem solving and communication solutions. **FHGE: Non-GE; Transferable: UC/CSU**

GID 48 MONOPRINTING 4 Units
Advisory: This course is included in the Printmaking family of activity courses; not open to students with credit in ART 49.
3 hours lecture, 3 hours laboratory. (72 hours total per quarter)
Introduction to monoprinting processes, exploring the techniques of painting, drawing and stencils to make unique prints. Theory and practice making images for one-of-a-kind fine art prints. **FHGE: Non-GE; Transferable: UC/CSU**

GID 53A BEGINNING T-SHIRT DESIGN & GARMENT PRINTING 4 Units
Formerly: GID 53
Advisory: Not open to students with credit in GID 53.
3 hours lecture, 3 hours laboratory. (72 hours total per quarter)
Basic instruction in design and printing for wearable art. Students learn techniques for image creation and preparation of artwork for screenprinting on t-shirts. Development of personal visual style while learning workflow of a professional printing studio. **FHGE: Non-GE; Transferable: CSU**

GID 53B INTERMEDIATE T-SHIRT DESIGN & GARMENT PRINTING 4 Units
Prerequisite: GID 53A.
3 hours lecture, 3 hours laboratory. (72 hours total per quarter)
Continuation of GID 53A. Intermediate instruction in design and printing for wearable art. Students learn digital skills for image creation and preparation of multi-color artwork for screenprinting on t-shirts, fabrics and wearable substrates. Focused development of personal visual style with emphasis on portfolio quality work. Basic business procedures of the garment printing industry are put into practice. **FHGE: Non-GE; Transferable: CSU**

GID 53C ADVANCED T-SHIRT DESIGN & GARMENT PRINTING 4 Units
Prerequisite: GID 53B.
3 hours lecture, 3 hours laboratory. (72 hours total per quarter)
Continuation of GID 53B. Advanced instruction in design, printing, management and business operations of a full-service garment printing business. **FHGE: Non-GE; Transferable: CSU**

GID 56 WEBSITE DESIGN 4 Units
Advisory: Proficiency using Adobe Photoshop software; not open to students with credit in GRDS 94.
3 hours lecture, 3 hours laboratory. (72 hours total per quarter)
Basic instruction using the computer for web site and interface design. Emphasis on interactive media and creative problem solving. **FHGE: Non-GE; Transferable: CSU**

GID 57 WEBSITE DESIGN & DEVELOPMENT II 4 Units
Advisory: GID 56.
3 hours lecture, 3 hours laboratory. (72 hours total per quarter)
Introduction to HTML/XHTML for coding fully functional Web pages and websites. Emphasis on writing well-formed markup using current Web standards and coding technologies, design concepts, usability, accessibility, and browser compatibility. Brief introduction to JavaScript, HTML5, and XML. **FHGE: Non-GE; Transferable: CSU**

GID 58 WEB DESIGN & DEVELOPMENT III 4 Units
Advisory: GID 56 and 57.
3 hours lecture, 3 hours laboratory. (72 hours total per quarter)
Website design and production using an HTML editor software, with an emphasis on application of current HTML/CSS coding technologies, design concepts,, usability and accessibility, organizing page content, producing dynamic pages, incorporating rich media, and reusable elements. Large scale website development with emphasis on site management, and web page delivery to multiple platforms. Develop proficiency with web production software Adobe Dreamweaver. **FHGE: Non-GE; Transferable: CSU**

GID 60 CAREERS IN THE VISUAL ARTS 2 Units
Advisory: Not open to students with credit in GRDS 50 or VART 50.
2 hours lecture. (24 hours total per quarter)
Exploring the field of visual arts including commercial arts, graphic design, photography, video arts, web site design, and illustration. Survey of career paths including art studios, company art departments, advertising agencies, freelance, and other job opportunities for creative services professionals. **FHGE: Non-GE; Transferable: CSU**

GID 61 PORTFOLIO 4 Units
Advisory: Not open to students with credit in GRDS 77.
3 hours lecture, 3 hours laboratory. (72 hours total per quarter)
Design and creation of digital and traditional portfolios for designers, illustrators, photographers. Planning and implementation of individual professional portfolios using a variety of delivery systems. **FHGE: Non-GE; Transferable: CSU**

GID 64A GRAPHIC & INTERACTIVE DESIGN EXPERIENTIAL INTERNSHIP 4 Units
12 hours laboratory. (144 hours total per quarter)
Off-campus supervised experiential education of graphic and interactive design students. Opportunity for practical application of knowledge, skills and abilities acquired in graphic and design as well as other related course work. Opportunity for additional hands-on training in all aspects graphic design. Exposure to varied protocols, methodologies and practices in a professional working environment. **FHGE: Non-GE; Transferable: CSU**

GID 70 GRAPHIC DESIGN DRAWING 4 Units
Advisory: Not open to students with credit in GRDS 60.
3 hours lecture, 3 hours laboratory. (72 hours total per quarter)
Developing drawing skills for communicating ideas. Learning to simplify complex realistic images to express design concepts rapidly and effectively. **FHGE: Non-GE; Transferable: CSU**

GID 71 STORYBOARDING 4 Units
Advisory: GID 70; not open to students with credit in GRDS 76.
3 hours lecture, 3 hours laboratory. (72 hours total per quarter)
Fundamentals of creating storyboards and flowcharts for media projects. Emphasis on technique, concept development and design of storyboards. Exploration of storyboard applications for new media content. **FHGE: Non-GE; Transferable: CSU**

GID 73 PAPER ARTS I 4 Units
Formerly: GID 30
Advisory: This course is included in the Book Arts & Paper family of activity courses; not open to students with credit in ART 30 or GID 30.
3 hours lecture, 3 hours labratory. (72 hours total per quarter)
Introduction to the skills and techniques of the paper arts. Mold and cast hand-made paper from various cultures. Embedded and surface structural and decorative techniques. Construction of basic paper making tools. Exploration of paper as applied to print arts, book arts and graphic design projects. History of papermaking. Emphasis on materials, processes and techniques while exploring form and content. **FHGE: Non-GE; Transferable: CSU**

GID 77 ADVANCED WEBSITE DESIGN & DEVELOPMENT 4 Units
Advisory: GID 56 and 57.
3 hours lecture, 3 hours laboratory. (72 hours total per quarter)
Introduction to HTML5 and CSS3 for advanced Web development and design. Prepares students and working professionals to use advanced tags and layout. Emphasis on writing well-formed markup using current Web standards and coding technology, design concepts, usability, accessibility, and browser compatibility. Includes minor elements of JavaScript. Intended for students with a basic working knowledge of HTML/CSS and Web design. **FHGE: Non-GE; Transferable: CSU**

GID 78 RAPID WEBSITE DEVELOPMENT 4 Units
Advisory: GID 56, 57 and 58.
3 hours lecture, 3 hours laboratory. (72 hours total per quarter)
Introduction to Drupal and WordPress for rapid website development. Prepares students and working professionals to use rapid development tools to create and customize websites for small and large applications, from blogs to commercial development. Emphasis on authoring, modules and architecture, CMS (Content Management System), and administrative tools. **FHGE: Non-GE; Transferable: CSU**

GID 90 BOOK ARTS I 4 Units
Advisory: This course is included in the Book Arts & Paper Family of activity courses; not open to students with credit in ART 96 or GRDS 96.
3 hours lecture, 3 hours laboratory. (72 hours total per quarter)
Introduction to the skills and techniques of the book arts. Students will learn construction and mounting skills for books, boxes and portfolios. Traditional and non-traditional binding formats include stab, accordion, concertina and signature sewing. Emphasis on form building while exploring content and narrative.
FHGE: Non-GE; Transferable: CSU

GID 91 BOOK ARTS II 4 Units
Prerequisite: GID 90.
Advisory: This course is included in the Book Arts & Paper Family of activity courses.
3 hours lecture, 3 hours laboratory. (72 hours total per quarter)
Continuation of GID 90. Studio experiences in making art that takes book form. Students will learn strategies for content development; design, layout and typography; and narrative structures, pacing and sequencing. Reproduction techniques include traditional and digital media including relief printing, stencil printing, transfer printing and commercial printing. Emphasis on content and narrative while advancing book construction skills. **FHGE: Non-GE; Transferable: CSU**

GID 92 LETTERPRESS PRINTING 4 Units
Advisory: GID 50 and 74; not open to students with credit in GRDS 40.
3 hours lecture, 3 hours laboratory. (72 hours total per quarter)
Studio practice in letterpress printing to create limited-edition prints and books. Introduction to handset type, hand-carved relief plates and photopolymer plates. Emphasis on technical skills with tools and media, visual communication, and aesthetics of print media. **FHGE: Non-GE; Transferable: CSU**

GID 93 LETTERPRESS PROJECTS 4 Units
Advisory: GID 92 or equivalent skills.
3 hours lecture, 3 hours laboratory. (72 hours total per quarter)
Application of principles and theories introduced in previously taken letterpress courses to student-motivated projects. Projects address information gathering, idea generation, concept development, production and distribution. **FHGE: Non-GE; Transferable: CSU**

HEALTH

Biological and Health Sciences (650) 949-7249
www.foothill.edu/bio/programs/

HLTH 21 CONTEMPORARY HEALTH CONCERNS 4 Units
Advisory: One of the following: ENGL 1A, 1AH, 1S & 1T or ESLL 25.
4 hours lecture. (48 hours total per quarter)
Development of understanding and attitudes relative to personal,family,and community health needs. Emphasis placed upon epidemiology of disease,nutritional behavior, communicable and non-communicable diseases,disease prevention,mental health and substance abuse. Attention also given to the role of physical activity and the ecological conditions of health significance. Study of common lifestyle behaviors will emphasize self-help and preventable aspects of medical care. Intended for students in health career programs as well as those who wish to identify and evaluate contemporary personal health practices in order to establish a plan for change.
FHGE: Lifelong Learning; Transferable: UC/CSU

HLTH 55 EMERGENCY MEDICAL RESPONSE 5 Units
Formerly: HLTH 5
Advisory: Not open to students with credit in HLTH 5.
4 hours lecture, 3 hours laboratory. (84 hours total per quarter)
Provides the student with the knowledge and skills necessary to work as an emergency medical responder (EMR)to help sustain life, reduce pain and minimize the consequences of injury or sudden illness until more advanced medical help takes over. The course meets or exceeds the 2008 Emergency Medical Services Educational Standards for Emergency Medical Response and meets Guidelines 2010 for First Aid and 2010 Consensus on Science for Cardiopulmonary Resuscitation and Emergency Cardiovascular Care. **FHGE: Non-GE; Transferable: CSU**

HISTORY

Business and Social Sciences (650) 949-7322 www.foothill.edu/bss/

HIST 4A HISTORY OF WESTERN CIVILIZATION TO 800 AD 4 Units
Advisory: Demonstrated proficiency in English by placement into ENGL 1A as determined by score on the English placement test or through an equivalent placement process.
4 hours lecture. (48 hours total per quarter)
Survey of the development of Western culture and civilization in the ancient world. From the Neolithic period to the early Middle Ages. **FHGE: Social & Behavioral Sciences; Transferable: UC/CSU**

HIST 4B HISTORY OF WESTERN CIVILIZATION: 700–1800 4 Units
Advisory: Demonstrated proficiency in English by placement into ENGL 1A as determined by score on the English placement test or through an equivalent placement process.
4 hours lecture. (48 hours total per quarter)
Survey of the development of Western society and culture from the early Middle Ages through the Age of Enlightenment. Emphasis upon the cultural, social, intellectual, and institutional changes that led to the birth of the modern Western culture and its interchange with the peoples of the world's continents. **FHGE: Social & Behavioral Sciences; Transferable: UC/CSU**

HIST 4C HISTORY OF WESTERN CIVILIZATION 1789–PRESENT 4 Units
Advisory: Demonstrated proficiency in English by placement into ENGL 1A as determined by score on the English placement test or through an equivalent placement process; not open to students with credit in HIST 4CH.
4 hours lecture. (48 hours total per quarter)
Survey of the development of Western society and culture during the nineteenth and twentieth centuries. Emphasis upon the social, intellectual, and institutional changes that have led to the contemporary Western world and its interchange with the peoples and institutions of the world's continents. **FHGE: Social & Behavioral Sciences; Transferable: UC/CSU**

HIST 4CH HONORS HISTORY OF WESTERN CIVILIZATION 1789–PRESENT 4 Units
Prerequisite: Honors Institute participant.
Advisory: Demonstrated proficiency in English by placement into ENGL 1A as determined by score on the English placement test or through an equivalent placement process; not open to students with credit in HIST 4C.
4 hours lecture. (48 hours total per quarter)
Survey of the development of Western society and culture during the nineteenth and twentieth centuries. Emphasis upon the social, intellectual, and institutional changes that have led to the contemporary Western world and its interchange with the peoples and institutions of the world's continents. As an honors course, it is a full thematic seminar with advanced teaching methods focusing on major writing, reading, and research assignments, student class lectures, group discussions and interactions.
FHGE: Social & Behavioral Sciences; Transferable: UC/CSU

HIST 8 HISTORY OF LATIN AMERICA 4 Units
Advisory: Demonstrated proficiency in English by placement into ENGL 1A as determined by score on the English placement test or through an equivalent placement process.
4 hours lecture. (48 hours total per quarter)
History of Latin America from Pre-Columbian times to the present. Emphasis upon Native and European contributions to present Latin American culture. Special emphasis on governmental systems and social and economic progress. Includes revolutionary movements and their present status. **FHGE: Social & Behavioral Sciences; Transferable: UC/CSU**

HIST 9 HISTORY OF CONTEMPORARY EUROPE 4 Units
Advisory: Demonstrated proficiency in English by placement into ENGL 1A as determined by score on the English placement test or through an equivalent placement process; not open to students with credit in HIST 9H.
4 hours lecture. (48 hours total per quarter)
Twentieth Century Europe. Political social, and cultural developments in recent European history. World War I and the consequences of Versailles, Bolshevik Revolution and rise of Communism, Italian Fascism and German Nazism. The diplomacy of World War II, Cold War, and current developments in Western and Eastern Europe. Global impacts. **FHGE: Social & Behavioral Sciences; Transferable: UC/CSU**

HIST 9H HONORS HISTORY OF CONTEMPORARY EUROPE 4 Units
Prerequisite: Honors Institute participant.
Advisory: Demonstrated proficiency in English by placement into ENGL 1A as determined by score on the English placement test or through an equivalent placement process; not open to students with credit in HIST 9.
4 hours lecture. (48 hours total per quarter)
Twentieth Century Europe. Political social, and cultural developments in recent European history. World War I and the consequences of Versailles, Bolshevik Revolution and rise of Communism, Italian Fascism and German Nazism. The diplomacy of World War II, Cold War, and current developments in Western and Eastern Europe. Global impacts. As an honors course, it is a full thematic seminar with advanced teaching methods focusing on major writing, reading, and research assignments, student class lectures, group discussions and interactions. **FHGE: Social & Behavioral Sciences; Transferable: UC/CSU**

HIST 10 HISTORY OF CALIFORNIA: THE MULTICULTURAL STATE 4 Units
Advisory: Demonstrated proficiency in English by placement into ENGL 1A as determined by score on the English placement test or through an equivalent placement process.
4 hours lecture. (48 hours total per quarter)
Economic, social, intellectual and political development of multicultural California. Survey of Indian, Spanish and Mexican periods. Analysis of role and issues of ethnic/racial minorities during six major historical periods: gold rush, railroad era, Great Depression, World War II, turbulent '60s and present era. **FHGE: United States Cultures & Communities, Social & Behavioral Sciences; Transferable: UC/CSU**

HIST 16 INTRODUCTION TO ANCIENT ROME 4 Units
Advisory: HIST 4A or equivalent; demonstrated proficiency in English by placement into ENGL 1A as determined by score on the English placement test or through an equivalent placement process; not open to students with credit in HIST 16H.
4 hours lecture. (48 hours total per quarter)
Chronological and topical survey of Roman history from the founding of Rome to the reign of Constantine. Emphasis upon the political, social, economic development in the Late Republic and Empire. Consideration of literature, art, architecture, texts in translation. **FHGE: Social & Behavioral Sciences; Transferable: UC/CSU**

HIST 16H HONORS INTRODUCTION TO ANCIENT ROME 4 Units
Prerequisite: Honors Institute participant.
Advisory: HIST 4A or equivalent; demonstrated proficiency in English by placement into ENGL 1A as determined by score on the English placement test or through an equivalent placement process; not open to students with credit in HIST 16.
4 hours lecture. (48 hours total per quarter)
Enhanced comprehensive study of Roman history from the founding of Rome to the reign of Constantine. Emphasis upon the political, social, economic development in the Late Republic and Empire. Consideration of literature, art, architecture, texts in translation. As an honors course, it is a full seminar with advanced teaching methods focusing on major writing, reading, and research assignments, student class lectures, group discussions and interactions. **FHGE: Social & Behavioral Sciences; Transferable: UC/CSU**

HIST 17A HISTORY OF THE UNITED STATES TO 1815 4 Units
Advisory: Demonstrated proficiency in English by placement into ENGL 1A as determined by score on the English placement test or through an equivalent placement process.
4 hours lecture. (48 hours total per quarter)
History of America and the United States up to 1815. Survey of the political, economic, intellectual and social antecedents of United States culture with emphasis on the interactions of peoples and ideas that led to the creation and evolution of the early United States. **FHGE: Social & Behavioral Sciences; Transferable: UC/CSU**

HIST 17B HISTORY OF THE UNITED STATES FROM 1812 TO 1914 4 Units
Advisory: Demonstrated proficiency in English by placement into ENGL 1A as determined by score on the English placement test or through an equivalent placement process.
4 hours lecture. (48 hours total per quarter)
History of the United States from 1812 to 1914. Survey of the political, economic, cultural and social development of the United States with emphasis on its contentious expansion into the North American west, its evolution as an economic world power, and the conflict over the application of the ideals of freedom and equality across race, class and gender lines. **FHGE: Social & Behavioral Sciences; Transferable: UC/CSU**

HIST 17C HISTORY OF THE UNITED STATES FROM 1914 TO THE PRESENT 4 Units
Advisory: Demonstrated proficiency in English by placement into ENGL 1A as determined by score on the English placement test or through an equivalent placement process.
4 hours lecture. (48 hours total per quarter)
History of the United States from 1914 to the present. Survey of the political, economic,social and cultural development of the United States with emphasis on the country's evolving involvement in world affairs and increasing struggle to achieve civil rights for all Americans. **FHGE: Social & Behavioral Sciences; Transferable: UC/CSU**

HIST 18 INTRODUCTION TO MIDDLE EASTERN CIVILIZATION 4 Units
Advisory: Demonstrated proficiency in English by placement into ENGL 1A as determined by score on the English placement test or through an equivalent placement process.
4 hours lecture. (48 hours total per quarter)
Civilization of the Middle East. History of the region, concentrating on the 19th and 20th and 21st centuries. European colonization, culture, institutions and religion. Political, economic, and social development of the area. **FHGE: Social & Behavioral Sciences; Transferable: UC/CSU**

HIST 19 HISTORY OF ASIA: CHINA/JAPAN 4 Units
Advisory: Demonstrated proficiency in English by placement into ENGL 1A as determined by score on the English placement test or through an equivalent placement process.
4 hours lecture. (48 hours total per quarter)
Political, social and economic development of China and Japan. Emphasis on impact of Western culture and problems of political and economic modernization. **FHGE: Non-GE; Transferable: UC/CSU**

HIST 20 HISTORY OF RUSSIA & THE SOVIET UNION 4 Units
Advisory: Demonstrated proficiency in English by placement into ENGL 1A as determined by score on the English placement test or through an equivalent placement process.
4 hours lecture. (48 hours total per quarter)
Russian political and social development from the 10th Century to present. Emphasis on post-revolutionary Russia and problems of authoritarian modernization, independence, political and economic integration and industrialization. **FHGE: Social & Behavioral Sciences; Transferable: UC/CSU**

HIST 54H HONORS INSTITUTE SEMINAR IN HISTORY 1 Unit
Formerly: HIST 34, 34H
Prerequisite: Honors Institute participant.
Advisory: Not open to students with credit in HIST 34 or 34H.
1 hour lecture. (12 hours total per quarter)
A seminar in directed readings, discussions and projects in history. Specific topics to be determined by the instructor. **FHGE: Non-GE; Transferable: CSU**

HUMANITIES

Business and Social Sciences (650) 949-7322 www.foothill.edu/bss/

HUMN 1A HUMANITIES & THE MODERN EXPERIENCE I 4 Units
4 hours lecture. (48 hours total per quarter)
An interdisciplinary survey of some of the cultural aspects of major civilizations from the Mesopotamians to the Italian Renaissance, and their influence on modern experiences. Illustrations of the cultural diversity which makes up modern life. Attendance at instructor approved lectures, performing arts events, and/or cultural exhibitions. **FHGE: Humanities; Transferable: UC/CSU**

HUMN 1B HUMANITIES & THE MODERN EXPERIENCE II 4 Units
Advisory: One of the following: ENGL 1A, 1AH, 1S & 1T or ESLL 26 strongly recommended.
4 hours lecture. (48 hours total per quarter)
An interdisciplinary survey of the some of the cultural aspects of major civilizations from the Italian Renaissance to the present day, and their influence upon modern experiences. Illustrations of the cultural diversity which makes up modern life. Attendance at instructor approved lectures, performing arts events, and/or cultural exhibitions. **FHGE: Humanities; Transferable: UC/CSU**

HUMN 3 WORLD MYTHS IN LITERATURE ARTS & FILM 4 Units
Advisory: One of the following: ENGL 1A, 1AH, 1S & 1T or ESLL 26 strongly recommended; not open to students with credit in HUMN 3H.
4 hours lecture. (48 hours total per quarter)
An in-depth study of myths and legends from ancient Mesopotamia and Greece to ancient Asia, pre-Islamic Arabia and the various cultures of the pre-colonial Americas and their adaptation in literature, art and film. The course traces both the function and influence of myths from diverse cultural contexts on our understanding of the past and our experience of modern/popular culture. **FHGE: Humanities; Transferable: UC/CSU**

HUMN 3H HONORS WORLD MYTHS IN LITERATURE ARTS & FILM 4 Units
Prerequisites: Demonstrated proficiency in English by placement into ENGL 1A as determined by score on the English placement test or through an equivalent placement process; Honors Institute participant.
Advisory: Not open to students with credit in HUMN 3.
4 hours lecture. (48 hours total per quarter)
An in-depth study of myths and legends from ancient Mesopotamia and Greece to ancient Asia, pre-Islamic Arabia and the various cultures of the pre-colonial Americas and their adaptation in literature, art and film. The course traces both the function and influence of myths from diverse cultural contexts on our understanding of the past and our experience of modern/popular culture. As an honors course, it is a full seminar with advanced teaching methods focusing on major writing, reading and research assignments, student class presentations, group discussions and interactions. **FHGE: Humanities; Transferable: CSU**

HUMN 4 TRAUMA & THE ARTS 4 Units
Advisory: One of the following: ENGL 1A, 1AH, 1S & 1T or ESLL 26 strongly recommended; not open to students with credit in HUMN 4H.
4 hours lecture. (48 hours total per quarter)
This course applies theories of trauma to representations of trauma and violence in the visual arts, literature, film and music with an emphasis on the transformative potential of the creative process. Topics include the representation of war, genocide and racism. Students will gain acuity to identify, understand, empathize, and respond to traumatic subjectivity, its images and artistic as well as social intent. **FHGE: Humanities; Transferable: UC/CSU**

HUMN 4H HONORS TRAUMA & THE ARTS 4 Units
Prerequisites: Demonstrated proficiency in English by placement into ENGL 1A as determined by score on the English placement test or through an equivalent placement process; Honors Institute participant.
Advisory: Not open to students with credit in HUMN 4.
4 hours lecture. (48 hours total per quarter)
Applies theories of trauma to representations of trauma and violence in the visual arts, literature, film and music with an emphasis on the transformative potential of the creative process. Topics include the representation of war, genocide and racism. Students will gain acuity to identify, understand, empathize, and respond to traumatic subjectivity, its images and artistic as well as social intent. As an honors course, it is a full seminar with advanced teaching methods focusing on major writing, reading and research assignments, student class presentations, group discussions and interactions. **FHGE: Humanities; Transferable: UC/CSU**

HUMN 54H HONORS INSTITUTE SEMINAR IN HUMANITIES 1 Unit
Formerly: HUMN 34H
Prerequisite: Honors Institute participant.
Advisory: Not open to students with credit in HUMN 34 or 34H.
1 hour lecture. (12 hours total per quarter)
A seminar in directed readings, discussions, and projects in humanities. Specific topics to be determined by the instructor. **FHGE: Non-GE; Transferable: CSU**

INTERNSHIP

Business and Social Sciences (650) 949-7793 www.foothill.edu/bss/

ITRN 50 INTERNSHIP 1 Unit
ITRN 51 2 Units
ITRN 52 3 Units
ITRN 53 4 Units
ITRN 54 5 Units
3–15 hours laboratory. (36–180 hours total per quarter)
The internship is a structured worked experience with an organization or company external to the classroom. This activity primarily involves the student and faculty working with a third party. The primary management of the student's activities and the majority of the evaluation score is done by the third party offsite supervisor. The internship will address professional workplace skills in addition to targeted technical skills as appropriate for the students' field of study. Faculty works with the offsite supervisor to create an internship that is targeted at the student's skill level. The student will meet with their faculty supervisor 2-3 times per quarter to discuss issues of discipline professionalism, application of technical skills and professional code of ethics. The student is required to contract with the Internship Office to determine the type and scope of the assignment. **FHGE: Non-GE; Transferable: CSU**

JAPANESE

Language Arts (650) 949-7043 www.foothill.edu/la/

For information on clearing a foreign language prerequisite, call the Language Arts division office at (650) 949-7250.

JAPN 1 ELEMENTARY JAPANESE I 5 Units
5 hours lecture. (60 hours total per quarter)
Oral and written practice in the minimum competencies in language functions: vocabulary essential to basic communicative situations, grammar necessary for carrying out functions, signals for carrying out communicative tasks, and cultural skills in specific situations. Introduction to Hiragana, Katakana and about 80 Kanji. **FHGE: Non-GE; Transferable: UC/CSU**

JAPN 2 ELEMENTARY JAPANESE II 5 Units
Prerequisite: JAPN 1 or equivalent.
5 hours lecture. (60 hours total per quarter)
Further development of material presented in JAPN 1. Oral and written practice in competencies in language functions: vocabulary essential to daily communicative situations, grammar necessary for carrying out functions, signals for carrying out communicative tasks, and cultural skills in specific situations. Distinguishing formal and informal styles. Additional 120 Kanji pronunciation and recognition. **FHGE: Non-GE; Transferable: UC/CSU**

JAPN 3 ELEMENTARY JAPANESE III 5 Units
Prerequisite: JAPN 2 or equivalent.
5 hours lecture. (60 hours total per quarter)
Further development of material presented in JAPN 1 and 2. Oral and written practice in competencies in language functions: vocabulary essential to daily communicative situations, grammar necessary for carrying out various functions, signals for carrying out communicative tasks, and cultural skills in specific situations. Distinguishing formal and informal styles, and using honorifics. Making suppositions. Additional 120 Kanji pronunciation and recognition. **FHGE: Non-GE; Transferable: UC/CSU**

JAPN 4 INTERMEDIATE JAPANESE I 5 Units
Prerequisite: JAPN 3 or equivalent.
5 hours lecture. (60 hours total per quarter)
Continuation of JAPN 3. Review of grammar and discussion of grammatical features beyond the elementary level. Introduction to intermediate-level grammar and communicative tasks. Intensive oral and written drills, including additional 110 Kanji, in idiomatic constructions. Composition, conversation and selected readings. **FHGE: Non-GE; Transferable: UC/CSU**

JAPN 5 INTERMEDIATE JAPANESE II 5 Units
Prerequisite: JAPN 4 or equivalent.
5 hours lecture. (60 hours total per quarter)
Continuation of JAPN 4. Development of intermediate-level grammatical structures and communicative tasks. Further practice in intensive oral and written drills, including additional 150 Kanji, in idiomatic constructions. Composition, conversation and selected readings. Differentiating socio-linguistic features, such as honorifics, feminine and masculine styles. Cultural skills to carry out tasks. **FHGE: Non-GE; Transferable: UC/CSU**

JAPN 6 INTERMEDIATE JAPANESE III 5 Units
Prerequisite: JAPN 5.
5 hours lecture. (60 hours total per quarter)
Continuation of JAPN 5. Further development of intermediate-level grammatical structures and communicative tasks. Intensive and extensive oral and written drills, including 230 more Kanji, in idiomatic constructions. Composition, conversation and selected readings. Further competency in correct language usage in different socio-linguistic features of speech. Stating and supporting opinions on both concrete and abstract topics. Cultural skills to carry out tasks. **FHGE: Non-GE; Transferable: UC/CSU**

JAPN 13A INTERMEDIATE CONVERSATION I 4 Units
Prerequisite: JAPN 3.
Advisory: May be taken concurrently with JAPN 4.
4 hours lecture. (48 hours total per quarter)
Speaking and listening experience in culturally appropriate ways. Special emphasis on correct perception and speaking, and familiarity with oral idioms and grammar as they differ from more formal written and literary uses. Development of critical thinking skills by comparing different viewpoints and different values of diverse cultures. Development of listening and speaking skills by exploring various forms of authentic materials, such as current news media, formal and informal conversations. Understanding ambiguities, vagaries, and value inherent in the target language. **FHGE: Non-GE; Transferable: UC/CSU**

JAPN 13B INTERMEDIATE CONVERSATION II 4 Units
Prerequisite: JAPN 13A.
Advisory: May be taken concurrently with JAPN 5.
4 hours lecture. (48 hours total per quarter)
Continuation of JAPN 13A. Speaking and listening experience in an environment of increasingly challenging language situation in culturally appropriate ways. Special emphasis on rapidity of correct perception and speaking, acquaintance with a variety of native dialects, and familiarity with oral idioms and grammar as they differ from more formal written and literary uses. Development of critical thinking skills by comparing different viewpoints and different values of diverse cultures. Development of listening and speaking skills by exploring various forms of authentic materials, such as current news media, political speech, and debates. Stating and supporting opinions on various topics. Understanding ambiguities, vagaries, and value inherent in the target language. **FHGE: Non-GE; Transferable: UC/CSU**

JAPN 14A ADVANCED CONVERSATION I 4 Units
Prerequisite: JAPN 13B.
4 hours lecture. (48 hours total per quarter)
Development of fluency in the oral/aural language, and cultural skills required in socio-linguistic functions, i.e., honorifics, in-group/out-group, male/female, and formal/informal expressions. Development of critical thinking skills by comparing different viewpoints and different values of diverse cultures. Development of listening and speaking skills by exploring various forms of authentic materials, such as current news media, political speech, debates, and drama. Stating and supporting opinions on various topics, including abstract concepts. Understanding and appreciating ambiguities, vagaries, and value inherent in the target language. **FHGE: Humanities; Transferable: UC/CSU**

JAPN 14B ADVANCED CONVERSATION II 4 Units
Prerequisite: JAPN 14A.
Advisory: May be taken concurrently with JAPN 6.
4 hours lecture. (48 hours total per quarter)
Continuation of JAPN 14A. Development of advanced level of oral/aural fluency in the language, and cultural skills required in socio-linguistic functions. Stating and supporting opinions on complex, abstract topics. Analyzing and hypothesizing. Understanding cultural differences, persuading, negotiating, and giving speech in formal settings. Development of critical thinking skills by comparing different viewpoints and different values of diverse cultures. Development of listening and speaking skills by exploring various forms of authentic materials, such as current news media, debates on various issues, and drama. **FHGE: Humanities; Transferable: UC/CSU**

JAPN 25A ADVANCED COMPOSITION & READING I 4 Units
Prerequisite: JAPN 6.
Four hours lecture. (48 hours total per quarter)
Introduction to authentic Japanese written materials intended for native Japanese readers, such as magazine articles, editorials, statistics, and literature. Reading and analysis of texts as exponents of the culture and history. Compositions and advanced grammar. Recognizing about 1,300 kanji. Development of critical thinking skills by comparing different viewpoints and different values of diverse cultures. Development of reading and writing skills by exploring various forms of literary and other forms of creative thoughts. Understanding ambiguities, vagaries, and value inherent in the target language. **FHGE: Non-GE; Transferable: UC/CSU**

JAPN 25B ADVANCED COMPOSITION & READING II 4 Units
Prerequisite: JAPN 25A.
Four hours lecture. (48 hours total per quarter)
Continuation of JAPN 25A. Reading and analysis of authentic Japanese written materials intended for native Japanese readers, as exponents of the culture and history. Development of further skills in reading authentic materials, including magazines, newspaper articles, editorials, literature, and abstract theories. Recognizing more than 1,800 kanji. Practice in writing expository essays. Development of critical thinking skills by comparing different viewpoints and different values of diverse cultures. Development of reading and writing skills by exploring various forms of literary and other forms of creative thoughts. Understanding and appreciating the ambiguities, vagaries, and value inherent in the target language. **FHGE: Non-GE; Transferable: UC/CSU**

JAPN 33 INTRODUCTION TO JAPANESE CULTURE 4 Units
Advisory: Concurrent enrollment in JAPN 1, 2, 3 or higher.
4 hours lecture. (48 hours total per quarter)
Introduction to Japanese culture, Zen and Confucian influences on social ethics, behavior and attitudes. Emphasis on practical application of discipline and expression through development of skill in brush writing, and analysis and interpretation of haiku. **FHGE: Non-GE; Transferable: UC/CSU**

JAPN 35 SURVEY OF CONTEMPORARY JAPANESE CULTURE 4 Units
Advisory: Concurrent enrollment in JAPN 1, 2, 3 or higher.
4 hours lecture. (48 hours total per quarter)
Introduction to contemporary Japanese culture and society. Emphasis on the theme of continuity and change in Japanese culture and society. The class will consist of a series of lectures and discussions about contemporary Japanese culture and society on topics such as popular culture, subculture, lifestyle, class, geographical and generational variation, work, education, gender, minorities, and the establishment. **FHGE: Non-GE; Transferable: UC/CSU**

JAPN 53 MODERN JAPANESE SOCIETY, CULTURE & BUSINESS CUSTOMS 3 Units

Prerequisite: JAPN 3 or equivalent.
3 hours lecture. (36 hours total per quarter)
Introduction to basic Japanese business conversation, etiquette, and culture. Development of fluency in the oral/aural language and ability to use appropriate language in business social settings, e.g., words related to respect, humbleness, status, gender, formality. Development of critical thinking skills by comparing viewpoints and values of diverse cultures. Understanding of ambiguities and appreciation of their role in business communication. Awareness of culturally appropriate behavior and body language, the practice of gift-giving, and socializing within a business setting. Understanding of decision-making processes in Japanese corporate culture. **FHGE: Non-GE; Transferable: CSU**

JAPN 63 JAPANESE BUSINESS CULTURE & ETIQUETTE 1 Unit

Formerly: JAPN 103
Advisory: Not open to students with credit in JAPN 103.
1 hour lecture. (12 hours total per quarter)
Introduction to basic Japanese business etiquette and culture. Basic business greetings and interactions. Culturally appropriate behavior and body language. The role of gift giving and socializing in a business setting. The decision-making process in Japanese corporate culture. **FHGE: Non-GE; Transferable: CSU**

JAPN 192 COMMUNITY SERVICE LEARNING FOR JAPANESE 1 Unit

Prerequisite: JAPN 6 or equivalent.
1 hour lecture. (12 hours total per quarter)
For students who desire training in experiential learning as community volunteers in Japanese language courses. The students enrolled in this course will assist the instructor as in-class Japanese language tutors. **FHGE: Non-GE**

JOURNEYMEN

Business and Social Sciences (650) 949-7142
www.foothill.edu/apprenticeships/index.php

JRYM 100 BUILDING TRADES TEACHER DEVELOPMENT 5 Units

60 hours total.
Basic principles and techniques of how to become a teacher in the local labor union trade. Actively develop communication, leadership, and presentation skills. The community learning environment will foster individuals to work individually, in partners, and groups, to comprehensively design and facilitate lecture instruction. Instruction provided to create a course syllabus, lesson plan, evaluation tools, and integrate multi-mode learning methods. Develop and demonstrate public speaking skills in an individual and group environment. **FHGE: Non-GE**

JRYM 101A BASIC ELECTRICITY FOR SHEET METAL AIR CONDITIONING SERVICE 4.5 Units

108 hours total.
Skill development for sheet metal workers to service air conditioning equipment. Special emphasis on the basics of electricity and refrigeration principles. **FHGE: Non-GE**

JRYM 101B ADVANCED ELECTRICITY FOR SHEET METAL AIR CONDTIONING SERVICE 4.5 Units

108 hours total.
Continued development of skills necessary for sheet metal workers to service air conditioning equipment. Special emphasis on the use of basic electrical testing instruments, principles, transformers, relays, contactors and safety around electrical equipment. **FHGE: Non-GE**

JRYM 102A BASIC REFRIGERATION FOR SHEET METAL AIR CONDITIONING SERVICE 4.5 Units

108 hours total.
Introduction to the use of refrigeration evacuation service equipment, charging refrigeration systems, and to the use of oxy-acetylene brazing equipment. **FHGE: Non-GE**

JRYM 102B ADVANCED REFRIGERATION FOR SHEET METAL AIR CONDITIONING SERVICE 4.5 Units

108 hours total.
Continued development of refrigeration skills with emphasis on the function of compressors, multiphase electric motors and piping systems. **FHGE: Non-GE**

JRYM 103A PROPERTIES OF AIR DISTRIBUTION FOR SHEET METAL AIR CONDITIONING SERVICE 4.5 Units

108 hours total.
Introduction to the different properties of air distribution with air volumes, pressures, humidity and temperature; basic air balance procedures. **FHGE: Non-GE**

JRYM 103B REFRIGERATION THEORY FOR SHEET METAL AIR CONDITIONING SERVICE 4.5 Units

108 hours total.
Continuing refrigeration theory with emphasis on all the major parts of refrigeration systems. The explanation of the principles and function of the heat pump in a residential application. **FHGE: Non-GE**

JRYM 104 SHEET METAL JOURNEY-LEVEL UPGRADE 2.5 Units

54 hours total.
Introduction to the latest methods and technology required in the sheet metal industry. Topics will include plastics, layout, plasma (fitting input), fiberglass duct and architectural sheet metal. **FHGE: Non-GE**

JRYM 152A HVAC BASIC SYSTEMS FOR SHEET METAL JOURNEYPERSONS 4.5 Units

108 hours total.
Development of basic skills necessary for sheet metal workers to service HVAC building systems with special emphasis on pneumatic, electronic, and electric controls. **FHGE: Non-GE**

JRYM 153A AIR BALANCE TEST EQUIPMENT & INSTRUMENTS FOR JOURNEYPERSONS (FIRST YEAR) 2.5 Units

54 hours total.
Development of skills necessary to use test and balance instruments and equipment for HVAC systems and automatic control systems. Use of practical mathematics and mathematical equations to measure air velocity and duct outlet, and to solve air and hydronic balancing problems. **FHGE: Non-GE**

JRYM 153B TEMPERATURE MEASUREMENT INSTRUMENTS & DUCT SYSTEMS FOR JOURNEYPERSONS (FIRST YEAR) 2.5 Units

54 hours total.
Continuing study of skills necessary to test and balance instruments and equipment for HVAC systems and automatic control systems. Use of practical mathematics and mathematical equations to measure air velocity and duct outlet, and to solve air and hydronic balancing problems. **FHGE: Non-GE**

JRYM 154 RECIPROCATING REFRIGERATION 4.5 Units

108 hours total.
Fundamentals of reciprocating refrigeration systems including refrigeration system control equipment. Development of basic skills necessary for sheet metal workers to service reciprocating refrigeration systems. **FHGE: Non-GE**

JRYM 155A BASIC ELECTRICITY FOR SHEET METAL A/C SERVICE 4.5 Units

108 hours total.
Development of basic skills in electricity necessary for air conditioning service. Includes basic electrical theory, electrical components and symbols, wiring diagrams, voltage systems, refrigeration systems, and electric motors. **FHGE: Non-GE**

JRYM 157 HAZARDOUS MATERIALS TRAINING FOR THE TRADES 2 Units

40 hours total.
A short course for the experienced welder. The focus will be certification by the Sheet Metal National Training Fund. All electrical welding processes will be taught. **FHGE: Non-GE**

JRYM 158 HAZARDOUS MATERIALS RECERTIFICATION FOR THE TRADES .5 Unit

8 hours total.
Updated information on the emergency response to hazardous materials incidents. Course will follow the requirements set forth in Publication 29 CFR 1910. Covers current changes in law and a brief overview of chemical hazards, gas hazards, electrical hazards, personal protective equipment, confined space rescue, monitoring equipment, and laws governing hazardous materials response. **FHGE: Non-GE**

JRYM 165 PRE-APPRENTICE INTRODUCTION TO SHEET METAL 2.5 Units

54 hours total.
Pre-entry level instruction to the Sheet Metal Apprenticeship Program. Basic instruction on the sheet metal industry, equipment, trade math, drafting, materials and equipment safety. **FHGE: Non-GE**

JRYM 166A MARINE SHEET METAL TRAINING FOR NON-APPRENTICES I 2.5 Units

54 hours total.
Working of metals in sheet form. Structural shapes, such as angle bar, channels, flat bar, rod and wire are also extensively used. Metals of varying thicknesses, from a few thousandths of an inch to 3/16ths of an inch, are used. Proper techniques and procedures are demonstrated for the different characteristics of each metal studied. Some of the metals used are copper, brass, bronze, lead, zinc, aluminum, black and galvanized iron, monel and stainless steel. **FHGE: Non-GE**

JRYM 166B MARINE SHEET METAL TRAINING FOR NON-APPRENTICES II 2.5 Units

54 hours total.
Continuation of working with metals in sheet form. Structural shapes, such as angle bar, channels, flat bar, rod and wire are also extensively used. Metals of varying thicknesses, from a few thousandths of an inch to 3/16ths of an inch, are used. Proper techniques and procedures are demonstrated for the different characteristics of each metal studied. Some of the metals used are copper, brass, bronze, lead, zinc, aluminum, black and galvanized iron, monel and stainless steel. **FHGE: Non-GE**

JRYM 168A JOURNEY-LEVEL DIGITAL SYSTEMS I 2.5 Units

54 hours total.
Provide training in the following domains-fundamentals of measurement; operation of pressure, flow, level and temperature instruments; safety practices; calibration; process control fundamentals; loop checking, troubleshooting, start-up, documentation; maintenance and repair; and using micro-processor-based instruments and controllers. **FHGE: Non-GE**

JRYM 168B JOURNEY-LEVEL DIGITAL SYSTEMS II 2.5 Units

54 hours total.
Continued training in the following domains-calibration; process control fundamentals; loop checking, troubleshooting, start-up, documentation; maintenance and repair; and using micro-processor-based instruments and controllers. **FHGE: Non-GE**

JRYM 169A FIELD MEASUREMENT & LAYOUT FOR SHEET METAL JOURNEYMEN I 2.5 Units

54 hours total.
Advanced methods of pattern development using the hand-held calculator. Will use the pythagorean theorem, parallel layout and radial line layout with applications, and triangulation. Intended for experienced sheet metal journeypersons who wish to further their knowledge in the latest methods of layout. **FHGE: Non-GE**

JRYM 170A ADVANCED SHEET METAL SERVICE I 4.5 Units

108 hours total.
In-depth study of HVAC systems, electricity, measurements; testing, adjusting and balancing for sheet metal service persons. Fluid flow, heat transfer, motors, starters and equations commonly used for testing will be covered. **FHGE: Non-GE**

JRYM 170B ADVANCED SHEET METAL SERVICE II 4.5 Units

108 hours total.
Continued in-depth study of HVAC systems. Air balancing, hydronic systems, pumps, U.S. and metric equivalents and conversions, heat and refrigeration will be covered. **FHGE: Non-GE**

JRYM 171A SPECIALIZED CAD FOR SHEET METAL JOURNEYPERSONS I 2.5 Units

54 hours total.
3D duct detailing program with emphasis on electronic coordination. Focuses on file management and drawing protocol with the specialized industry CAD systems. **FHGE: Non-GE**

JRYM 171B SPECIALIZED CAD FOR SHEET METAL JOURNEYPERSONS II 2.5 Units

54 hours total.
Continuation of 3D duct detailing program for electronic coordination. Emphasis is on accessing, editing and recovering files with current CAD systems used by the industry. Students will use format standards, tag files and program utilities. **FHGE: Non-GE**

JRYM 171C SPECIALIZED CAD FOR SHEET METAL JOURNEYPERSONS III 2.5 Units

54 hours total.
3D duct detailing programs with emphasis on electronic coordination. Includes file management and drawing protocol with current CAD systems used by the industry. Students will set up and manage design conflict and coordination drawings. **FHGE: Non-GE**

JRYM 171D SPECIALIZED CAD FOR SHEET METAL JOURNEYPERSONS IV 2.5 Units

54 hours total.
3D duct detailing programs with emphasis on electronic coordination. It includes practice with current CAD and job coordination software systems used by the industry. Students will set up schedules, change orders and bulletins; develop protocol between detailer and design engineer. **FHGE: Non-GE**

JRYM 172A ELECTRICAL SYSTEM OPERATION, CONTROLS & DEVICES FOR JOURNEYPERSONS (SECOND YEAR) 2.5 Units

54 hours total.
Study of individual electrical components and devices of control systems, and understanding their operation and relationship to each other. Identify and use instruments in measuring air movement. Learn how to interpret, use and understand drawings relating to the construction of a building. **FHGE: Non-GE**

JRYM 172B HVAC TESTING & BALANCING PROCEDURES FOR JOURNEYPERSONS (SECOND YEAR) 2.5 Units

54 hours total.
Utilize skills and knowledge previously learned to apply methods of balancing HVAC systems. Balancing of systems will include both air and hydronic. Information gathered during the balancing will be used in completing reports required by the building engineer and owner. **FHGE: Non-GE**

JRYM 173A AIR DISTRIBUTION & MANUFACTURING SYSTEMS FOR JOURNEYPERSONS (THIRD YEAR) 2.5 Units

54 hours total.
The difference, advantages and disadvantages of pneumatic and direct digital control systems will be compared to electrical systems. Students will use laptop computers to access a control system from a remote location; take readings and make minor adjustments to the system. Clean room operation and protocol will be examined. **FHGE: Non-GE**

JRYM 173B SYSTEMS INSTALLATION & TROUBLESHOOTING FOR JOURNEYPERSONS (THIRD YEAR) 2.5 Units

54 hours total.
Proper layout and installation procedures on various control systems. This will include system programming, adjustment, testing, maintenance and repair of the installed system. **FHGE: Non-GE**

JRYM 174A ADVANCED WELDING 4.5 Units

108 hours total.
Instruction and practice of advanced pipe welding techniques using three different weld processes: MIG, TIG, and Stick. Instruction and practice in preparation of 100% X-Ray pipe fitting techniques will also be covered. **FHGE: Non-GE**

KINESIOLOGY

Kinesiology and Athletics (650) 949-7742 www.foothill.edu/kinesiology/

KINS 1 INTRODUCTION TO KINESIOLOGY 4 Units

Formerly: PHED 1
Advisory: Not open to students with credit in PHED 1.
4 hours lecture. (48 hours total per quarter)
Introduction to the interdisciplinary approach to the study of human movement. An overview of the importance of the sub-disciplines in kinesiology will be discussed along with career opportunities in the areas of teaching, coaching, allied health, and fitness professions. **FHGE: Non-GE; Transferable: UC/CSU**

KINS 2 SPORT IN SOCIETY 4 Units

Formerly: PHED 2
Advisory: Not open to students with credit in H P 1B or PHED 2.
4 hours lecture. (48 hours total per quarter)
Current and past sports related cultural and historical issues and practices to study the role of sport in society. **FHGE: Social & Behavioral Sciences; Transferable: UC/CSU**

KINS 3 THEORIES & TECHNIQUES OF COACHING SPORTS 4 Units

Formerly: PHED 3
Advisory: Not open to students with credit in H P 37 or PHED 3.
4 hours lecture. (48 hours total per quarter)
Instruction in the theories and techniques of coaching sport and its variables which contribute to team performance and success. Addresses developing a coaching philosophy, sport psychology, sport pedagogy, sport physiology and sport management. **FHGE: Non-GE; Transferable: UC/CSU**

KINS 4 CONCEPTS OF PHYSICAL FITNESS & WELLNESS 4 Units

Formerly: PHED 4
4 hours lecture. (48 hours total per quarter)
Study of physical fitness, training principles, nutrition and body composition, stress management, appropriate exercise and health practices with application to lifelong fitness and wellness habits. **FHGE: Lifelong Learning; Transferable: UC/CSU**

KINS 8A THEORY & CONCEPTS OF EXERCISE PHYSIOLOGY I 4 Units

Formerly: PHED 8
Advisory: Not open to students with credit in PHED 8.
4 hours lecture. (48 hours total per quarter)
Basic concepts and principles of exercise physiology and how the human body responds to the demands of physical activity. Emphasis on anatomy and physiology of human organ systems, neural and hormonal control, energy expenditure, fatigue, and principles of exercise training. **FHGE: Non-GE; Transferable: UC/CSU**

KINS 8B THEORY & CONCEPTS OF EXERCISE PHYSIOLOGY II 4 Units

Prerequisite: KINS 8A
4 hours lecture. (48 hours total per quarter)
Applied concepts and principles of exercise physiology and how the human body responds to the demands of physical activity. Emphasis on the impact of environmental influences, optimizing performance in sport, body composition and nutrition, age and sex considerations, and the implications of physical activity for health and fitness. **FHGE: Non-GE; Transferable: UC/CSU**

KINS 9 BASIC NUTRITION FOR SPORTS & FITNESS 4 Units

Formerly: PHED 9
Advisory: Not open to students with credit in PHED 9.
4 hours lecture. (48 hours total per quarter)
Practical applications of basic nutrition concepts and how food choices affect health and fitness. Includes computer utilization of personal dietary analysis and evaluation. Standard food guides and guidelines to select foods that would maximize individual health are utilized in this course. **FHGE: Non-GE; Transferable: UC/CSU**

KINS 15 FIRST AID & CPR/AED 1 Unit

Formerly: PHED 15
Advisory: Not open to students with credit in PHED 15 or 66.
2 hours lecture-laboratory. (24 hours total per quarter)
Provides the layperson with the knowledge and skills to respond to an emergency. Certification opportunity in First Aid and CPR/AED as well as Professional Rescuer. **FHGE: Non-GE; Transferable: UC/CSU**

KINS 16A PREVENTION OF ATHLETIC INJURIES 3 Units

Formerly: PHED 16A, 67A
Advisory: Internet access to complete quizzes, discussions and assignments; not open to students with credit in H P 67A, PHED 16A or 67A.
2 hours lecture, 3 hour laboratory. (60 hours total per quarter)
Athletic injury prevention is emphasized through pre-participation physical exams, exercise programs, preventative taping, proper fitting of equipment, and protective braces. **FHGE: Non-GE; Transferable: UC/CSU**

KINS 16B EMERGENCY ATHLETIC INJURY CARE 3 Units

Formerly: PHED 16B, 67B
Advisory: Internet access to complete quizzes, discussions and assignments; not open to students with credit in H P 67B or PHED 16B or 67B.
2 hours lecture, 3 hours laboratory. (60 hours total per quarter)
American Red Cross Standard First Aid/CPR certificates are available upon completion of the course. Basic injury recognition and emergency response of acute trauma. Practical hands-on skills are emphasized in laboratories. **FHGE: Non-GE; Transferable: UC/CSU**

KINS 16C TREATMENT & REHABILITATION OF ATHLETIC INJURIES 3 Units

Formerly: PHED 16C, 67C
Advisory: Internet access to complete quizzes, discussions and assignments; not open to students with credit in H P 67C or PHED 16C or 67C.
2 hours lecture, 3 hours laboratory. (60 hours total per quarter)
Follow-up injury treatment, phases of tissue healing, and stages of rehabilitation including therapeutic modalities. **FHGE: Non-GE; Transferable: UC/CSU**

KINS 17 INTRODUCTION TO WELLNESS FOR SPECIAL POPULATIONS 1 Unit

Formerly: ALAP 52X
Advisory: Not open to students with credit in ALAP 52X.
2 hours lecture-laboratory. (24 hours total per quarter)
Develop an understanding of the concept of physical fitness and its components. Learn to measure and evaluate present level of physical fitness. Basic anatomy of the cardiovascular, respiratory and muscular system. Develop understanding and skills involved in injury prevention, CPR and First Aid. **FHGE: Lifelong Learning; Transferable: UC/CSU**

KINS 51 PERFORMANCE ENHANCING SUBSTANCES IN SPORT & EXERCISE 4 Units
Formerly: PHED 51
Advisory: Not open to students with credit in PHED 51.
4 hours lecture. (48 hours total per quarter)
Current and historical issues as well as general social, biochemical, pharmacological and behavioral information related to performance enhancing substances in sport and exercise. Areas to be addressed include, but are not limited to: Theories of Addiction, Populations, Social Implications, Anabolics, Blood Doping, Diuretics, Nutritional Ergogenic Aids, Social and Recreational Drugs, Stimulants, Emerging Science and Technologies, and Drug Testing. **FHGE: Non-GE; Transferable: CSU**

KINS 52 FITNESS ASSESSMENT TECHNIQUES FOR THE PERSONAL TRAINER 4 Units
4 hours lecture. (48 hours total per quarter)
The mechanics of fitness training, including strength, endurance and flexibility as well as provides students the necessary knowledge base to select appropriate fitness assessments. Discussion regarding training techniques, optimal workout environments, safety, contraindications, equipment and existing certification programs will prepare the student to work in the fitness industry. Students will evaluate existing standardized assessment batteries for cardiorespiratory endurance, muscular strength, muscular endurance, flexibility and body composition, blood pressure and cholesterol. **FHGE: Non-GE; Transferable: UC/CSU**

KINS 53 CURRENT TOPICS IN PERSONAL TRAINING 2 Units
Advisory: KINS 8A and 9.
2 hours lecture. (24 hours total per quarter) Discussion of current issues in the fitness field, insurance, liability, standard business practices and national certifications. Emphasis is placed on client assessment, program design, teaching strategies and professional responsibility. Students apply knowledge of basic anatomy, exercise physiology, kinesiology, personal information gathering and exercise testing.
FHGE: Non-GE; Transferable: CSU

KINS 55 INTRODUCTION TO AQUATIC EXERCISE 3 Units
Formerly: SPED 73
Advisory: Not open to students with credit in SPED 73; some laboratory hours will be spent in the pool.
3 hours lecture, 1 hour laboratory (48 hours total per quarter)
Provides the fitness professional with the knowledge and practical skills to teach aquatic exercise class to all segments of the population. Applied exercise anatomy, applied aquatic exercise physiology, aquatic exercise physics, aquatic exercise choreography, programming for different forms of aquatic exercise, health risk appraisal, water safety concerns, special populations, exercise motivation and shallow and deep water design. **FHGE: Non-GE; Transferable: CSU**

KINS 62A CLINICAL EXPERIENCES IN SPORTS MEDICINE I 3 Units
Formerly: PHED 62A
Advisory: Not open to students with credit in H P 52A or PHED 62A.
9 hours laboratory. (108 hours total per quarter)
Hands-on experience in athletic emergency care, athletic injury prevention, therapeutic treatment, and rehabilitation of athletic injuries in the on-campus Athletic Treatment Center. Observation of orthopedic surgical procedures with the permission of the team physician is available. **FHGE: Non-GE; Transferable: CSU**

KINS 62B CLINICAL EXPERIENCES IN SPORTS MEDICINE II 3 Units
Formerly: PHED 62B
Prerequisite: KINS 62A.
Advisory: Not open to students with credit in H P 52A or PHED 62B.
9 hours laboratory. (108 hours total per quarter)
Hands-on experience in athletic emergency care, athletic injury prevention, therapeutic treatment, and rehabilitation of athletic injuries in the on-campus Athletic Treatment Center. Observation of orthopedic surgical procedures with the permission of the team physician is available. **FHGE: Non-GE; Transferable: CSU**

KINS 62C CLINICAL EXPERIENCES IN SPORTS MEDICINE III 3 Units
Formerly: PHED 62C
Prerequisite: KINS 62B.
Advisory: Not open to students with credit in H P 52B or PHED 62C.
9 hours laboratory. (108 hours total per quarter)
Hands-on experience in emergency care, injury prevention, treatment and rehabilitation of athletic injuries in the on-campus Athletic Treatment Center. Off-campus athletic training facilities and outpatient physical therapy clinics may also be utilized for the internship. Observation of orthopedic surgical procedures with the permission of the team physician is available. **FHGE: Non-GE; Transferable: CSU**

KINS 62D CLINICAL EXPERIENCES IN SPORTS MEDICINE IV 3 Units
Formerly: PHED 62D
Prerequisite: KINS 62C.
Advisory: Not open to students with credit in PHED 62D.
9 hours laboratory. (108 hours total per quarter)
Hands-on experience in emergency care, injury prevention, treatment and rehabilitation of athletic injuries in the on-campus Athletic Treatment Center. Off-campus athletic training facilities and outpatient physical therapy clinics may be utilized for the internship. Observation of orthopedic surgical procedures with the permission of the team physician is available. **FHGE: Non-GE; Transferable: CSU**

KINS 62E CLINICAL EXPERIENCES IN SPORTS MEDICINE V 3 Units
Formerly: PHED 62E
Prerequisite: KINS 62D.
Advisory: Not open to students with credit in PHED 62E.
9 hours laboratory. (108 hours total per quarter)
Advanced experience in athletic emergency care, athletic injury prevention, therapeutic treatment, and rehabilitation of athletic injuries. Observation of orthopedic surgeries, assisting in physical therapy clinics or other related allied health settings compliment the on-campus Athletic Treatment Center. **FHGE: Non-GE; Transferable: CSU**

KINS 65A PNF: INTRODUCTION TO THE UPPER EXTREMITY 3 Units
Formerly: PHED 65A
Advisory: Internet access to complete quizzes, discussions and assignments; not open to students with credit in H P 52F or PHED 65A.
2 hours lecture, 3 hours laboratory. (60 hours total per quarter)
Theory and hands on practice emphasizing the upper extremity: stretching, strengthening, stabilization and active/passive range of motion including goniometric measurements. **FHGE: Non-GE; Transferable: CSU**

KINS 65B PNF: INTRODUCTION TO THE LOWER EXTREMITY 3 Units
Formerly: PHED 65B
Advisory: Not open to students with credit in H P 52G or PHED 65B.
2 hours lecture, 3 hours laboratory. (60 hours total per quarter)
Theory and hands on practice emphasizing lower extremity stretching, strengthening, stabilization and active range of motion including goniometric measurement. Students must have reliable and ongoing Internet access to complete Quizzes, Discussions and Assignments. **FHGE: Non-GE; Transferable: CSU**

KINS 70R INDEPENDENT STUDY IN KINESIOLOGY 1 Unit
KINS 71R 2 Units
KINS 72R 3 Units
KINS 73R 4 Units
3–12 hours per week. (36–144 hours total per quarter)
Provides an opportunity for the student to expand their studies in Kinesiology beyond the classroom by completing a project or an assignment arranged by agreement between the student and instructor. The student is required to contract with the instructor to determine the scope of assignment and the unit value assigned for successful completion. Students may take a maximum of 6 units of Independent Study per department. **FHGE: Non-GE; Transferable: CSU**

KINS 81 INTRODUCTION TO ADAPTIVE FITNESS 4 Units
Formerly: SPED 50
Advisory: Not open to students with credit in SPED 50.
4 hours lecture. (48 hours total per quarter)
Introduce fitness professionals to the information and skills necessary to work with the disabled and/or older adult client in an adaptive fitness setting. Provides history and overview of adaptive fitness. Includes overview of specific disabilities. Addresses fundamentals and benefits of adaptive fitness, basic anatomy, muscles and movement, contraindicated exercises and assessment techniques. Will also include exercise program design. **FHGE: Non-GE; Transferable: CSU**

KINS 82 APPLIED PRINCIPLES OF ADAPTIVE FITNESS 4 Units
Formerly: SPED 54
Advisory: Not open to students with credit in SPED 54.
4 hours lecture. (48 hours total per quarter)
Focuses on skills necessary for adaptive fitness professionals to implement an adaptive exercise program for persons with a chronic medical conditions. Covers a full range of chronic conditions seen in the adult population from orthopedic conditions to neurological. Addresses assessment of physical dysfunctions and appropriate corrective exercises as well as contraindicated movements. **FHGE: Non-GE; Transferable: CSU**

KINS 83 PHYSICAL DIMENSIONS OF AGING 4 Units
Formerly: SPED 57B
Advisory: Not open to students with credit in SPED 57B.
4 hours lecture. (48 hours total per quarter)
For the fitness professional to explore how quality of life and longevity are impacted by lifestyle, wellness and fitness. Investigate what is aging, contributing factors of aging, and how aging can be influenced from a fitness perspective. Explore the interaction of the physiological, psychological and sociological aspects of aging. **FHGE: Non-GE; Transferable: CSU**

KINS 84 FUNCTIONAL FITNESS & ADAPTIVE MOVEMENT 3 Units
Formerly: SPED 56
Advisory: Not open to students with credit in SPED 56.
3 hours lecture. (36 hours total per quarter)
Explores the theories of functional fitness. Assists students to identify chronic conditions and then assess and formulate a functional exercise program. Role that functional exercise plays in improving daily living skills. Explanation of the different types of equipment used for functional exercise. **FHGE: Non-GE; Transferable: CSU**

KINS 85 PRINCIPLES OF THERAPEUTIC WATER EXERCISE 3 Units
Formerly: SPED 74
Advisory: Not open to students with credit in SPED 74.
3 hours lecture. (36 hours total per quarter)
Provides the essential information needed for adaptive aquatics exercise instruction. Develop an understanding of how water training principles can be used with individuals with chronic conditions, using adaptive teaching techniques, and the applications of deep and shallow water fitness routines for the disabled. Preferred safety techniques for assisting a disabled client with entry and exit from a pool will be demonstrated. **FHGE: Non-GE; Transferable: CSU**

LANGUAGE ARTS

Language Arts (650) 949-7250 www.foothill.edu/la/

L A 111A PASS THE TORCH TEAM LEADER TRAINING I 1 Unit
Prerequisites: An earned "A" or "B+" grade with instructor recommendation in one of the following courses: ESLL 25, 26; ENGL 1S and 1T; ENGL 1A, 1AH, 1B, 1BH, 1C or 1CH.
1 hour lecture. (12 hours total per quarter)
Training in team leading skills necessary for assisting a member in the Pass the Torch Program, including study skills, college policies, professionalism, ethics, and role modeling of successful student behavior. Techniques of subject-specific tutoring skills. Practice of these skills through sample student work and, when applicable, content-specific suggestions from the member's instructor. Intended for students matched in a Pass the Torch English or ESLL Study team for the first time. **FHGE: Non-GE**

L A 111B PASS THE TORCH TEAM LEADER TRAINING II 1 Unit
Prerequisites: Successful completion of LA 111A and an earned "A" or "B+" grade with instructor recommendation in one of the following courses: ESLL 25, 26; ENGL 1S and 1T; ENGL 1A, 1AH, 1B, 1BH, 1C or 1CH.
1 hour lecture. (12 hours total per quarter)
Advanced training in team leading skills necessary for assisting a member in the Pass the Torch Program. Students will be asked to engage in advanced reflections on tutoring and advanced level critique of one's own and other tutoring processes. Techniques of subject specific tutoring skills with attention given to diverse learning styles. Practice of these skills through sample student work and instructor assignments and, when applicable, content-specific suggestions from the member's instructor. Intended for students matched in a Pass the Torch study team for the second time. **FHGE: Non-GE**

LEARNING IN NEW MEDIA CLASSROOMS

Fine Arts and Communication (650) 949-7498 www.foothill.edu/kci/linc/

LINC 50 TECHNOLOGY IN THE K–12 CLASSROOM I 1 Unit
Advisory: Basic computer skills and knowledge of Macintosh or Windows operating systems; familiarity using Web browsers, email, bookmarking, searching and downloading; not open to students with credit in LINC 255; students may enroll in LINC 50 or 50B, but not both, for credit.
1 hour lecture. (12 hours total per quarter)
Intended for educators, this hands-on overview course addresses the effective integration of technologies for teaching and learning within any standards based curriculum. Students explore the cycle of technology learning; review the issues of technology in schools; discuss the role of technology savvy teachers; analyze online resources, tools, and applications; use online collaboration tools for class communication; evaluate audio-visual and multimedia hardware for classrooms; investigate mobile devices and software; and explore interactive whiteboards. Emphasis is given to creating student-centered projects or activities using appropriate educational technologies. **FHGE: Non-GE; Transferable: CSU**

LINC 50A TECHNOLOGY IN THE K–12 CLASSROOM II .5 Unit
Advisory: Basic computer skills and knowledge of Macintosh or Windows operating systems; familiarity using Web browsers, email, bookmarking, searching and downloading; not open to students with credit in LINC 255S.
.5 hour lecture. (6 hours total per quarter)
An introductory course about educational hardware technology in the classroom. Intended for educators, this hands-on course demonstrates integration of hardware technologies such as document cameras, interactive white boards, student response systems, iPads, mobile phones, etc. for teaching and learning with any standards based curriculum. Emphasis is given to creating student-centered activities using appropriate educational hardware technologies. **FHGE: Non-GE; Transferable: CSU**

LINC 50B TECHNOLOGY IN THE K–12 CLASSROOM III .5 Unit
Advisory: Basic computer skills and knowledge of Macintosh or Windows operating systems; familiarity using Web browsers, email, bookmarking, searching and downloading; fundamental understanding of content topics in LINC 50A; not open to students with credit in LINC 255T; students may enroll in LINC 50 or 50B, but not both, for credit.
.5 hour lecture. (6 hours total per quarter)
Deepens the student's knowledge of topics covered in LINC 50 focusing on computer and online-based software technology in the classroom. Intended for educators, this course examines the effective integration of software technologies such as word processing, presentation, spreadsheet, online resources, online collaboration tools, etc., used for teaching and learning. Emphasis is given to creating student-centered activities using appropriate educational software technologies. **FHGE: Non-GE; Transferable: CSU**

LINC 50F INTEGRATING TECHNOLOGY INTO A STANDARDS-BASED CURRICULUM I 2 Units
Advisory: Basic computer skills and knowledge of Macintosh or Windows operating systems; familiarity using Web browsers, email, bookmarking, searching and downloading; not open to students with credit in LINC 225.
2 hours lecture. (24 hours total per quarter)
Intended for educators (K-14) and includes hands-on experiences that demonstrate the effective integration of technologies and 21st century skills for teaching and learning with any standards based curriculum. Emphasis is given to developing effective student-centered projects or activities using appropriate educational technologies. **FHGE: Non-GE; Transferable: CSU**

LINC 52 INTEGRATING TECHNOLOGY INTO SCIENCE 1 Unit
Advisory: Basic computer skills and knowledge of Macintosh or Windows operating systems; basic skills and knowledge using Web browsers, email, bookmarking, searching and downloading; not open to students with credit in LINC 262.
1 hour lecture. (12 hours total per quarter)
Intended for middle and high school science educators to create projects for teaching and learning using educational technology. Develop a student-centered project based on the California Science Content Standards and California Common Core State Standards. **FHGE: Non-GE; Transferable: CSU**

LINC 53 INTEGRATING TECHNOLOGY INTO MATHEMATICS 1 Unit

Advisory: Basic computer skills and knowledge of Macintosh or Windows operating systems; familiarity using Web browsers, email, bookmarking, searching and downloading; not open to students with credit in LINC 263.
1 hour lecture. (12 hours total per quarter)
Overview course for mathematics educators to promote and encourage the use of technology in mathematics instruction at any level to support and enhance mathematics teaching and learning and to increase the use of technology for visualization and multiple representations of math concepts. Other topics include the assessment of technology enhanced math projects, California Mathematics Content Standards, State approved Mathematics text books, ISTE Technology Standards, California Technology Standards, and the emerging Common Core Standards.
FHGE: Non-GE; Transferable: CSU

LINC 53A INTEGRATING TECHNOLOGY INTO MATHEMATICS K–5 .5 Unit

Advisory: Basic computer skills and knowledge of Macintosh or Windows operating systems; familiarity using Web browsers, email, bookmarking, searching and downloading; not open to students with credit in LINC 263S.
.5 hour lecture. (6 hours total per quarter)
Technology integration for mathematics educators focuses on elementary grade (K - 5th) teachers and promotes and encourages the use of technology in basic mathematics instruction to support and enhance mathematics teaching and learning and increases the use of technology for visualization and multiple representations of math concepts. Other topics include the assessment of technology enhanced math projects, California Mathematics Content Standards, State approved Mathematics text books, ISTE Technology Standards, California Technology Standards, and the emerging Common Core Standards. **FHGE: Non-GE; Transferable: CSU**

LINC 53B INTEGRATING TECHNOLOGY INTO MATHEMATICS GRADES 6–8 .5 Unit

Advisory: Basic computer skills and knowledge of Macintosh or Windows operating systems; familiarity using Web browsers, email, bookmarking, searching and downloading; fundamental understanding of content topics in LINC 53; not open to students with credit in LINC 263T.
.5 hour lecture. (6 hours total per quarter)
This intermediate course for middle grades (6th - 8th) mathematics educators promotes and encourages the use of technology in mathematics instruction to support and enhance mathematics teaching and learning and increases the use of technology for visualization and multiple representations of math concepts. Other topics include the assessment of technology enhanced math projects, California Mathematics Content Standards, State approved Mathematics text books, ISTE Technology Standards, California Technology Standards, and the emerging Common Core Standards. **FHGE: Non-GE; Transferable: CSU**

LINC 57 DESIGNING LEARNER-CENTERED INSTRUCTION 1 Unit

Advisory: Basic computer skills and knowledge of Macintosh or Windows operating systems; familiarity using Web browsers, email, bookmarking, searching and downloading.
1 hour lecture. (12 hours total per quarter)
Educators will examine the learner-centered approach to teaching in order to create transformative experiences for students. Educators develop the skills and conceptual knowledge for instructional design and creating student-centered learning activities that meet Common Core and content standards. Topics addressed include how learning happens, the role of educational technologies in student engagement, and effective modifications to existing instructional material. Following the learner-centered classroom guidelines, educators will create a multidisciplinary unit of instruction that is aligned to teaching standards and include both formative and summative assessments. **FHGE: Non-GE; Transferable: CSU**

LINC 58 GLOBAL PROJECT-BASED LEARNING 2 Units

Advisory: Basic computer skills and knowledge of Macintosh or Windows operating systems; basic skills and knowledge using Web browsers, email, bookmarking, searching and downloading; not open to students with credit in LINC 224.
Two hours lecture. (24 hours total per quarter)
Intended for educators (K-14) who want to develop understanding and competencies in using the 21st century skills strategy of global project-based learning to create powerful, culturally diverse learning environments. Teachers and students connect globally via Internet telecommunications software to work collaboratively on curriculum-based, real-world projects. Participants will create a project that engages students in learning curricular content. **FHGE: Non-GE; Transferable: CSU**

LINC 58A E-PORTFOLIOS 1 Unit

Advisory: Basic computer skills and knowledge of Macintosh or Windows operating systems; familiarity using Web browsers, email, bookmarking, searching and downloading; not open to students with credit in LINC 223.
1 hour lecture. (12 hours total per quarter)
Course demonstrates how to build an e-portfolio as an authentic assessment tool. Electronic portfolios can be used for student work as well as for teacher professional development. Reflective practice that deepens learning will be presented. Student e-portfolios will be examined and analyzed. Computer tools that enable students to create powerful e-portfolios will be examined. **FHGE: Non-GE; Transferable: CSU**

LINC 58B CHOOSING THE BEST MEDIA FOR PROJECTS 2 Units

Advisory: Basic computer skills and knowledge of Macintosh or Windows operating systems; familiarity using Web browsers, email, bookmarking, searching and downloading; not open to students with credit in LINC 222.
2 hours lecture. (24 hours total per quarter)
This course prepares educators and trainers to choose appropriate media (e.g., images, video, presentations, slideshows, social media, web resources, web-based tools or applications) for student-centered learning or training projects. Course topics include: emerging technologies, 21st century skills, academic or professional standards, and designing learning experiences for students to visualize, synthesize, and construct meaning from the content. **FHGE: Non-GE; Transferable: CSU**

LINC 59 INTEGRATING 21ST CENTURY SKILLS INTO INSTRUCTION 2 Units

Advisory: Basic computer skills and knowledge of Macintosh or Windows operating systems; familiarity using Web browsers, email, bookmarking, searching and downloading.
2 hours lecture. (24 hours total per quarter)
Intended for educators at all levels (K-12, college) and trainers of any discipline to develop the knowledge, skills, and attitude necessary to create instructional experiences integrated with 21st Century skills, such as critical thinking, creativity and problem solving, collaboration, and communication. Participants will examine the skills that business and industry determine important for new employees to know in order to succeed in a 21st Century global economy. Participants determine the importance of integrating 21st Century skills into their courses, analyze their curriculum content and instructional strategies to determine which 21st Century skills they currently teach and which additional skills can be integrated. The final course project is a lesson, unit, or project that requires the participants' students or trainees to use 21st Century skills. **FHGE: Non-GE; Transferable: CSU**

LINC 60K GAME-BASED LEARNING 1 Unit

Advisory: Basic computer skills and knowledge of Macintosh or Windows operating systems; basic skills and knowledge using Web browsers, email, bookmarking, searching and downloading; not open to students with credit in LINC 243.
1 hour lecture. (12 hours total per quarter)
Intended for educators who want to explore computer-based and internet games that engage students in science, engineering, and other content learning. Participants will analyze existing games for their educational value, create their own simple educational game and determine how students learn when they create a game. Participants will use a systematic method of game design to identify goals, develop a game, and evaluate the learning outcomes. **FHGE: Non-GE; Transferable: CSU**

LINC 62 WORD PROCESSING BEYOND THE BASICS 1 Unit

Advisory: Basic computer skills and knowledge of Macintosh or Windows operating systems; basic skills and knowledge using Web browsers, email, bookmarking, searching and downloading; not open to students with credit in LINC 270.
1 hour lecture. (12 hours total per quarter)
Provides hands-on experience using computer-based word processing programs like Microsoft Word or Pages. Topics include: formatting techniques for reports, letters, or creative projects (i.e., flyers, brochures, information graphics); editing tools; using styles; creating section breaks; inserting text boxes, graphic objects, and multimedia; creating tables; working with headers and footers; and merging documents; using Track Changes for collaboration and other advanced features.
FHGE: Non-GE; Transferable: CSU

LINC 62A MICROSOFT WORD II .5 Unit
Advisory: Familiarity with PC or Mac; not open to students with credit in LINC 270S.
.5 hours lecture. (6 hours total per quarter)
Introduction to educational technology in the classroom. Provides Hands-on experience including formatting, editing, saving, and printing letters, memos, and other short documents, inserting text boxes and graphics, composing tables, headers and footers, and editing and merging documents. **FHGE: Non-GE; Transferable: CSU**

LINC 63 MICROSOFT EXCEL OVERVIEW 1 Unit
Advisory: Basic computer skills and knowledge of Macintosh or Windows operating systems and basic skills and knowledge of internet technologies, such as using Web browsers, email, bookmarking, searching and downloading; not open to students with credit in LINC 269.
1 hour lecture. (12 hours total per quarter)
Microsoft Excel is a powerful spreadsheet application that can support educators, students, and business professionals in a myriad of tasks that include analyzing performance data, tracking expenditures, budget development, meeting planning, workflow processes, and database management. **FHGE: Non-GE; Transferable: CSU**

LINC 63A MICROSOFT EXCEL I .5 Unit
Advisory: Basic computer skills and knowledge of Macintosh or Windows operating systems and basic skills and knowledge of internet technologies, such as using Web browsers, email, bookmarking, searching and downloading; not open to students with credit in LINC 271.
.5 hours lecture. (6 hours total per quarter)
This introductory course introduces the basic ways to use the Excel software application, including the use of formulas for projects. Creating and modifying Excel spreadsheets, databases, charts and graphs will be included. **FHGE: Non-GE; Transferable: CSU**

LINC 64 SLIDE PRESENTATION DESIGN 1 Unit
Advisory: Basic computer skills and knowledge of Macintosh or Windows operating systems; familiarity using Web browsers, email, bookmarking, searching and downloading; not open to students with credit in LINC 246.
1 hour lecture. (12 hours total per quarter)
Develop the knowledge and skills to create effective and visually appealing slide presentations. This hands-on course uses software like, Keynote, PowerPoint, Prezi, or Google Presentations, however, primary emphasis is placed on applying visual literacy concepts. Additional topics include typography, inserting audio, applying animation/transition effects, and applying good presentation design. **FHGE: Non-GE; Transferable: CSU**

LINC 66 INTRODUCTION TO THE INTERNET 1 Unit
Advisory: Basic computer skills and knowledge of Macintosh or Windows operating systems; familiarity using Web browsers, email, bookmarking, searching and downloading; not open to students with credit in LINC 206; students may enroll in LINC 66 or 66B, but not both, for credit.
1 hour lecture. (12 hours total per quarter)
Overview course that explores the educational, personal, and social benefits of the Internet. Participants will explore current Internet trends, tools, and technologies for information, communication, and collaboration. **FHGE: Non-GE; Transferable: CSU**

LINC 66A INTRODUCTION TO THE INTERNET I .5 Unit
Advisory: Basic computer skills and knowledge of Macintosh or Windows operating systems; familiarity using Web browsers, email, bookmarking, searching and downloading; fundamental understanding of content topics in LINC 66; not open to students with credit in LINC 206S.
.5 hour lecture. (6 hours total per quarter)
Continues topics of LINC 66 and focuses on Internet tools to aid in gathering, accessing, and storing information, and communicating, and collaborating world wide for educational, business-related or personal use. **FHGE: Non-GE; Transferable: CSU**

LINC 66B INTRODUCTION TO THE INTERNET II .5 Unit
Advisory: Basic computer skills and knowledge of Macintosh or Windows operating systems; familiarity using Web browsers, email, bookmarking, searching and downloading; fundamental understanding of content topics in LINC 66A; not open to students with credit in LINC 206T; students may enroll in LINC 66 or 66B, but not both, for credit.
.5 hour lecture. (6 hours total per quarter)
Continues the topics of LINC 66A and focuses on teaching and learning using the technologies and tools of the Internet. Content of the course explores online systems that enhance education, personal/social, and business goals. Participants will learn how to use the internet effectively, safely, appropriately, and constructively for their own learning as well as to teach and to help students to learn. **FHGE: Non-GE; Transferable: CSU**

LINC 66C SEARCHING & RESEARCHING THE INTERNET 2 Units
Advisory: Basic computer skills and knowledge of Macintosh or Windows operating systems; familiarity using Web browsers, email, bookmarking, searching and downloading; not open to students with credit in LINC 208.
2 hours lecture. (24 hours total per quarter)
Intermediate course those who use the Internet for personal research in their work. Emphasizes using advanced search techniques that incorporate logical reasoning, critical thinking, essential questions, and inquiry-based learning to refine searches, maximize the advantages of different search engines, evaluate web sites for credibility, understand the legitimacy of search results, and use search findings ethically. **FHGE: Non-GE; Transferable: CSU**

LINC 66D PODCASTING 1 Unit
Advisory: Basic computer skills and knowledge of Macintosh or Windows operating systems; basic skills and knowledge using Web browsers, email, bookmarking, searching and downloading.
1 hour lecture. (12 hours total per quarter)
This hands on course explores the use of podcasts for personal, educational, and professional business use. Content includes explanations, demonstrations and hands-on experience creating podcasts using audio tools and syndication (RSS) hosting options (iPod not necessary). **FHGE: Non-GE; Transferable: CSU**

LINC 66E INTRODUCTION TO BLOGS & WIKIS .5 Unit
Advisory: Basic computer skills and knowledge of Macintosh or Windows operating systems; familiarity using Web browsers, email, bookmarking, searching and downloading; not open to students with credit in LINC 283S.
.5 hour lecture. (6 hours total per quarter)
This introductory, hands-on learning class will compare the relative advantages and disadvantages of using blogs and wikis for a Web site, a group collaboration space, an e-portfolio, social networking space, or information sharing. Emphasis is given to creating a basic blog and wiki site for education, business, or personal applications. **FHGE: Non-GE; Transferable: CSU**

LINC 67 DESIGNING WEB-BASED LEARNING PROJECTS 1 Unit
Advisory: Basic computer skills and knowledge of Macintosh or Windows operating systems; familiarity using Web browsers, email, bookmarking, searching and downloading.
1 hour lecture. (12 hours total per quarter)
Creation of online projects that promote inquiry-based student learning and effective use of Web 2.0 tools for research. Participants will generate ideas for projects, like Webquests or virtual tours, and develop their own project with focus and purpose. Participants will align their project with the Common Core State Standards requiring students to synthesize information by completing a challenge task. **FHGE: Non-GE; Transferable: CSU**

LINC 68B GOOGLE DOCS .5 Unit
Formerly: LINC 270S
Advisory: Basic computer skills and knowledge of Macintosh or Windows operating systems and basic skill and knowledge of internet technologies such as using Web browsers, email, bookmarking, searching and downloading; not open to students with credit in LINC 270S.
.5 hour lecture. (6 hours total per quarter)
An introduction to Google Docs, the free online word processing application in the Google office suite, which allows people to collaborate on a single version of a document. Google docs is a powerful, easy to use application for teachers, students, groups, and organizations that want to share and collaborate with documents online. Participants will have hands-on experience creating, formatting, editing, saving, sharing, printing documents, inserting graphics, composing tables, and working collaboratively on a single document. **FHGE: Non-GE; Transferable: CSU**

LINC 70 WEB PAGE DESIGN OVERVIEW 1 Unit
Advisory: Basic computer skills and knowledge of Macintosh or Windows operating systems; familiarity using Web browsers, email, bookmarking, searching and downloading; not open to students with credit in LINC 200; students may enroll in LINC 70 or 70B, but not both, for credit.
1 hour lecture. (12 hours total per quarter)
Hands-on overview of how to design and create Web pages using current online authoring tools, such as Google Sites, Wix, Weebly, or others. Advantages of different online Web authoring tools will be analyzed. Techniques covered include building multiple pages; adding images, widgets, videos, banners, social media, calendars, and other features to create a neat, professional looking Web site. No knowledge of HTML is required. **FHGE: Non-GE; Transferable: CSU**

LINC 70A WEB PAGE DESIGN I .5 Unit
Advisory: Basic computer skills and knowledge of Macintosh or Windows operating systems; familiarity using Web browsers, email, bookmarking, searching and downloading; not open to students with credit in LINC 200S.
.5 hour lecture. (6 hours total per quarter)
An introduction to design and create Web pages for educational, social, or business purposes using online website authoring software, such Google Sites, Wix, or other that provide a visual interface to web site design. Knowledge of HTML is not required. **FHGE: Non-GE; Transferable: CSU**

LINC 70B WEB PAGE DESIGN II 1 Unit
Advisory: Basic computer skills and knowledge of Macintosh or Windows operating systems; familiarity using Web browsers, email, bookmarking, searching and downloading; fundamental understanding of content topics in LINC 70 and 70A; not open to students with credit in LINC 211; students may enroll in LINC 70 or 70B, but not both, for credit.
1 hour lecture. (12 hours total per quarter)
Continues the content of LINC 70 Web Page Design Overview and covers more advanced topics of online Web authoring tools or services, such as good vs poor website design, building tables, using styles, and addressing accessibility. Appropriate for application in educational, social, or business environments. **FHGE: Non-GE; Transferable: CSU**

LINC 72A ADOBE ACROBAT I 1 Unit
Advisory: Basic computer skills and knowledge of Macintosh or Windows operating systems; familiarity using Web browsers, email, bookmarking, searching and downloading; not open to students with credit in LINC 232.
1 hour lecture. (12 hours total per quarter)
Intended for educators and includes hands-on experiences that integrate the publication of multimedia projects using Acrobat with teaching and learning. Emphasis is given to publishing via Portable Document Format (PDF). Learn to package content in a navigable, searchable format. Create student and project management forms. Create compelling portfolios, add multimedia and read-aloud books that address multiple learning styles. Acrobat provides convenient information organization and access. **FHGE: Non-GE; Transferable: CSU**

LINC 72B ADOBE INDESIGN OVERVIEW 1 Unit
Formerly: LINC 234
Advisory: Basic computer skills and knowledge of Macintosh or Windows operating systems; familiarity using Web browsers, email, bookmarking, searching and downloading; students may enroll in LINC 72B or 72D, but not both, for credit.
1 hour lecture. (12 hours total per quarter)
For anyone interested in print or Web-based publishing. Adobe InDesign creates page layouts for multi-page brochures, tri-folds, flyers, newsletters, books, Web sites, and Web-based publications with a professional quality. In this hands-on, overview course, students work with images; use guides and grids; set up master sheets and styles. **FHGE: Non-GE; Transferable: CSU**

LINC 72C ADOBE INDESIGN I .5 Unit
Advisory: Basic computer skills and knowledge of Macintosh or Windows operating systems; familiarity using Web browsers, email, bookmarking, searching and downloading; not open to students with credit in LINC 234S.
.5 hours lecture. (6 hours total per quarter)
Intended for educators and includes hands-on experiences that demonstrate the effective integration of technologies for teaching and learning with any standards based curriculum. Emphasis is given to creating student-centered projects or activities using In Design for desktop publishing. Learn to design page layouts, import, format, and edit text, import and arrange photos, while creating pages that incorporate professional graphic design elements. **FHGE: Non-GE; Transferable: CSU**

LINC 72D ADOBE INDESIGN II .5 Unit
Advisory: Basic computer skills and knowledge of Macintosh or Windows operating systems; familiarity using Web browsers, email, bookmarking, searching and downloading; students may enroll in LINC 72B or 72D, but not both, for credit; Not open to students with credit in LINC 234T.
.5 hours lecture. (6 hours total per quarter)
Intended for educators and includes hands-on experiences that demonstrate the effective integration of technologies for teaching and learning with any standards based curriculum. Emphasis is given to creating student-centered projects or activities using In Design for desktop publishing. Learn to design page layouts, fine-tune skills for importing, formatting, and editing text, draw and modify illustrations, import and arrange photos, automate your work-flow, while creating stunning and professional page layouts for student learning. **FHGE: Non-GE; Transferable: CSU**

LINC 73 ADOBE PHOTOSHOP OVERVIEW 1 Unit
Advisory: Basic computer skills and knowledge of Macintosh or Windows operating systems; familiarity using Web browsers, email, bookmarking, searching and downloading; students may enroll in LINC 73 or 73B, but not both, for credit; not open to students with credit in LINC 230.
1 hour lecture. (12 hours total per quarter)
Intended for educators and includes hands-on experiences that integrate digital imaging with teaching and learning. Emphasis is given to creating student-centered projects or activities using Photoshop. Learn to enhance image color and contrast, touch-up photos, create collages that tell stories, paint with the paint tools, create layouts with text, apply filters and special effects, automate your work-flow. **FHGE: Non-GE; Transferable: CSU**

LINC 73A ADOBE PHOTOSHOP I .5 Unit
Advisory: Basic computer skills and knowledge of Macintosh or Windows operating systems; familiarity using Web browsers, email, bookmarking, searching and downloading; not open to students with credit in LINC 230S.
.5 hours lecture. (6 hours total per quarter)
Intended for educators and includes hands-on experiences that integrate digital imaging with teaching and learning. Emphasis is given to creating student-centered projects or activities using Photoshop. Learn to enhance image color and contrast, touch-up photos, create collages that tell stories, design layouts, paint with the paint tools, manipulate and enhance text to create unique typographic effects, while creating student-centered projects. **FHGE: Non-GE; Transferable: CSU**

LINC 73B ADOBE PHOTOSHOP II .5 Unit
Advisory: Basic computer skills and knowledge of Macintosh or Windows operating systems; familiarity using Web browsers, email, bookmarking, searching and downloading; students may enroll in LINC 73 or 73B, but not both, for credit; not open to students with credit in LINC 230T.
.5 hours lecture. (6 hours total per quarter)
Intended for educators and includes hands-on experiences that integrate digital imaging with teaching and learning. Emphasis is given to creating student-centered projects or activities using Photoshop. Learn to fine-tune image color and contrast enhancements, construct images that tell stories, paint with the paint tools, create layouts, format text, apply special effects, automate your work-flow, while applying best practices of graphic design principles. **FHGE: Non-GE; Transferable: CSU**

LINC 73D ADOBE PHOTOSHOP ELEMENTS OVERVIEW 1 Unit
Advisory: Basic computer skills and knowledge of Macintosh or Windows operating systems; familiarity using Web browsers, email, bookmarking, searching and downloading; students may enroll in LINC 73D or 73F, but not both, for credit; not open to students with credit in LINC 231.
1 hour lecture. (12 hours total per quarter)
In this digital imaging, production overview course, perform basic and easy edits to digital images through hands-on projects. Topics include: color and contrast adjustment, selections and layers, touch-up tools, and text. **FHGE: Non-GE; Transferable: CSU**

LINC 73E ADOBE PHOTOSHOP ELEMENTS I .5 Unit
Advisory: Basic computer skills and knowledge of Macintosh or Windows operating systems; familiarity using Web browsers, email, bookmarking, searching and downloading; not open to students with credit in LINC 231S.
.5 hours lecture. (6 hours total per quarter)
An introduction to educational technology in the classroom. Provides hands-on experience with the basic elements and tools of Photoshop to set up files, manage documents, and perform basic image processing. Includes advanced concepts and methods of developing images and creating special effects and problem solving. **FHGE: Non-GE; Transferable: CSU**

LINC 73F ADOBE PHOTOSHOP ELEMENTS II .5 Unit
Advisory: Basic computer skills and knowledge of Macintosh or Windows operating systems; familiarity using Web browsers, email, bookmarking, searching and downloading; students may enroll in LINC 73D or 73F, but not both, for credit; not open to students with credit in LINC 231T.
.5 hours lecture. (6 hours total per quarter)
An intermediate course in educational technology in the classroom. Provides hands-on experience with the basic elements and tools of Photoshop to set up files, manage documents, and perform basic image processing. Includes advanced concepts and methods of developing images and creating special effects and problem solving. **FHGE: Non-GE; Transferable: CSU**

LINC 73H ADOBE ILLUSTRATOR OVERVIEW 1 Unit
Advisory: Basic computer skills and knowledge of Macintosh or Windows operating systems; familiarity using Web browsers, email, bookmarking, searching and downloading; students may enroll in LINC 73H or 73J, but not both, for credit; not open to students with credit in LINC 233.
1 hour lecture. (12 hours total per quarter)
Adobe Illustrator creates drawings, illustrations, and images for print or Web. Use vector graphics; draw objects, stroke outlines and pattern fills; work with brushes, gradients, color blends; design type; and develop graphs. **FHGE: Non-GE; Transferable: CSU**

LINC 73I ADOBE ILLUSTRATOR I .5 Unit
Advisory: Basic computer skills and knowledge of Macintosh or Windows operating systems; familiarity using Web browsers, email, bookmarking, searching and downloading; not open to students with credit in LINC 233S.
.5 hours lecture. (6 hours total per quarter)
An introduction to educational technology in the classroom. Adobe Illustrator is a software drawing tool. Provides hands-on experience with the basic elements and tools of Adobe Illustrator to produce one-page illustrations. **FHGE: Non-GE; Transferable: CSU**

LINC 73J ADOBE ILLUSTRATOR II .5 Unit
Advisory: Basic computer skills and knowledge of Macintosh or Windows operating systems; familiarity using Web browsers, email, bookmarking, searching and downloading; students may enroll in LINC 73H or 73J, but not both, for credit; not open to students with credit in LINC 233T.
.5 hours lecture. (6 hours total per quarter)
An intermediate course in educational technology in the classroom. Adobe Illustrator is a software drawing tool. Provides hands-on experience with the basic elements and tools of Adobe Illustrator to produce one-page illustrations. **FHGE: Non-GE; Transferable: CSU**

LINC 74 ADOBE DREAMWEAVER OVERVIEW 1 Unit
Advisory: Basic computer skills and knowledge of Macintosh or Windows operating systems; familiarity using Web browsers, email, bookmarking, searching and downloading; students may enroll in LINC 74 or 74B, but not both, for credit; not open to students with credit in LINC 209.
1 hour lecture. (12 hours total per quarter)
Adobe Dreamweaver provides quick, elegant tools for Web site design and maintenance. In this hands-on overview course, plan the website set-up, develop layouts, build tables, format styles, layers, interactivity, and templates. **FHGE: Non-GE; Transferable: CSU**

LINC 74A ADOBE DREAMWEAVER I .5 Unit
Advisory: Basic computer skills and knowledge of Macintosh or Windows operating systems; familiarity using Web browsers, email, bookmarking, searching and downloading; not open to students with credit in LINC 209S.
.5 hours lecture. (6 hours total per quarter)
An introduction to educational technology in the classroom. Design and creation of World Wide Web pages using Macromedia Dreamweaver. Hands-on experience creating Web pages. Intended for Continuing Education. **FHGE: Non-GE; Transferable: CSU**

LINC 74B ADOBE DREAMWEAVER II .5 Unit
Advisory: Familiarity with PC or Mac; basic internet and email skills; students may enroll in LINC 74 or 74B, but not both, for credit; not open to students with credit in LINC 209T.
.5 hours lecture. (6 hours total per quarter)
An intermediate course in educational technology in the classroom. Design and creation of World Wide Web pages using Macromedia Dreamweaver. Hands-on experience creating Web pages. Intended for Continuing Education. **FHGE: Non-GE; Transferable: CSU**

LINC 76A CREATING EDUCATIONAL WEBSITES I 1 Unit
Advisory: Basic computer skills and knowledge of Macintosh or Windows operating systems; familiarity using Web browsers, email, bookmarking, searching and downloading; not open to students with credit in LINC 210S.
1 hour lecture. (12 hours total per quarter)
Overview of several online and computer-based technologies and strategies to develop educational Web sites for educational or training purposes. Participants will explore Web 2.0 collaborative tools to make a web site interactive and learning focused. Topics include presentation, audio, video, and embedding social media tools into a site. Elements of good Web site design and ideas for creating engaging web sites will be addressed. **FHGE: Non-GE; Transferable: CSU**

LINC 76B CREATING EDUCATIONAL WEBSITES II 1 Unit
Advisory: Basic computer skills and knowledge of Macintosh or Windows operating systems; familiarity using Web browsers, email, bookmarking, searching and downloading; fundamental understanding of content topics in LINC 76A; not open to students with credit in LINC 210T; students may enroll in LINC 76 or 76B, but not both, for credit.
1 hour lecture. (12 hours total per quarter)
Continues and extends the topics presented in LINC76A with emphasis on accessibility, usability and copyright for developing and refining educational Web sites. Participants will incorporate Web 2.0 collaborative tools, such as image galleries, in-page presentations, audio, video, and collaboration tools. Elements of design and accessibility for effective web sites will be addressed. **FHGE: Non-GE; Transferable: CSU**

LINC 76C CREATING WEBQUESTS 2 Units
Advisory: Basic computer skills and knowledge of Macintosh or Windows operating systems; familiarity using Web browsers, email, bookmarking, searching and downloading; not open to students with credit in LINC 202.
2 hours lecture. (24 hours total per quarter)
Focuses on the strategies and techniques used to design and develop rich, interactive web searches, called WebQuests, for instructional purposes. WebQuests are web-based, curriculum-based challenges that include student resources and activities and requires students to transform information into a new form. Participants will analyze and evaluate WebQuests for depth of content, level of engagement, curriculum standards, and meaningful learning outcomes through the lens of 21st Century teaching and learning skills. The culminating course project is the design and development of a WebQuest. **FHGE: Non-GE; Transferable: CSU**

LINC 79 MULTIMEDIA PROJECT PRODUCTION 2 Units
Advisory: Basic computer skills and knowledge of Macintosh or Windows operating systems; familiarity using Web browsers, email, bookmarking, searching and downloading; familiarity with multimedia software.
2 hours lecture. (24 hours total per quarter)
Hands-on, project production course integrates multimedia software (i.e., Photoshop, Premiere or Premiere Elements, and After Effects) to create engaging multimedia for use in education, business and personal applications. **FHGE: Non-GE; Transferable: CSU**

LINC 80 MULTIMEDIA OVERVIEW 1 Unit
Advisory: Basic computer skills and knowledge of Macintosh or Windows operating systems; familiarity using Web browsers, email, bookmarking, searching and downloading; not open to students with credit in LINC 251.
1 hour lecture. (12 hours total per quarter)
An overview of multimedia software and hardware and the multimedia production process. Designed for trainers, educators, and anyone interested in multimedia, the course features hands-on learning with computer-based or internet software authoring tools to design and produce a multimedia project or presentation that integrates text, graphics, animation, sound, and digital video for educational, business, or entertainment purposes. **FHGE: Non-GE; Transferable: CSU**

LINC 80A MULTIMEDIA IN THE CLASSROOM I 1 Unit
Advisory: Basic computer skills and knowledge of Macintosh or Windows operating systems; familiarity using Web browsers, email, bookmarking, searching and downloading; not open to students with credit in LINC 252.
1 hour lecture. (12 hours total per quarter)
Explores the pedagogy and computer-based software tools used to effectively design and manage multimedia in the learning process. Looking at best design

practices and hands-on experience with computer-based multimedia authoring tools will be used to produce a student-centered project, such as an audio book, animation, musical slideshow, video composition, or interactive presentation. **FHGE: Non-GE; Transferable: CSU**

LINC 80B MULTIMEDIA IN THE CLASSROOM II .5 Unit
Advisory: Basic computer skills and knowledge of Macintosh or Windows operating systems; familiarity using Web browsers, email, bookmarking, searching and downloading; not open to students with credit in LINC 252S.
.5 hour lecture. (6 hours total per quarter)
Explores pedagogy and online multimedia tools for educators who want to use multimedia production for student-centered learning. Features hands-on experience with internet multimedia authoring tools, such as Prezi, Animoto, to design and produce a student-centered project. **FHGE: Non-GE; Transferable: CSU**

LINC 81 USING DIGITAL IMAGES 1 Unit
Advisory: Basic computer skills and knowledge of Macintosh or Windows operating systems; familiarity using Web browsers, email, bookmarking, searching and downloading; not open to students with credit in LINC 257.
1 hour lecture. (12 hours total per quarter)
An introduction to digital image acquisition, manipulation, use, and storage. Students will learn to find, edit, and use in images in any software application for educational, business, or social purposes. Online image storage and sharing services will be evaluated. Students produce a gallery of images based on themes or categories. **FHGE: Non-GE; Transferable: CSU**

LINC 81A USING DIGITAL IMAGES I .5 Unit
Advisory: Basic computer skills and knowledge of Macintosh or Windows operating systems; familiarity using Web browsers, email, bookmarking, searching and downloading; not open to students with credit in LINC 257S.
.5 hour lecture. (6 hours total per quarter)
Effectively use digital images for teaching and learning or training with emphasis on free, online image resources and editing tools. Topics include finding images, criteria for choosing images, editing tools and techniques, and importing into any application. Students will design and develop a project using images such as collateral materials, presentations, print publications, photo galleries, web pages, video, slideshow, or animation. **FHGE: Non-GE; Transferable: CSU**

LINC 81B ADOBE FIREWORKS OVERVIEW 1 Unit
Advisory: Basic computer skills and knowledge of Macintosh or Windows operating systems; familiarity using Web browsers, email, bookmarking, searching and downloading; students may enroll in LINC 81B or LINC 81D, but not both, for credit; not open to students with credit in LINC 237.
1 hour lecture. (12 hours total per quarter)
An intermediate course in educational technology in the classroom. In this hands-on overview course, create animated Web sites with Adobe Fireworks; build interactive buttons; resize, crop, and optimize images;add design effects with filters and collage techniques. **FHGE: Non-GE; Transferable: CSU**

LINC 81C ADOBE FIREWORKS I .5 Unit
Advisory: Basic computer skills and knowledge of Macintosh or Windows operating systems; familiarity using Web browsers, email, bookmarking, searching and downloading; not open to students with credit in LINC 286.
.5 hours lecture. (6 hours total per quarter)
Introductory course creates animated Web sites with Adobe Fireworks; build interactive buttons; resize, crop, and optimize images; build different layouts and templates.
FHGE: Non-GE; Transferable: CSU

LINC 83A ADOBE PREMIER 1 Unit
Advisory: Familiarity with PC or Mac; scanning photos; using a digital still and digital video camera; not open to students with credit in LINC 81CS.
1 hour lecture. (12 hours total per quarter)
Adobe Premiere provides students with skills necessary to create digital movies. Projects are standards based and appropriate for classroom use. Students will include text, sound and the 'Ken Burns Effect' as well as other special effects in their movies.
FHGE: Non-GE; Transferable: CSU

LINC 83F INTRODUCTION TO DIGITAL VIDEO EDITING 1 Unit
Advisory: Basic computer skills and knowledge of Macintosh or Windows operating systems; familiarity using Web browsers, email, bookmarking, searching and downloading; not open to students with credit in LINC 244.
1 hour lecture. (12 hours total per quarter)
Introductory course covers the skills to create short, digital movies for the Web or computer playback using low-cost or free software. Course topics including finding existing video, creating video slideshows, making titles, adding voiceover or music, and creating animation effects. Class projects are designed for use in education, business, and personal applications. **FHGE: Non-GE; Transferable: CSU**

LINC 85A ADOBE FLASH I .5 Unit
Advisory: Proficiency in a Mac or Windows operating system, software conventions and internet technologies; familiarity with Fireworks or similar photo editing software; DreamWeaver or similar Web page authoring software; not open to students with credit in LINC 238S.
.5 hours lecture. (6 hours total per quarter)
Create dynamic content and animations for Web, multimedia, and presentations. Develop interactive animations of illustrations, photos, and type. In this introductory, hands-on course, learn basic Flash drawing tools, animation basics, tweening, and export options. **FHGE: Non-GE; Transferable: CSU**

LINC 85B ADOBE FLASH II .5 Unit
Advisory: LINC 85A; Familiarity with Fireworks or similar photo editing software; Dreamweaver or similar Web page authoring software; proficiency in a Mac or Windows operating system, software conventions and internet technologies; students may enroll in LINC 85B or LINC 85C, but not both, for credit; not open to students with credit in LINC 238T.
.5 hours lecture. (6 hours total per quarter)
Create sophisticated dynamic content and animations for Web, multimedia, and presentations. This intermediate skills course develops interactive animations of illustrations, photos, and type using Flash drawing tools, animation basics, and button scripting. **FHGE: Non-GE; Transferable: CSU**

LINC 85C ADOBE FLASH OVERVIEW 1 Unit
Advisory: Proficiency in a computer operating system (Mac or Windows), software conventions and internet technologies, familiarity with Fireworks or similar photo editing software and Dreamweaver or similar Web page authoring software; students may enroll in LINC 85B or LINC 85C, but not both, for credit; not open to students with credit in LINC 287.
1 hour lecture. (12 hours total per quarter)
In this extended Adobe Flash course, create dynamic content and animations for Web, multimedia, and presentations; develop interactive animations of illustrations, photos, and type using drawing tools, animation basics, and button scripting.
FHGE: Non-GE; Transferable: CSU

LINC 86 VIDEO PODCASTING OVERVIEW 1 Unit
Advisory: Basic computer skills and knowledge of Macintosh or Windows operating systems; familiarity using Web browsers, email, bookmarking, searching and downloading; students may enroll in LINC 86 or 86B, but not both, for credit.
1 hour lecture. (12 hours total per quarter)
Overview course about video and multimedia podcast production. Intended to help educators, students, or hobbyists produce podcast type media for Internet distribution using free (e.g., Audacity, Jing) and industry-standard editing software (e.g., Garageband, Prof-Cast). Topics include: features of multimedia, attributes of internet-delivered media, evaluating media, evaluate different podcasting creation tools, copyright, and media distribution channels. Students in this course will create a media enhanced podcast of a presentation, webinar, or how-to tutorial. **FHGE: Non-GE; Transferable: CSU**

LINC 86A VIDEO PODCASTING I .5 Unit
Advisory: Basic computer skills and knowledge of Macintosh or Windows operating systems; familiarity using Web browsers, email, bookmarking, searching and downloading.
.5 hour lecture. (6 hours total per quarter)
Introductory course on video podcast production. Using free and industry-standard editing software, participants will create a basic podcast of a presentation for education, professional, or personal contexts. **FHGE: Non-GE; Transferable: CSU**

LINC 86B VIDEO PODCASTING II .5 Unit
Advisory: Basic computer skills and knowledge of Macintosh or Windows operating systems; familiarity using Web browsers, email, bookmarking, searching and downloading; fundamental understanding of content topics in LINC 86A; students may enroll in LINC 86 or 86B, but not both, for credit; not open to students with credit in LINC 86, LINC 86A.
.5 hour lecture. (6 hours total per quarter)
Continuation of LINC 86A introducing more advanced skills and techniques for creating video podcast tutorials that explain and demonstrate "how-to" topics. Uses free (e.g., Audacity, Jamendo, Jing) or industry-standard software (e.g., Garageband). Students will create a "how-to" tutorial-style podcast of an instructional or training challenge. **FHGE: Non-GE; Transferable: CSU**

LINC 87 SEMINAR IN TEACHING WITH EDUCATIONAL TECHNOLOGY 5 Units
Advisory: Basic computer skills and knowledge of Macintosh or Windows operating systems; familiarity using Web browsers, email, bookmarking, searching and downloading.
5 hours lecture. (60 hours total per quarter)
This seminar is for educators at all levels to develop student-centered learning projects and teaching practices; apply practical educational technology tools and resources; and participate in a collaborative professional development experience. Participants learn to use innovative technologies in their own curriculum content area and best practices for teaching and learning that positively impacts student achievement. Topics include 21st century skills for teaching and learning, visual literacy, media literacy, free online tools and resources for education, educational software training, open education resources, professional learning networks, integrating technology into the curriculum, integrating science and mathematics into any curriculum, assessment strategies for complex learning outcomes, and student-centered learning. **FHGE: Non-GE; Transferable: CSU**

LINC 88 INTRODUCTION TO COMPUTER OPERATING SYSTEMS 4 Units
Advisory: Basic computer skills and knowledge of Macintosh or Windows operating systems and basic skills and knowledge of internet technologies, such as using Web browsers, email, bookmarking, searching and downloading.
3 hours lecture, 3 hours laboratory. (72 hours total per quarter)
Introductory course covers computer operating systems such as Microsoft Windows NT, Vista, Windows 7, Windows 8, and Linux. Students learn to install, configure, and administer a desktop operating system, automate operating system installation, set up and manage user accounts, and configure local file systems. Configure and troubleshoot both local and network printers, manage and troubleshoot access to shared folders, and recover from system failures. **FHGE: Non-GE; Transferable: CSU**

LINC 89 INTRODUCTION TO MICROSOFT WINDOWS SERVERS 4 Units
Advisory: Basic computer skills and knowledge of Macintosh or Windows operating systems; familiarity using Web browsers, email, bookmarking, searching and downloading.
3 hour lecture, 3 hour laboratory. (72 hours total per quarter)
Introductory course covers the fundamentals of Microsoft Windows Server infrastructure, setup and administration. Topics include managing file systems (including Active Directory Domain Services (AD DS), networking services, Hyper-V configuration, devices, user accounts, backups, and basic security. **FHGE: Non-GE; Transferable: CSU**

LINC 90A WEBINARS 1 Unit
Advisory: Basic computer skills and knowledge of Macintosh or Windows operating systems and basic skills and knowledge of internet technologies, such as using Web browsers, email, bookmarking, searching and downloading; not open to students with credit in LINC 290.
1 hour lecture. (12 hours total per quarter)
For educators and trainers to develop basic skills in creating synchronous or asynchronous "webinars", web based seminars. This course will use software tools and systems, such as CCC Confer, Adobe Connect, WebEx, or others. Students will incorporate video, media, slide presentations and Internet resources to create short webinar content for educational or training applications. **FHGE: Non-GE; Transferable: CSU**

LINC 90B OPEN EDUCATION RESOURCES 1 Unit
Advisory: Basic computer skills and knowledge of Macintosh or Windows operating systems and basic skills and knowledge of internet technologies, such as using Web browsers, email, bookmarking, searching and downloading; not open to students with credit in LINC 215.
1 hour lecture. (12 hours total per quarter)
Overview of Open Educational Resources (OER) and the use of free public domain materials for teaching and learning. It aims to build participant's knowledge and skills to find, adapt, re-purpose and create accessible OER for use in education and training environments. Course topics include OER terminology, OER quality, copyright and fair use issues, sources and repositories of public domain materials in various disciplines, technical issues regarding accessibility, and uses of Creative Commons. Participants will explore and analyze: OER tools and standards available to develop, organize and disseminate content; public domain learning materials; searching techniques for identifying public domain learning materials; professional collaboration strategies; and criteria for assessing the suitability of public domain learning materials for use various disciplines. Participants will either create a lesson, activity, or training module that incorporates OER or create an OER for an identified purpose. **FHGE: Non-GE; Transferable: CSU**

LINC 90C ONLINE COLLABORATION TOOLS 2 Units
Advisory: Basic computer skills and knowledge of Macintosh or Windows operating systems; familiarity using Web browsers, email, bookmarking, searching and downloading; not open to students with credit in LINC 214.
2 hours lecture. (24 hours total per quarter)
Features online collaboration tools for educational, business, or personal use. Explore different collaborative technologies and shared documents using the Internet with emphasis on how these tools can be integrated with curriculum and student projects; on more effective communication and collaboration for all participants; and on how these tools can be used for planning and evaluating projects. **FHGE: Non-GE; Transferable: CSU**

LINC 94 INTRODUCTION TO COMPUTER NETWORKS 4 Units
Advisory: Basic computer skills and knowledge of Macintosh or Windows operating systems and basic skills and knowledge of internet technologies, such as using Web browsers, email, bookmarking, searching and downloading.
3 hour lecture, 3 hour laboratory. (72 hours total per quarter)
Fundamental networking concepts and develops the skills and knowledge to set up and maintain small business/home networks. The course is not hardware or vendor specific. It helps students prepare for the "Network +" certification exam, an industry- wide, vendor-neutral certification program developed and sponsored by the Computing Technology Industry Association (CompTIA). **FHGE: Non-GE; Transferable: CSU**

LINC 95A CHILD SAFETY, INTERNET ETHICS & CYBER LAW 2 Units
Advisory: Basic computer skills and knowledge of Macintosh or Windows operating systems; familiarity using Web browsers, email, bookmarking, searching and downloading; not open to students with credit in LINC 219.
2 hours lecture. (24 hours total per quarter)
Intended for those interested in exploring the social, academic, and ethical issues of cyber bullying, finding good practices for internet safety, and demonstrating ethical, responsible uses of technology. Participants will be exposed to the resources and processes to develop pro-active solutions that help promote information literacy, responsible online behavior, and safe use of technology. **FHGE: Non-GE; Transferable: CSU**

LINC 95B TECHNOLOGY ETHICS & CYBER LAW 1 Unit
Advisory: Basic computer skills and knowledge of Macintosh or Windows operating systems; familiarity using Web browsers, email, bookmarking, searching and downloading; not open to students with credit in LINC 220.
1 hour lecture. (12 hours total per quarter)
Overview of current issues and legislation in computer ethics and cyberlaw. Topics such as copyright, fair use, Acceptable Use Plans, digital divide, accessibility, internet filtering, social media, and cyber bullying will be discussed with emphasis on the implications for the student, classroom teacher, school site, parent obligation, civic government, and broader society. **FHGE: Non-GE; Transferable: CSU**

LINC 95C ASSESSMENT STRATEGIES FOR TECHNOLOGY INTEGRATION 1 Unit
Advisory: Basic computer skills and knowledge of Macintosh or Windows operating systems; familiarity using Web browsers, email, bookmarking, searching and downloading; not open to students with credit in LINC 260.
1 hour lecture. (12 hours total per quarter)
The effectiveness of technology integration for teaching and learning. The content explores various assessment strategies for technology integration when applied to curriculum development, teaching, and student learning. Participants will create formative and summative assessments of how technology infused instruction affects teaching practice and facilitates students' use of technology to learn and communicate. Other content topics include 21st Century Skills, Common Core standards, and ISTE NETS standards. **FHGE: Non-GE; Transferable: CSU**

LINC 96B HANDHELD DIGITAL MEDIA DEVICES I .5 Unit
Advisory: Basic computer skills and knowledge of Macintosh or Windows operating systems; familiarity using Web browsers, email, bookmarking, searching and downloading; not open to students with credit in LINC 292A.
.5 hour lecture. (6 hours total per quarter)
This introductory course is for those interested in exploring how hand-held devices can be applied in an education or training setting. Provides hands on experience with hand-held devices such as smartphones, tablet computers, ipods, etc. Participants will learn how to operate the hand-held, explore available software for the device, and learn how to use it for educational, training or other projects. **FHGE: Non-GE; Transferable: CSU**

LINC 96C HANDHELD DIGITAL MEDIA DEVICES II .5 Unit
Advisory: Basic computer skills and knowledge of Macintosh or Windows operating systems; familiarity using Web browsers, email, bookmarking, searching and downloading; fundamental understanding of content topics in LINC 96B; not open to students with credit in LINC 292B.
.5 hour lecture. (6 hours total per quarter)
This intermediate course builds on LINC 96B by developing activities, lessons, or experiments using hand-held devices in education or training settings. Provides hands on experience with hand-held devices such as smartphones, tablet computers, iPods, etc. **FHGE: Non-GE; Transferable: CSU**

LINC 97 IPADS IN EDUCATION .5 Unit
Advisory: Appropriate skills and abilities with mobile computer systems and internet technologies.
.5 hour lecture (6 hours total per quarter)
Tablet computer technology is having greater influence in education and impacting student learning with mobile, rich media applications. Explore using the Apple iPad in every level of education; analyze changes mobile computing brings to the teaching and learning environment; evaluate applications relevant for academic disciplines and that reflect the Common Core State Standards. Provides practice in using iPads in a classroom setting and for developing instructional resources and learning aids. **FHGE: Non-GE; Transferable: CSU**

LINC 98 TEACHING & LEARNING IN THE DIGITAL AGE 1 Unit
Advisory: Basic computer skills and knowledge of Macintosh or Windows operating systems; familiarity using Web browsers, email, bookmarking, searching and downloading; not open to students with credit in LINC 228; students may enroll in LINC 98 or 98B, but not both, for credit.
1 hour lecture. (12 hours total per quarter)
Overview course for those interested in developing and integrating educational technology into the classroom or training environment. Students will analyze learner characteristics; analyze the role of technology in student-centered learning environments; create a design plan for a technology-enhanced learning lesson, project or activity; use collaborative online technologies to support group work and peer feedback; and develop evaluation methods for the course project. **FHGE: Non-GE; Transferable: CSU**

LINC 98A TEACHING & LEARNING IN THE DIGITAL AGE I .5 Unit
Advisory: Basic computer skills and knowledge of Macintosh or Windows operating systems; familiarity using Web browsers, email, bookmarking, searching and downloading; not open to students with credit in LINC 228S.
.5 hour lecture. (6 hours total per quarter)
An introduction to integrating educational technology in the classroom for those interested in using technology to effectively deliver curriculum content, engage in professional development, and efficiently manage the classroom or training environment (i.e. online grading, storage, communication with parents, etc.). Participants will examine and set up appropriate technology tools. **FHGE: Non-GE; Transferable: CSU**

LINC 98B TEACHING & LEARNING IN THE DIGITAL AGE II .5 Unit
Advisory: Basic computer skills and knowledge of Macintosh or Windows operating systems; familiarity using Web browsers, email, bookmarking, searching and downloading; fundamental understanding of content topics in LINC 98A; not open to students with credit in LINC 228T; students may enroll in LINC 98 or 98B, but not both, for credit.
.5 hour lecture. (6 hours total per quarter)
An intermediate course in educational technology in the classroom and extends the topics in LINC 98A for educators, trainers, and instructional designers who want to develop student-centered lessons for the classroom or training environment. Focuses on collaborative technologies that can be used for student group work and project sharing. **FHGE: Non-GE; Transferable: CSU**

LIBRARY SCIENCE

Language Arts (650) 949-7608 www.foothill.edu/ol/

LIBR 10 RESEARCH PAPER SEARCH STRATEGIES 1 Unit
Formerly: LIBR 71
Advisory: Familiarity with Macs or PCs; not open to students with credit in LIBR 71.
1 hour lecture. (12 hours total per quarter)
Intended for students writing a research paper in another class. Strategies and methods to identify a research topic and then find and evaluate information in various formats to meet the identified information needed. Consideration of the ethical and legal uses of information. Interdisciplinary application of concepts, often covering multicultural topics. **FHGE: Lifelong Learning; Transferable: UC/CSU**

MATHEMATICS

Physical Sciences, Mathematics & Engineering (650) 949-7259 www.foothill.edu/psme/

MATH 1A CALCULUS 5 Units
Prerequisite: Satisfactory score on the mathematics placement test or MATH 48C.
Advisory: Demonstrated proficiency in English by placement into ENGL 1A as determined by score on the English placement test or through an equivalent placement process.
5 hours lecture. (60 hours total per quarter)
Introduction to differential calculus, including limits, derivatives and their applications to curve-sketching, families of functions, and optimization. **FHGE: Communication & Analytical Thinking; Transferable: UC/CSU**

MATH 1B CALCULUS 5 Units
Prerequisite: MATH 1A.
Advisory: Demonstrated proficiency in English by placement into ENGL 1A as determined by score on the English placement test or through an equivalent placement process.
5 hours lecture. (60 hours total per quarter)
Introduction to integral calculus including definite and indefinite integrals, the first and second Fundamental Theorems and their applications to geometry, physics, and the solution of elementary differential equations. **FHGE: Communication & Analytical Thinking; Transferable: UC/CSU**

MATH 1C CALCULUS 5 Units
Prerequisite: MATH 1B.
Advisory: Demonstrated proficiency in English by placement into ENGL 1A as determined by score on the English placement test or through an equivalent placement process.
5 hours lecture. (60 hours total per quarter)
Introduction to functions of more than one variable, including vectors, partial differentiation, the gradient, contour diagrams and optimization. Additional topics include infinite series, convergence and Taylor series. **FHGE: Communication & Analytical Thinking; Transferable: UC/CSU**

MATH 1D CALCULUS 5 Units
Prerequisite: MATH 1C.
Advisory: Demonstrated proficiency in English by placement into ENGL 1A as determined by score on the English placement test or through an equivalent placement process.
5 hours lecture. (60 hours total per quarter)
Introduction to integration of functions of more than one variable, including double, triple, flux and line integrals. Additional topics include polar, cylindrical and spherical coordinates, parameterization, vector fields, path-independence, divergence and curl. **FHGE: Non-GE; Transferable: UC/CSU**

MATH 2A DIFFERENTIAL EQUATIONS 5 Units
Formerly: MATH 12A
Prerequisite: MATH 1C.
Advisory: Demonstrated proficiency in English by placement into ENGL 1A as determined by score on the English placement test or through an equivalent placement process; not open to students with credit in MATH 12A.
5 hours lecture. (60 hours total per quarter)
Differential equations and selected topics of mathematical analysis. **FHGE: Non-GE; Transferable: UC/CSU**

MATH 2B LINEAR ALGEBRA 5 Units
Prerequisite: MATH 1C.
Advisory: Demonstrated proficiency in English by placement into ENGL 1A as determined by score on the English placement test or through an equivalent placement process.
5 hours lecture. (60 hours total per quarter)
A first course in Linear Algebra, including systems of linear equations, matrices, linear transformations, determinants, abstract vector spaces and subspaces, eigenvalues and eigenvectors, inner product spaces and orthogonality, and selected applications of these topics. **FHGE: Non-GE; Transferable: UC/CSU**

MATH 10 ELEMENTARY STATISTICS 5 Units
Prerequisite: Satisfactory score on the mathematics placement test or MATH 105 or 108.
Advisory: Demonstrated proficiency in English by placement into ENGL 1A as determined by score on the English placement test or through an equivalent placement process; UC will grant transfer credit for a maximum of one course from the following: PSYC 7, SOC 7 or MATH 10.
5 hours lecture. (60 hours total per quarter)
An introduction to modern methods of descriptive statistics, including collection and presentation of data; measures of central tendency and dispersion; probability; sampling distributions; hypothesis testing and statistical inference; linear regression and correlation; analysis of variance; use of microcomputers for statistical calculations. Illustrations taken from the fields of business, economics, medicine, engineering, education, psychology, sociology and from culturally diverse situations. **FHGE: Communication & Analytical Thinking; Transferable: UC/CSU**

MATH 11 FINITE MATHEMATICS 5 Units
Prerequisite: Satisfactory score on the placement test or MATH 105 or 108.
Advisory: Demonstrated proficiency in English by placement into ENGL 1A as determined by score on the English placement test or through an equivalent placement process.
5 hours lecture. (60 hours total per quarter)
Set theory, basic combinatorial analysis, introduction to probability, linear equations and inequalities, introduction to linear programming and the simplex method, introduction to matrix algebra with applications, Markov chains, game theory and mathematics of finance. **FHGE: Communication & Analytical Thinking; Transferable: UC/CSU**

MATH 12 CALCULUS FOR BUSINESS & ECONOMICS 5 Units
Prerequisite: MATH 48A.
Advisory: Demonstrated proficiency in English by placement into ENGL 1A as determined by score on the English placement test or through an equivalent placement process.
5 hours lecture. (60 hours total per quarter)
A study of the techniques of differential and integral calculus, with an emphasis on the application of these techniques to problems in business and economics. **FHGE: Non-GE; Transferable: UC/CSU**

MATH 22 DISCRETE MATHEMATICS 5 Units
Prerequisite: C S 1A; satisfactory score on the mathematics placement test or MATH 48C.
Advisory: Demonstrated proficiency in English by placement into ENGL 1A as determined by score on the English placement test or through an equivalent placement process; not open to students with credit in CIS 18 or C S 18.
5 hours lecture. (60 hours total per quarter)
Discrete mathematics: set theory, logic, Boolean algebra, methods of proof, mathematical induction, number theory, discrete probability, combinatorics, functions, relations, recursion, algorithm efficiencies, graphs, trees. **FHGE: Communication & Analytical Thinking; Transferable: UC/CSU**

MATH 42 MATH FOR ELEMENTARY SCHOOL TEACHERS 5 Units
Prerequisite: Appropriate placement score or completion of MATH 105 or 108 with a grade of C or better.
Advisory: Demonstrated proficiency in English by placement into ENGL 1A as determined by score on the English placement test or through an equivalent placement process.
5 hours lecture. (60 hours total per quarter)
Focuses on the development of quantitative reasoning skills through in-depth, integrated explorations of topics in mathematics, including real numbers systems and subsystems. Emphasis is on comprehension and analysis of mathematical concepts and applications of logical reasoning. **FHGE: Non-GE; Transferable: UC/CSU**

MATH 44 MATH FOR THE LIBERAL ARTS 5 Units
Prerequisite: Satisfactory score on the mathematics placement exam or MATH 105 or 108.
Advisory: Demonstrated proficiency in English by placement into ENGL 1A as determined by score on the English placement test or through an equivalent placement process.
5 hours lecture. (60 hours total per quarter)
A survey of mathematical models and other tools to introduce the nonspecialist to the methods of quantitative reasoning. Problem solving by Polya's method with analytic, numeric, graphical, and verbal investigation. Selecting, constructing, and using mathematical models. Interpreting quantitative results in qualitative context. Emphasis on deductive reasoning and formal logic; algebraic, exponential, logarithmic, and trigonometric models; probability and the normal distribution; data analysis; and selected topics from discrete math, finite math, and statistics. **FHGE: Communication & Analytical Thinking; Transferable: UC/CSU**

MATH 48A PRECALCULUS I 5 Units
Prerequisite: Satisfactory score on the mathematics placement test or MATH 105 or 108.
Advisory: Demonstrated proficiency in English by placement into ENGL 1A as determined by score on the English placement test or through an equivalent placement process; UC credit for MATH 48A, B & C is limited to a maximum of 7.5 units for the combination or any portion of the series completed.
5 hours lecture. (60 hours total per quarter)
Introduction to functions and families of functions including quadratics, polynomials, power and root functions, transformations of these functions, and their use in solving applications problems. **FHGE: Communication & Analytical Thinking; Transferable: UC/CSU**

MATH 48B PRECALCULUS II 5 Units
Prerequisite: MATH 48A.
Advisory: Demonstrated proficiency in English by placement into ENGL 1A as determined by score on the English placement test or through an equivalent placement process; UC credit for MATH 48A, B & C is limited to a maximum of 7.5 units for the combination or any portion of the series completed.
5 hours lecture. (60 hours total per quarter)
This course is a continuation of topics from MATH 48A. Topics include rational, exponential and logarithmic functions, piecewise functions, combination and composition of functions and an introduction to trigonometry. **FHGE: Communication & Analytical Thinking; Transferable: UC/CSU**

MATH 48C PRECALCULUS III 5 Units
Prerequisite: MATH 48B.
Advisory: Demonstrated proficiency in English by placement into ENGL 1A as determined by score on the English placement test or through an equivalent placement process; UC credit for MATH 48A, B & C is limited to a maximum of 7.5 units for the combination or any portion of the series completed.
5 hours lecture. (60 hours total per quarter)

This course is a continuation of topics from MATH 48B. Topics include the six trigonometric functions, trigonometric identities, inverse trigonometric functions, trigonometric equations, right triangles, oblique triangles, vectors, parametric equations, and modeling data with various functions. **FHGE: Communication & Analytical Thinking; Transferable: UC/CSU**

MATH 54H HONORS INSTITUTE SEMINAR IN MATHEMATICS 1 Unit
Formerly: MATH 34, 34H
Prerequisite: Honors Institute participant.
Advisory: Demonstrated proficiency in English by placement into ENGL 1A as determined by score on the English placement test or through an equivalent placement process; not open to students with credit in MATH 34 or 34H.
1 hour lecture. (12 hours total per quarter)
A seminar in directed readings, discussions and projects in mathematics. Specific topics to be determined by the instructor. **FHGE: Non-GE; Transferable: CSU**

MATH 57 INTEGRATED STATISTICS II 5 Units
Formerly: MATH 17
Prerequisite: MATH 217.
Advisory: Demonstrated proficiency in English by placement into ENGL 1A as determined by score on the English placement test or through an equivalent placement process; not open to students with credit in MATH 17.
5 hours lecture. (60 hours total per quarter)
The second of two in the Statway sequence. Covers concepts and methods of statistics with an emphasis on data analysis. Topics include methods for collecting data, graphical and numerical descriptive statistics, correlation, simple linear regression, basic concepts of probability, confidence intervals and hypothesis tests for means and proportions, chi-square tests, and ANOVA. Application problems will be taken from the fields of business, economics, medicine, engineering, education, psychology, sociology and from culturally diverse situations. This sequence is recommended for students with majors that require no mathematics beyond freshman-level statistics. **FHGE: Communication & Analytical Thinking; Transferable: CSU**

MATH 70R INDEPENDENT STUDY IN MATHEMATICS 1 Unit
MATH 71R 2 Units
MATH 72R 3 Units
MATH 73R 4 Units
3–12 hours per week. (36–144 hours total per quarter)
Provides an opportunity for the student to expand their studies in Mathematics beyond the classroom by completing a project or an assignment arranged by agreement between the student and instructor. The student is required to contract with the instructor to determine the scope of assignment and the unit value assigned for successful completion. Students may take a maximum of 6 units of Independent Study per department. **FHGE: Non-GE; Transferable: CSU**

MATH 105 INTERMEDIATE ALGEBRA 5 Units
Prerequisite: Satisfactory score on the mathematics placement test or MATH 220 or 224.
Advisory: Not open to students with credit in MATH 108.
5 hours lecture. (60 hours total per quarter)
Quadratic, polynomial, rational, radical, exponential and logarithmic functions and expressions with an emphasis on graphing and applications. **FHGE: Non-GE**

MATH 108 ACCELERATED ALGEBRA 10 Units
Prerequisites: Satisfactory score on the mathematics placement test, or successful completion of MATH 230, 230J & 234.
Advisory: Not open to students with credit in MATH 105.
10 hours lecture. (120 hours total per quarter)
This course will cover content from two algebra courses, beginning and intermediate algebra. The content consists of linear equations, linear inequalities, linear systems, polynomials with focus on quadratics, rationals, radicals, absolute values, exponential and logarithmic functions. Relationships between analytical, graphical, numerical, and verbal approaches will be emphasized. **FHGE: Non-GE**

MATH 217 INTEGRATED STATISTICS I 10 Units
Prerequisites: Satisfactory score on the mathematics placement test; MATH 230, 230J or 234.
Advisory: Demonstrated proficiency in English by placement into ENGL 1A as determined by score on the English placement test or through an equivalent placement process.
10 hours lecture. (120 hours total per quarter)
The first of two courses in the Statway sequence. Covers concepts and methods of statistics with an emphasis on data analysis. Topics include methods for collecting data, graphical and numerical descriptive statistics, correlation, simple linear regression, basic concepts of probability, confidence intervals and hypothesis tests for means and proportions, chi-square tests, and ANOVA. Application problems will be taken from the fields of business, economics, medicine, engineering, education, psychology, sociology and from culturally diverse situations. This sequence is recommended for students with majors that require no mathematics beyond freshman-level statistics. **FHGE: Non-GE**

MATH 220 ELEMENTARY ALGEBRA 5 Units
Prerequisites: Satisfactory score on the mathematics placement test; MATH 230, 230J & 234.
Advisory: Not open to students with credit in MATH 101 or 224.
5 hours lecture. (60 hours total per quarter)
Includes linear equations inequalities in one variable, graphs of linear and quadratic functions, solving linear systems, integer exponents, operations on polynomials, factoring, and proportional reasoning. **FHGE: Non-GE**

MATH 230 PREPARING FOR ALGEBRA: LINEAR EQUATIONS, PROPORTIONS & GEOMETRY 6 Units
Prerequisite: MATH 235.
Advisory: Pass/No Pass; not open to students with credit in MATH 200, 230J, or 234.
4 hours lecture, 6 hours laboratory. (120 hours total per quarter)
Review of order of operations with rational numbers. Introduction to algebraic concepts including solving first-degree equations and evaluating and simplifying expressions. Development and applications of ratios, proportions, percents, and geometric concepts. **FHGE: Non-GE**

MATH 230J PREPARING FOR ALGEBRA 3 Units
Prerequisite: Completion of 2 or more modules from MATH 230; permission of instructor.
3 hours lecture. (36 hours total per quarter)
Development and applications of percents and geometric concepts. Review of addition, subtraction, multiplication and division of whole numbers, fractions, decimals and signed numbers. Review of algebraic concepts including solving first-degree equations and evaluating and simplifying expressions, and applications of ratios and proportions. **FHGE: Non-GE**

MATH 235 PREPARING FOR ALGEBRA: REAL NUMBERS 6 Units
4 hours lecture, 6 hours laboratory. (120 hours total per quarter)
Addition, subtraction, multiplication and division of whole numbers, fractions, decimals and signed numbers. Order of operations with real numbers and applications of such operations. **FHGE: Non-GE**

MEDIA STUDIES

Fine Arts and Communication (650) 949-7262 www.foothill.edu/fa/

MDIA 1 INTRODUCTION TO FILM STUDIES 4 Units
Formerly: VART 1
Advisory: Not open to students with credit in F TV 1 or VART 1.
4 hours lecture, 1 hour laboratory. (60 hours total per quarter)
A survey of the language, technology, theory and aesthetics of the moving image as an art form. Emphasizes an introduction to the critical analysis of the film and video. **FHGE: Non-GE; Transferable: CSU; UC pending**

MDIA 2A HISTORY OF FILM 1895–1945 4 Units
Advisory: Not open to students with credit in F TV 2A or VART 2A.
4 hours lecture, 1 hour laboratory. (60 hours total per quarter)
Survey of the development of motion pictures from beginning to the l940s. Emphasis on understanding evolution of international filmmaking. **FHGE: Non-GE; Transferable: UC/CSU**

MDIA 2B HISTORY OF FILM 1945–CURRENT 4 Units
Formerly: VART 2B
Advisory: Not open to students with credit in F TV 2B or VART 2B .
4 hours lecture, 1 hour laboratory. (60 hours total per quarter)
A survey of the advancement of cinematic art from 1945 to the present. Investigation and critical analysis of influential films, prominent filmmakers, and technological developments. Study of the economic, regulatory, cultural, and artistic forces at work in the evolution of film. **FHGE: Non-GE; Transferable: CSU; UC pending**

MDIA 2C CURRENT TRENDS IN FILM, TV & THE INTERNET 4 Units
Formerly: VART 2C
Advisory: Not open to students with credit in F TV 2C or VART 2C.
4 hour lecture, 1 hour laboratory. (60 hours total per quarter)
Current trends of film, video, television, and internet media. Critical analysis of time based linear and non-linear visual media. Emphasis on the visual experience of communicating ideas, stories, and events. **FHGE: Humanities; Transferable: UC/CSU**

MDIA 3 INTRODUCTION TO FILM & MEDIA CRITICISM 4 Units
Advisory: ENGL 110.
4 hours lecture, 1 hour laboratory. (60 hours total per quarter)
An introduction to the critical analysis of film, television, and internet media. Explore and apply the core concepts and and language of media theory including approaches through semiotics, post-structuralism, psychoanalysis, multicultural analysis, gender and sexuality. **FHGE: Communication & Analytical Thinking; Transferable: UC/CSU**

MDIA 5 AMERICAN CINEMA 4 Units
Formerly: VART 3
Advisory: Not open to students with credit in F TV 3 or VART 3.
4 hours lecture, 1 hour laboratory. (60 hours total per quarter)
Introduction to American Film as a component of art, history, culture and business. How Hollywood has shaped an industry that has come to reflect many aspects of the American experience. American cinematic history, terminology, economic structure and cultural importance. Development of analysis and writing skills. **FHGE: Non-GE; Transferable: CSU; UC pending**

MDIA 6 FILM & NEW MEDIA GENRES 4 Units
Advisory: UC course transferability will be determined by the university after student transfers.
4 hours lecture, 1 hour laboratory. (60 hours total per quarter)
Analysis of specific genres within film and new media and their evolution. Specific genres will be explored considering their historic, aesthetic, structural, and cultural dimensions as well as their mode of screening and distribution. Genres include film noir, horror, science fiction, science fiction, disaster, musical, war, action-adventure, musical, romance, comedy. The genre studied will change each quarter. **FHGE: Non-GE; Transferable: UC/CSU**

MDIA 9 GLOBAL MEDIA 4 Units
Formerly: VART 8
Advisory: Not open to students with credit in VART 8.
4 hours lecture, 1 hour laboratory. (60 hours total per quarter)
Examines the economic, political and cultural dynamics that shape the international media environment, its central actors and institutions. **FHGE: Non-GE; Transferable: UC/CSU**

MDIA 11 INTRODUCTION TO POPULAR CULTURE 4 Units
Advisory: Not open to students with credit in F A 1.
4 hours lecture, 1 hour laboratory. (60 hours total per quarter)
Overview, history and critical analysis of popular culture as a window for understanding American society. Theories and methods of analyzing artifacts of popular culture. Overarching themes: history/social theories of popular culture; popular culture as a product of American multiculturalism; the relationship between a commodity culture and intellect/artistry; philosophical/ethical issues surrounding popular culture.
FHGE: Humanities; Transferable: UC/CSU

MDIA 12 POPULAR CULTURE & UNITED STATES HISTORY 4 Units
Formerly: F A 12
Advisory: Not open to students with credit in F A 2 or 12.
4 hours lecture, 1 hours laboratory. (60 hours total per quarter)
Interdisciplinary overview of popular culture as a window for understanding American history and society. Theories and methods of analyzing the artifacts of popular culture. Overarching themes: 1) interaction between American historical events and trends, and popular culture; 2) the interpretation of American history via popular culture media. **FHGE: United States Cultures & Communities; Transferable: UC/CSU**

MDIA 20 FUNDAMENTALS OF MEDIA PRODUCTION 4 Units
Formerly: VART 20
Advisory: Not open to students with credit in F TV 20, GID 20 or VART 20.
3 hours lecture, 2.5 hours lecture-laboratory. (66 hours total per quarter)
Basic instruction in concepts, techniques, and strategies of digital media production. Basic camera, lighting and sound recording will be covered through technical assignments. Emphasis on story telling, creative problem solving, web video production and distribution techniques. **FHGE: Non-GE; Transferable: UC/CSU**

MDIA 30 DIGITAL VIDEO EDITING I 4 Units
Formerly: F TV 84, VART 30 & 84
Advisory: Not open to students with credit in FTV 84, VART 30 or 84.
3 hours lecture, 2.5 hours lecture-laboratory. (66 hours total per quarter)
Basic instruction on the use of the computer for video and film editing. Theory and practice of cinematic editing which is explored through projects, screenings, class exercises, and demonstration. Topics include montage, pace and rhythm, openings, cutting dialogue, use of sound. **FHGE: Non-GE; Transferable: UC/CSU**

MDIA 31 DIGITAL VIDEO EDITING II 4 Units
Formerly: F TV 85, VART 31, VART 85
Advisory: MDIA 30; not open to students with credit in F TV 85, VART 31 or VART 85.
3 hours lecture, 2.5 hours lecture-laboratory. (66 hours total per quarter)
Continuation of MDIA 30. Further exploration of technical and aesthetic considerations in film and video editing. Address advanced topics in digital post-production. Software topics include sync, audio mixing, color correction, and compositing. **FHGE: Non-GE; Transferable: UC/CSU**

MDIA 32 MOTION GRAPHICS 4 Units
Formerly: VART 87
Advisory: Not open to students with credit in GID 47, 84, GRDS 87 or VART 87.
3 hours lecture, 3 hours laboratory. (72 hours total per quarter)
Basic instruction using the computer for motion graphic design, animation, and composite digital video production. Emphasis on time based media and its application to creative problem solving and communication solutions. **FHGE: Non-GE; Transferable: UC/CSU**

MDIA 40 DIGITAL SOUND, VIDEO & ANIMATION 4 Units
Formerly: VART 86
Advisory: Not open to students with credit in ART 88, DRAM 86, F TV 86, GID 45, 80, GRDS 86, MUS 12, 86 or VART 86.
3 hours lecture, 3 hours laboratory. (72 hours total per quarter)
Introductory instruction using the computer for time-based digital media technologies: digital sound editing and synchronization, digital video editing and production, and digital animated effects. Emphasis on time-based digital media and creative problem solving using current cross-platform software tools for sound design, video design, and animated effects. **FHGE: Non-GE; Transferable: UC/CSU**

MDIA 51 WEB VIDEO 4 Units
Formerly: VART 51
Advisory: Not open to students with credit in VART 15 or 51.
3 hours lecture, 2.5 hours lecture-laboratory. (66 hours total per quarter)
An introduction to new developments in the use of video on the internet. The course covers a variety of internet media concepts such as compression, streaming, podcasting, and RSS feeds. Students study both technical and aesthetic considerations for web video. **FHGE: Non-GE; Transferable: CSU**

MDIA 52 SCRIPTWRITING FOR FILM & VIDEO 4 Units
3 hours lecture, 2 hours lecture-laboratory. (60 hours total per quarter)
An introductory course in scriptwriting for film and video which covers the basic skills needed in scripting for the media. Emphasis will be on the development of visual sensitivity, the examination of sample scripts and experience in progressing from concept to finished script. The role of the script in media production and the appropriate formats for fiction and non-fiction scripts will also be examined.
FHGE: Non-GE; Transferable: CSU

MDIA 81B SOUND DESIGN FOR FILM & VIDEO 3.5 Units
Formerly: VART 81B
Advisory: Not open to students with credit in MUS 81B or VART 81B.
3 hours lecture, 1.5 hours laboratory. (54 hours total per quarter)
Creating and editing soundtracks and audio for digital video, music video and film. Recording live sound, and integrating sound effects from a digital library. Dialogue editing and re-recording (looping), and musical soundtrack creation. Synchronization of audio to video using timecode, aesthetic quality of sound and music as it relates to video content, and the production of video/audio projects using Final Cut Pro/Avid Media Composer and Pro Tools. **FHGE: Non-GE; Transferable: CSU**

MUSIC

Fine Arts and Communication (650) 949-7333 www.foothill.edu/music/

Foothill offers music activity courses in three different family categories. No single course may be repeated. Enrollment is limited to six courses per family within the Foothill-De Anza Community College District. Refer to the De Anza College Catalog for the corresponding families and courses.

Piano Class Applied Performance Family: MUS 12A, 12B, 12C
Voice Class Applied Performance Family: MUS 13A, 13B, 13C
Guitar Class Applied Performance Family: MUS 14A, 14B, 14C, 15A, 15B, 15C

MUS 1 INTRODUCTION TO MUSIC 4 Units
4 hours lecture, 1 hour laboratory. (60 hours total per quarter)
A study of Western music and its place in civilization. Selected listening and readings from the masterpieces of music of Europe and the Western Hemisphere with an emphasis on methods of comprehension, listening techniques, the elements of music, primary musical forms, and a wide range of concert repertoire. Includes a study of how social, political, philosophical, and other artistic developments outside of music influenced compositional thinking and how these were integrated into the different periods of Western musical history. A variety of media consisting of slides, videos, recordings, and lecture will be used. Live performance used when possible. **FHGE: Humanities; Transferable: UC/CSU**

MUS 2A GREAT COMPOSERS & MUSIC MASTERPIECES OF WESTERN CIVILIZATION 5 Units
4 hours lecture, 3 hours laboratory. (84 hours total per quarter)
An introduction to the great composers and music masterpieces of Western culture, including composer biographies with emphasis on how composers synthesize or transform the aesthetic ideals of their time. Examines how composers' music reflects their own lives as well as mirrors contemporary social, political, and religious events. Historical periods include the Ancient World and the Medieval, Renaissance, and Baroque eras. Composers include Josquin, Lassus, Palestrina, Monteverdi, Purcell, Vivaldi, Handel and Bach. **FHGE: Humanities; Transferable: UC/CSU**

MUS 2B GREAT COMPOSERS & MUSIC MASTERPIECES OF WESTERN CIVILIZATION 5 Units
4 hours lecture, 3 hours laboratory. (84 hours total per quarter)
Introduction to the great composers and music masterpieces of Western culture. Includes composer biographies with emphasis on how composers synthesize or transform the aesthetic ideals of their time. Examines how composers' music reflects their own lives as well as mirrors contemporary social, political, and religious events. Historical periods include the Classical period up through early Romanticism. Composers include Gluck, Haydn, Mozart, Beethoven, Schubert and Weber.
FHGE: Humanities; Transferable: UC/CSU

MUS 2C GREAT COMPOSERS & MUSIC MASTERPIECES OF WESTERN CIVILIZATION 5 Units
4 hours lecture, 3 hours laboratory. (84 hours total per quarter)
Introduction to the great composers and music masterpieces of Western culture. Includes composer biographies with emphasis on how composers synthesize or transform the aesthetic ideals of their time. Examines how their music reflects their own lives as well as mirrors contemporary social, political, and religious events. Historical periods are mid-19th Century Romanticism through the present. Composers include Schumann, Chopin, Mendelssohn, Brahms, Berlioz, Liszt, Tchaikovsky, Mussorgsky, Strauss, Verdi, Wagner, Bizet, Debussy, Ravel, Ives, Cowell, Bartok, Berg, Webern, Stravinsky, Copland, Varese, Babbitt, Cage, Crumb, Ligeti, Penderecki, Reich, Glass and Adams. **FHGE: Humanities; Transferable: UC/CSU**

MUS 2D WORLD MUSIC: ROOTS TO CONTEMPORARY GLOBAL FUSION 5 Units
4 hours lecture, 3 hours laboratory. (84 hours total per quarter)
A survey of world music styles from their roots in the ethnic traditions of a specific culture through their evolution into new forms that retain vitality and relevance in contemporary society. Traces the elements that make each style distinctive from a purely musical perspective as well as the social, historical, and cultural context that shaped each style's development. Styles include salsa, reggae, rai, Celtic, fado, flamenco, South African Township, Bollywood filmi, and more. **FHGE: Humanities; Transferable: UC/CSU**

MUS 2F HISTORY OF AMERICAN MUSICAL THEATRE 4 Units
Advisory: Not open to student with credit in THTR 2F.
4 hours lecture, 1 hour laboratory. (60 hours total per quarter)
An introductory survey of the history of the American musical theatre genre. Includes roots in British music halls, Viennese operetta and African American jazz through the golden age of the musical and up to the contemporary Broadway stage. Emphasis will be placed on genres and styles, as well as the key composers, lyricists, librettists, directors, producers, designers, choreographers and performers. Examines how the musical mirrors contemporary social and political events. **FHGE: Humanities; Transferable: UC/CSU**

MUS 3A BEGINNING MUSIC THEORY, LITERATURE & COMPOSITION 5 Units
Advisory: MUS 12A strongly recommended.
4 hours lecture, 2 hours lecture-laboratory. (72 hours total per quarter)
Introduction to the fundamentals of music and their application to composition and music literature. Notation, scales, intervals, triads, and their use in basic composition. Includes a study of how social, political, philosophical, and other artistic developments outside of music influenced compositional thinking and how these were integrated into the Baroque period of Western musical theory. **FHGE: Non-GE; Transferable: UC/CSU**

MUS 3B INTERMEDIATE MUSIC THEORY, LITERATURE & COMPOSITION 5 Units
Advisory: MUS 3A proficiency or equivalent.
4 hours lecture, 2 hours lecture-laboratory. (72 hours total per quarter)
Continuation of common practice procedures in music and their application to composition and music literature. Seventh chords, cadential chordal structures, secondary dominants and leading tone chords, modulation, binary and ternary form, sonata-allegro form, and variation technique. Includes a study of how social, political, philosophical, and other artistic developments outside of music influenced compositional thinking and how these were integrated into the late Classical and early Romantic periods of Western musical theory. **FHGE: Non-GE; Transferable: UC/CSU**

MUS 3C ADVANCED MUSIC THEORY, LITERATURE & COMPOSITION 5 Units
Advisory: MUS 3B proficiency or equivalent.
4 hours lecture, 2 hours lecture-laboratory. (72 hours total per quarter)
Continuation of late chromatic harmony and 20th Century compositional practice and theory. Application to composition and music literature. Impressionism, atonality, set theory, twelve-tone technique, graphic notation, and minimalism. Includes a study of how social, political, philosophical, and other artistic developments outside of music influenced compositional thinking and how these were integrated into Impressionism and Modernism in Western musical theory. **FHGE: Non-GE; Transferable: UC/CSU**

MUS 4 COMPOSING & ARRANGING WITH SIBELIUS 4 Units
Formerly: MUS 56
Advisory: Not open to students with credit in MUS 56.
3 hours lecture, 2 hours lecture-laboratory. (60 hours total per quarter)
Beginning composing and arranging with Avid Sibelius notation software. Integrate Sibelius with Pro Tools, MIDI virtual instruments and Reason. Traditional and contemporary orchestration techniques with MIDI score editing. Analyze scores from a variety of styles including classical, pop, jazz, R&B and hip hop. Learn to write basic lead sheets with lyrics using either notation or guitar tab. Compose arrangements for small ensembles all the way to large orchestral scores. Recommended for anyone considering a career in music, or songwriters who want to publish their music. Prior musical training is not required and there are no stylistic restrictions. **FHGE: Non-GE; Transferable: UC/CSU**

MUS 6 COMPOSING & PRODUCING ELECTRONIC MUSIC 4 Units

2 hours lecture, 2 hours lecture-laboratory, 3 hours laboratory. (84 hours total per quarter)

Introduction to the tools and techniques used to create and perform electronic music in a variety of styles. Programming of virtual analog and digital synthesizers, developing techniques for recording unique instruments and sounds, creating custom single and multi-sample patches using software samplers, using algorithmic composition tools and techniques, building interactive performance systems using object-oriented programming environments, and adapting hardware and software for live performance. **FHGE: Non-GE; Transferable: CSU; UC pending**

MUS 7 CONTEMPORARY MUSICAL STYLES: ROCK, POP & JAZZ 4 Units

4 hours lecture, 1 hour laboratory. (60 hours total per quarter)

Contemporary Musical Styles is a research and listening based survey course that begins with the roots in blues and continues with jazz, popular songs, and rock music of today. It is a social history of rock and roll that examines music before and after World War II, from the migration of the blues in the United States, to the social changes of the civil rights era of the 60s, to current times. The course will compare the historical and cultural context of popular lyrics in reference to contemporary, traditional, and folk styles by studying prominent musicians, genres, and songs associated with current musical idioms and social media. **FHGE: Humanities; Transferable: UC/CSU**

MUS 7D CONTEMPORARY MUSICAL STYLES: THE BEATLES IN THE CULTURE OF POPULAR MUSIC 4 Units

4 hours lecture, 1 hour laboratory. (60 hours total per quarter)

Continuation of jazz, popular, and rock music with a focus on the Beatles. Includes prominent albums and songs associated with the band's evolution and stature, and their synthesis of a wide variety of popular and non popular musical styles. Identifies the significant effects that Hindu religious beliefs, social and cultural diversity, and the language arts had on their music. Analyzes the sociological impact the Beatles' statements had on non-musical matters, such as politics, drugs, religion, etc. Examines the influences of pop music on the Beatles' early style as well as the group's own influence on music and pop culture in general. A variety of media consisting of videos, recordings, lecture, and live performance will be used. **FHGE: Humanities; Transferable: UC/CSU**

MUS 7E HISTORY OF THE BLUES 4 Units

4 hours lecture, 1 hour laboratory. (60 hours total per quarter)

The History of the Blues is a research based course that examines the geographical regions, social influences, technological innovations, and musical styles within the blues form. It is about the dissemination and popularization of the blues, the basic song form of African American origin that is marked by flatted "blue" notes. The course will cover the development of the blues in the United States throughout the 20th century. Emphasis will be on the creation of the 12 bar blues, its evolution into jazz, rhythm and blues, rock and roll, and its impact on social issues. **FHGE: Humanities; Transferable: UC/CSU**

MUS 7F MUSIC IN FILM 4 Units

4 hours lecture, 1 hour laboratory. (60 hours total per quarter)

A cross cultural study of how music propels the story line in motion pictures from symphonic scores to pop soundtracks comparing imagery, emotions, characterizations, rhythm, intervals, melody, and chords. A "music-in-film" history course that blends the study of film music composers with an analysis of musical techniques from the earliest examples of film sound to film noir, westerns to James Bond, Hitchcock to musicals, and the Golden Era of Hollywood to Star Wars. Students will differentiate between parallel, contrapuntal, and associative types of music in film. The goal of the class is to identify how music and culture function in film to highlight dialogue, reflect thoughts, create tension, and establish a sense of time and place. Previous musical knowledge is helpful, but not necessary. **FHGE: Non-GE; Transferable: UC/CSU**

MUS 8 MUSIC OF MULTICULTURAL AMERICA 5 Units

Advisory: Not open to students with credit in MUS 8H.

4 hours lecture, 3 hours laboratory. (84 hours total per quarter)

A comparative and integrative study of the multicultural musical styles of the United States, this class explores the musics of Native Americans, European Americans, African Americans, Chicano/Latino Americans, and Asian Americans from their historical roots to the present. It includes a wide variety of musical styles such as Folk, Spirituals, Gospel, Soul, Blues, Jazz, Cajun, Zydeco, Salsa, Tejano, Hip-Hop and Rap. Students will look at these musical traditions from a technical and a cultural perspective as they develop listening and descriptive skills. **FHGE: United States Cultures & Communities, Humanities; Transferable: UC/CSU**

MUS 8H HONORS MUSIC OF MULTICULTURAL AMERICA 5 Units

Prerequisite: Honors Institute participant.

Advisory: Not open to students with credit in MUS 8.

4 hours lecture, 3 hours laboratory. (84 hours total per quarter)

A comparative and integrative study of the multicultural musical styles of the United States, this class explores the musics of Native Americans, European Americans, African Americans, Chicano/Latino Americans, and Asian Americans from their historical roots to the present. It includes a wide variety of musical styles such as Folk, Spirituals, Gospel, Soul, Blues, Jazz, Cajun, Zydeco, Salsa, Tejano, Hip-Hop and Rap. Students will look at these musical traditions from a technical and a cultural perspective as they develop listening and descriptive skills. The honors course offers an enriched and challenging experience for the more talented student, including deeper content, more rigorous grading, and more demanding and creative assignments requiring application of higher-level thinking, writing, and communication skills. **FHGE: United States Cultures & Communities, Humanities; Transferable: UC/CSU**

MUS 9A MUSIC & MEDIA: EDISON TO HENDRIX 4 Units

Formerly: MUS 85A

Advisory: Not open to students with credit in MUS 85 or 85A.

4 hours lecture, 1 hour laboratory. (60 hours total per quarter)

Introductory study of the history and development of popular music from the inception of recording through the first televised performances of the Beatles in the U.S. Development of media delivery including recording, radio, television, and how those delivery systems changed both the content of music, and its use by the public. The influence of media on the development of styles such as jazz, swing, country, rockabilly and rock and roll, including societal changes brought about by media delivery of music and how it became associated with graphic imagery such as television and cinema. **FHGE: Non-GE; Transferable: UC/CSU**

MUS 9B MUSIC & MEDIA: HENDRIX TO HIP-HOP 4 Units

Formerly: MUS 85B

Advisory: Not open to students with credit in MUS 85B.

4 hours lecture 1 hour laboratory. (60 hours total per quarter)

Introductory study of the history and development of popular music from 1964 through the present in the U.S. The class will examine the development of media delivery systems after The Beatles' first appearances on television through the growth of rock and alternative styles. Styles and artist to be studied are such as punk, ska, the rebirth of country music and the rise of hip hop culture, examining artists such as Jimi Hendrix, Pink Floyd, David Bowie, Frank Zappa, Prince, The Police, Chuck D. and others. The class will study the development and growth of music videos as an art form and the delivery/promotional systems developed for them such as MTV. **FHGE: Non-GE; Transferable: UC/CSU**

MUS 10 MUSIC FUNDAMENTALS 4 Units

4 hours lecture, 1 hour laboratory. (60 hours total per quarter)

Beginning theory course where the basic elements of musicianship and harmony are explored through lecture, listening, and written assignments. Rudiments of music like pitch, rhythm, harmony, style, and form will be examined as rock and roll is analyzed through classical music theory. **FHGE: Non-GE; Transferable: UC/CSU**

MUS 11A JAZZ & SWING 4 Units

Formerly: MUS 64A

Advisory: Not open to students with credit in MUS 64A.

4 hours lecture, 1 hour laboratory. (60 hours total per quarter)

History and analysis of jazz styles and trends from the development of Ragtime to 1969. An introduction to the instruments, performers, composers, compositions and recordings that defined jazz before the introduction of rock as the primary commercial music style in the US. Presentation of jazz and swing recordings, videos and print resources. Major artists include Louis Armstrong, Duke Ellington, Benny Goodman, Glenn Miller, Lionel Hampton, Count Basie, Charlie Parker, Dizzy Gillespie, Miles Davis, Sonny Rollins, Charles Mingus and John Coltrane. Style periods include Early ('Dixieland'), Big Band, Jump, Swing, Bebop, Hard Bop, Cool, Modal, and Avant-Garde Jazz. **FHGE: Non-GE; Transferable: UC/CSU**

MUS 11B FUNK, FUSION & HIP-HOP 4 Units
Formerly: MUS 64B
Advisory: Not open to students with credit in MUS 64B.
4 hours lecture, 1 hour laboratory. (60 hours total per quarter)
History and analysis of funk, fusion and Hip Hop styles from 1969 to the present. An introduction to the instruments, performers, composers, compositions and recordings that defined/define funk, fusion & Hip Hop from the collapse of traditional jazz and the introduction of funk and jazz fusion to the present. Presentation of recordings, videos and print resources. Major artists include Miles Davis, Herbie Hancock, James Brown, Sly Stone, Weather Report, Wayne Shorter, George Clinton and P-Funk, Jaco Pastorius, Pat Metheny, Grandmaster Flash, Africa Bambaataa, Chuck D. and Dr. Dre. Style periods include Early Jazz Fusion, Early Funk, East Bay Funk, Groove and Smooth Jazz, Modern Fusion, Early Hip Hop and Commercial Rap. **FHGE: Non-GE; Transferable: UC/CSU**

MUS 11C SALSA & LATIN JAZZ 4 Units
Formerly: MUS 64C
Advisory: Not open to students with credit in MUS 64C.
4 hours lecture, 1 hour laboratory. (60 hours total per quarter)
History and analysis of Afro-Caribbean musical styles that have developed into modern Salsa and Latin Jazz. An introduction to the instruments, performers, composers, compositions and recordings that defined/define Salsa and Latin Jazz. Presentation of recordings, videos and print resources. Major artists include Tito Puente, Machito, Perez Prado, Eddie Palmieri, Giovanni Hidalgo, Israel 'Cachao' Lopez, Mario Bauza, Frankie Ruiz, Celia Cruz, Luis Enrique, Paquito D'Rivera, Poncho Sanchez, Chucho Valdez, and others. Styles include Danzon, Son, Mambo, Rhumba, Guaguanco, Guaracha, Son Montuno, Cha Cha, Guajira, Cumbia, Plena, Bomba, Merengue and others. **FHGE: Non-GE; Transferable: UC/CSU**

MUS 11D HISTORY OF ELECTRONIC MUSIC: 1867–1970 4 Units
4 hours lecture, 1 hour laboratory (60 hours total per quarter)
The impact of electronic musical instruments and electronic musical technology on the creation of music. Origins in the late 19th and early 20th century and the subsequent development of the first electronic instruments. Emergence of new musical styles including electroacoustic music, music concréte, and elektronische musik. The first use of computers in music. Performance with live electronics. The introduction of the synthesizer and the rise of mainstream electronic music. In addition, students will analyze historically significant works from the experimental art music of the mid-20th century through the popular forms of the 1960s. **FHGE: Non-GE; Transferable: CSU; UC pending**

MUS 11E HISTORY OF ELECTRONIC MUSIC: 1970–PRESENT 4 Units
4 hours lecture, 1 hour laboratory. (60 hours total per quarter)
Explore the emergence of electronic music styles, instruments and recording techniques as dominant forces in the music world of the late 20th and early 21st centuries. Widespread incorporation of electronic instruments in recorded music, television, film and live performance. Development and popularization of portable music synthesizers. Emergence of new musical styles including ambient, techno and trance. The effect of advances in computer technology on the creation, recording and performance of electronic music. Comparison of analog and digital music synthesis techniques. In addition, students will analyze historically significant works of the time period, ranging from academic experiments to popular hits. **FHGE: Non-GE; Transferable: CSU; UC pending**

MUS 11F VIDEO GAMES & POPULAR CULTURE 4 Units
4 hours lecture, 1 hour laboratory. (60 hours total per quarter)
The impact of games and game technology on popular culture. Topics will include early history including the first games and their broader impact on the development of computer technologies, the birth of the arcade game beginning with Atari's Pong and resulting in a multi-billion dollar industry, eight generations of home video game consoles from the Magnavox Odyssey through the present day, the appearance of the home computer and its impact on video games, the evolution of the handheld game console from simple LCD games through current mobile devices , and online gaming from the early dial-up bulletin board systems through the current massively multi-player online roll-playing games. For each historical era, the influence of video games on popular culture will be demonstrated through film, television, and music. **FHGE: Non-GE; Transferable: CSU; UC pending**

MUS 12A BEGINNING CLASS PIANO 2 Units
Advisory: Concurrent enrollment in MUS 10; this course is included in the Piano Class Applied Performance family of activity courses.
2 hours lecture, 1 hour laboratory. (36 hours total per quarter)
Group instruction in piano for those with no previous training. Emphasis is on finger technique, note reading, elementary chording, and performance of simple piano literature. For music majors as well as the general student. **FHGE: Non-GE; Transferable: UC/CSU**

MUS 12B INTERMEDIATE CLASS PIANO 2 Units
Advisory: MUS 12A or equivalent skills; this course is included in the Piano Class Applied Performance family of activity courses.
2 hours lecture, 1 hour laboratory. (36 hours total per quarter)
Continuation of MUS 12A with increased emphasis on good tone production, independence of hands, development of eye-hand coordination, simple harmonization and transposition, and building repertoire. **FHGE: Non-GE; Transferable: UC/CSU**

MUS 12C ADVANCED CLASS PIANO 2 Units
Advisory: MUS 12B or equivalent skills; this course is included in the Piano Class Applied Performance family of activity courses.
2 hours lecture, 1 hour laboratory. (36 hours total per quarter)
Continuation of MUS 12B with greater emphasis on building a repertoire, varied styles of performance, and ensemble playing. **FHGE: Non-GE; Transferable: UC/CSU**

MUS 13A CLASS VOICE I 4 Units
Advisory: Concurrent enrollment in MUS 12A; this course is included in the Voice Class Applied Performance family of activity courses.
4 hours lecture. (48 hours total per quarter)
An introduction to the fundamental techniques of vocal production and performance. Group vocal instruction with the potential to sing in a variety of musical styles. Emphasis on understanding the basic foundation of a healthy vocal technique and integrating that technique into songs. Topics include warm-up techniques, breath support, tone production, musical phrasing, diction and text communication, as well as an introduction to standard vocal repertoire and associated performance practices. **FHGE: Non-GE; Transferable: UC/CSU**

MUS 13B CLASS VOICE II 4 Units
Prerequisite: MUS 13A.
Advisory: Concurrent enrollment in MUS 12A or equivalent skills; this course is included in the Voice Class Applied Performance family of activity courses.
4 hours lecture. (48 hours total per quarter)
A continuation at the intermediate level of MUS 13A with increased emphasis on tone production and support, expansion of vocal range, differentiate between the various styles of singing studied: classical, legitimate, mix and belt, develop more complex repertoire in a variety of languages, attention to communication of text and character development, simple choral harmonies, and rehearsal practices with an accompanist. **FHGE: Non-GE; Transferable: UC/CSU**

MUS 13C CLASS VOICE III 4 Units
Prerequisite: MUS 13B.
Advisory: Concurrent enrollment in MUS 12A or equivalent skills; this course is included in the Voice Class Applied Performance family of activity courses.
4 hours lecture. (48 hours total per quarter)
A continuation at the advanced level of MUS 13B with increased emphasis on more advanced and subtle concepts of vocal production. Emphasis on understanding and managing vocal passaggios, expansion of vocal styles to include classical and/or complex musical theatre repertoire. Small ensembles of duets or trio's with independent vocal lines and full communication of character will be introduced. Emphasis on ensemble building and collaboration with accompanist. **FHGE: Non-GE; Transferable: UC/CSU**

MUS 14A BEGINNING CLASSICAL GUITAR 2 Units
Advisory: This course is included in the Guitar Class Applied Performance family of activity courses.
2 hours lecture, 1 hour laboratory. (36 hours total per quarter)
A guitar fundamentals course that places emphasis on reading standard notation in the first position. Techniques such as rest stroke, free stroke, and correct left hand position are covered. Fundamental exercises and pieces will be played by the student in class as the instructor provides accompaniment. Includes an overview of the literature and the major performers of the classical guitar. No public performances are required. **FHGE: Non-GE; Transferable: UC/CSU**

MUS 14B INTERMEDIATE CLASSICAL GUITAR 2 Units
Advisory: MUS 14A; this course is included in the Guitar Class Applied Performance family of activity courses.
2 hours lecture, 1 hour laboratory. (36 hours total per quarter)
Continuation of MUS 14A. Covers more advanced techniques for the right and left hands. Includes reading standard notation up to the 5th position. Increased emphasis is placed on solo guitar literature in addition to ensemble literature. No public performances are required. **FHGE: Non-GE; Transferable: UC/CSU**

MUS 14C ADVANCED CLASSICAL GUITAR 2 Units
Advisory: MUS 14B; this course is included in the Guitar Class Applied Performance family of activity courses.
2 hours lecture, 1 hour laboratory. (36 hours total per quarter)
Continuation of MUS 14B. Covers more advanced techniques for the right and left hands. Includes reading standard notation up to the 9th position. Includes more complex solo ensemble literature. Additional class time is spent with lectures, demonstrations and performances. No public performances are required. **FHGE: Non-GE; Transferable: UC/CSU**

MUS 15A BEGINNING ACOUSTIC GUITAR TECHNIQUES 2 Units
Advisory: This course is included in the Guitar Class Applied Performance family of activity courses.
2 hours lecture, 1 hour laboratory. (36 hours total per quarter)
A performance based course in beginning guitar (nylon, steel, or electric guitar) with a concentration on folk music. Traditional and popular songs will be used to demonstrate the development of right and left hand techniques. Standard music notation, tablature, and chord symbols will be presented and students can choose instrumental or popular vocal selections to play. **FHGE: Non-GE; Transferable: UC/CSU**

MUS 15B INTERMEDIATE ACOUSTIC GUITAR TECHNIQUES 2 Units
Prerequisite: MUS 15A or equivalent.
Advisory: This course is included in the Guitar Class Applied Performance family of activity courses.
2hours lecture, 1 hour laboratory. (36 hours total per quarter)
Development of traditional finger-picking style playing and picking techniques. Solo and ensemble performance on an intermediate level. Emphasis on reading traditional notation, chord symbols and tablature. **FHGE: Non-GE; Transferable: UC/CSU**

MUS 15C ADVANCED ACOUSTIC GUITAR TECHNIQUES 2 Units
Prerequisite: MUS 15B or equivalent.
Advisory: This course is included in the Guitar Class Applied Performance family of activity courses.
2 hours lecture, 1 hour laboratory. (36 hours total per quarter)
Instruction in the playing of popular and folk guitar with an emphasis on finger-picking, barre chords, and altered tunings. Sight reading in tablature, chord symbols, and standard notation. Instrumental Blues and blues scales will be covered. **FHGE: Non-GE; Transferable: UC/CSU**

MUS 41 LIVE MUSIC PERFORMANCE WORKSHOP 2 Units
1 hour lecture, 3 hours laboratory. (48 hours total per quarter)
Seminar-style course provides a forum for performing and presenting music and multimedia work, receiving constructive feedback, and encountering a broad diversity of styles in the work of others. All music performance practices are welcome, including electronic and visual media that integrate music. A wide range of musical styles will be explored including Folk, Reggae, Jazz, Blues, Electronic, and Classical. Students may use traditional acoustic, electric, and software based virtual instruments. In addition to standard repertoire, the course provides an opportunity for performance of original compositions. Students will gain music performing experience and also learn the technical side of sound reinforcements systems, concert promotion and stage management. The culmination of the student's work for the quarter will be participation in a live music concert. **FHGE: Non-GE; Transferable: UC/CSU**

MUS 50A MUSIC BUSINESS 4 Units
4 hours lecture, 1 hour laboratory. (60 hours total per quarter)
Study of legal and business aspects of the music industry. Emphasis on publishing, licensing, and promotion. Copyright law, interaction between songwriters and music publishers, record companies, distributors and the rules that govern them. How music is licensed, service marks, trademarks and patents. The role of lawyers, agents, personal managers, producers and promoters. Licensing and copyright of intellectual properties in the growing multimedia industry and the internet. Synchronization of music in film, video and television. Career development and how major/independent labels market and distribute media. **FHGE: Non-GE; Transferable: CSU**

MUS 50B ENTERTAINMENT LAW & NEW MEDIA 4 Units
4 hours lecture, 1 hour laboratory. (60 hours total per quarter)
In-depth study and discussion of entertainment law as it applies to the emerging new media market and the music industry. Internet sales and distribution for new media, file sharing, licensing for the web, and digital copyright considerations. Promotional packages, web site development, delivery systems, career promotion strategies, contracts and touring. In-depth analysis of contracts and regulations/ potential of starting an independent media production company, record label, or online retail site. Sampling licenses/international copyright law and publishing. **FHGE: Non-GE; Transferable: CSU**

MUS 50C CAREERS IN MUSIC 4 Units
Formerly: MUS 65
Advisory: Not open to students with credit in MUS 65.
4 hours lecture, 1 hour laboratory. (60 hours total per quarter)
An overview of the music industry and its career opportunities. Areas of study include studio management and engineering, music merchandising on the local and national levels, artist promotion, concert promotion, concert management, music contracting, graphic support in music recording, the role of the agent/personal manager, technical support in electronic music, technical support in traditional music, video and film production and editing, instrument maintenance and repair, and music retailing. Guest lectures from local industry professionals, field trips to studios, production facilities and retail facilities. **FHGE: Non-GE; Transferable: CSU**

MUS 50D INTRODUCTION TO THE VIDEO GAME BUSINESS 3.5 Units
2.5 hours lecture, 3 hours laboratory. (66 hours total per quarter)
Introduction to the video game business including how games are designed, manufactured,marketed and distributed. Examines the differences between game publishers and game developers. Breaks down different career paths in the industry and how their roles are integrated such as producers, artists, programmers, marketers, testers, etc. Covers the various market places for games and how they differ. **FHGE: Non-GE; Transferable: CSU**

MUS 51 BASICS OF MUSIC PUBLISHING 3.5 Units
Formerly: MUS 18, MUS 59
Advisory: Not open to students with credit in MUS 18 or 59.
2 hour lecture, 1 hour lecture-laboratory, 3 hours laboratory. (72 hours total per quarter)
Prepares the student to navigate the music publishing business by eliminating the legalese and explaining the business in everyday language. Class includes writing original songs for review. Active listening and constructive critiquing of original student compositions. **FHGE: Non-GE; Transferable: CSU**

MUS 58A SONGWRITER'S WORKSHOP 3.5 Units
2 hours lecture, 1 hour lecture-laboratory, 3 hours laboratory. (72 hours total per quarter)
Workshop course for beginning songwriters that focuses on basic songwriting styles and techniques. Different songwriting basic methods are presented. Students are assigned weekly songwriting projects. Class is appropriate for basic levels of songwriting competency. **FHGE: Non-GE; Transferable: CSU**

MUS 58B MODERN SONG COMPOSITION 3.5 Units
2 hours lecture, 1 hour lecture-laboratory, 3 hours laboratory. (72 hours total per quarter)
Workshop course for intermediate songwriters that focuses on contemporary and songwriting methodology. Different songwriting components and structures are presented. Students are assigned weekly songwriting projects and are expected to submit finished songs with all the necessary components. Course includes analytical listening and discussion of various songwriting styles. Class is appropriate for medium levels of songwriting competency. **FHGE: Non-GE; Transferable: CSU**

MUS 58C ADVANCED SONG STRUCTURE 3.5 Units
2 hours lecture, 1 hour lecture-laboratory, 3 hours laboratory. (72 hours total per quarter)
Workshop course for advanced songwriters that focuses on higher-level topics such as Self Criticism, Rewriting and Co-Writing. Demonstrations of the practical use of technique and an understanding of the works of the most accomplished professional

songwriters. Class is appropriate for advanced levels of songwriting competency. **FHGE: Non-GE; Transferable: CSU**

MUS 60A PRODUCING IN THE HOME STUDIO I 4 Units
4 hours lecture, 1 hour laboratory. (60 hours total per quarter)
Design, set up and operation of an audio/video recording studio in a small environment. Space considerations, electrical requirements and acoustic treatment options. Computer requirements including processor speed, memory requirements, data storage devices and monitor selection/placement. MIDI keyboard types and compatibility, mixer selection and setup, cable selection and care, microphone design, and USB/firewire interface options. Software programs and compatibility issues. How to produce recordings from start to finish in a home studio. **FHGE: Non-GE; Transferable: CSU**

MUS 60B PRODUCING IN THE HOME STUDIO II 4 Units
3 hours lecture, 3 hours laboratory. (72 hours total per quarter)
In-depth operation of an audio/video recording studio in a small environment. Microphone selection and placement, creative sound treatments in non-traditional environments, and application of plug-in effects. Use of auxilliary tracks and busses. Mixing and mastering in various digital formats. **FHGE: Non-GE; Transferable: CSU**

MUS 60C MASTERING, MARKETING & MANAGING YOUR MUSIC 4 Units
4 hours lecture, 1 hours laboratory. (60 hours total per quarter)
Post Production, manufacturing, graphic design, marketing and managing all the aspects of a CD release from the mastering of an audio recording to sales and promotions of the final product. Creating a business, a publishing company, obtain copyrights for sampled audio or works of other artists, protect and promote original music. Create an image, photography and press kits for promotional campaigns, marketing, merchandise and sales. Making artistic and business decisions, working with manufacturing companies and graphic artists to create the final product for sale. **FHGE: Non-GE; Transferable: CSU**

MUS 62 SOUND REINFORCEMENT & LIVE RECORDING 4 Units
2 hours lecture, 2 hours lecture-laboratory, 3 hours laboratory. (84 hours total per quarter)
Setup and operation of live sound reinforcement systems. Basic design and operation of analog and digital mixing boards. Microphone type, design, construction and selection. Loudspeaker monitor systems and their application with musical groups and performers. Stereo and multichannel recording techniques for live concert productions. Practice with live musicians in practice and performance settings. Location field recording dialog and ambient sound effects for film and TV synchronized to digital video. **FHGE: Non-GE; Transferable: CSU**

MUS 66A INTRODUCTION TO DIGITAL AUDIO: PRO TOOLS 4 Units
2 hours lecture, 2 hours lecture-laboratory, 3 hours laboratory. (84 hours total per quarter)
Introduction to creating music with computers, keyboards, audio samples and beats using Pro Tools. Basic principles and use of MIDI sequencing/audio software. Songwriting, musical composition, and the basic elements of music (pitch, rhythm, harmony, style and form) as they relate to contemporary music. Basic music production using Pro Tools. All styles are included, and prior musical training is not required. **FHGE: Non-GE; Transferable: CSU**

MUS 66B REASON & PRO TOOLS 4 Units
2 hours lecture, 2 hours lecture-laboratory, 3 hours laboratory. (84 hours total per quarter)
Creating and editing digital audio with Pro Tools and Reason. Introduction to Reason's virtual instruments including Dr. Rex, Subtractor, Malstrom, Thor, Redrum and NN-XT. Songwriting, musical composition, and the basic elements of music (pitch, rhythm, harmony, style and form) as they relate to contemporary music. Introduction to synthesis and digital sampling techniques. Integrate Reason and Pro Tools using ReWire, Pro Tools MIDI Editor and the Pro Tools Mixer. **FHGE: Non-GE; Transferable: CSU**

MUS 66C PRO TOOLS & VIRTUAL INSTRUMENTS 4 Units
2 hours lecture, 2 hours lecture-laboratory, 3 hours laboratory. (84 hours total per quarter) Creating and editing digital audio with Pro Tools and virtual instruments. Avid Pro Tools plug-ins including Boom, Vacuum, Xpand, Structure and Mini Grand. Third party software includes Native Instruments Kontakt, Reason and Ableton Live. History of sampling and loop based compositional techniques. Create, edit, and arrange drum beats. Configure filters, envelopes, modulation, and arpeggiators. Modify all synthesizer parameters to create unique sounds. Utilize Pro Tools MIDI Editor and Score Editor. Analyze variety of musical styles utilizing MIDI and Virtual Instruments for composition and production. Examples from recording artists including The Beatles, Dr. Dre, Michael Jackson, Peter Gabriel, Radiohead, Herbie Hancock, Rachmaninov and Miles Davis. Organize sound libraries for music production, TV, film, websites and video games. **FHGE: Non-GE; Transferable: CSU**

MUS 66D MAKING MUSIC WITH THE APPLE IOS 4 Units
4 hours lecture, 1 hour laboratory. (60 hours total per quarter)
Study of music creation applications and practices on Apple iOS-based devices (iPod Touch, iPhone, iPad). Primary emphasis on music sequencing, music performance, audio distribution and music theory. Secondary emphasis on audio sampling, recording and mixing. iOS-compatible audio, MIDI and video interfaces. USB and wireless syncing. Inter-app protocols such as AudioCopy/AudioPaste and Virtual MIDI. **FHGE: Non-GE; Transferable: CSU**

MUS 66E PRODUCING MUSIC WITH ABLETON LIVE 4.5 Units
4 hours lecture, 2 hours laboratory. (72 hours total per quarter)
Producing music with Ableton Live software. Compose, record, remix, improvise, produce and edit music. Study Ableton Live interface, edit audio, use plug-ins, MIDI sequencing and realtime mixing techniques. Compile live sets from audio clips, loops, samples in realtime and create songs in a variety of styles including R&B, Hiphop, Trance, Drum and Bass, and House Music. Integrate Ableton Live with Pro Tools for final mixing and delivery to dance clubs, radio stations and iTunes. **FHGE: Non-GE; Transferable: CSU**

MUS 66F PRODUCING MUSIC WITH LOGIC PRO 4.5 Units
4 hours lecture, 2 hours laboratory. (72 hours total per quarter)
Producing Music with Apple Logic Pro software. Understanding the Logic Pro interface, windows and editors, navigation, key commands and screensets. MIDI editing, MIDI real-time control, audio recording and editing, and working with QuickTime video. Explore Logic Pro software instruments, including the ES2, EXS-24, Sculpture, UltraBeat, subtractive synthesizers and vintage instruments. Study critical listening examples with interactive demos and tutorials. Elements of production design, music composition and song form, arrangement tools and mixing techniques. **FHGE: Non-GE; Transferable: CSU**

MUS 70R INDEPENDENT STUDY IN MUSIC/ MUS 71R MUSIC TECHNOLOGY 1 Unit 2 Units MUS 72R 3 Units MUS 73R 4 Units
3–12 hours per week. (36–144 hours total per quarter)
Provides an opportunity for the student to expand their studies in Music or Music Technology beyond the classroom by completing a project or an assignment arranged by agreement between the student and instructor. The student is required to contract with the instructor to determine the scope of assignment and the unit value assigned for successful completion. Students may take a maximum of 6 units of Independent Study per department. **FHGE: Non-GE; Transferable: CSU**

MUS 80A RECORDING STUDIO BASICS 4 Units
2 hours lecture, 2 hours lecture-laboratory, 3 hours laboratory. (84 hours total per quarter)
Introduction to fundamental concepts and techniques of mixing boards, amplifiers, microphones, signal processors and their application to both live and studio sound reinforcement. Basic introduction to computer based recording with Avid Pro Tools HD systems. Microphone placement, physics of sound as it relates to recording, sound reinforcement and studio setup techniques. **FHGE: Non-GE; Transferable: CSU**

MUS 81A RECORDING STUDIO PRODUCTION TECHNIQUES 4 Units
Advisory: Not open to students with credit in MUS 81.
2 hours lecture, 2 hours lecture-laboratory, 3 hours laboratory. (84 hours total per quarter)
Introduction to multitrack recording and production using AVID Pro Tools HD systems. Contemporary recording studio production techniques including microphone selection, placement, analog and digital signal paths, speaker monitors and studio acoustics. Techniques for recording drums, bass, piano, guitar, woodwinds, strings and vocals. Practical hands-on experience with professional recording artists and student collaborations. **FHGE: Non-GE; Transferable: CSU**

MUS 81B SOUND DESIGN FOR FILM & VIDEO 3.5 Units
Advisory: Not open to students with credit in VART 81B.
3 hours lecture, 1.5 hours laboratory. (54 hours total per quarter)
Creating and editing soundtracks and audio for digital video, music video and film. Recording live sound, and integrating sound effects from a digital library. Dialogue editing and re-recording (looping), and musical soundtrack creation. Synchronization of audio to video using timecode, aesthetic quality of sound and music as it relates to video content, and the production of video/audio projects using Final Cut Pro/Avid Media Composer and Pro Tools. **FHGE: Non-GE; Transferable: CSU**

MUS 81C MIXING & MASTERING WITH PRO TOOLS 4 Units
2 hours lecture, 2 hours lecture-laboratory, 3 hours laboratory. (84 hours total per quarter)
Mixing and mastering multitrack recordings using Pro Tools. EQ, compression, reverb, delays, tempo maps, harmonic distortion, multi-band compression. Comparison and contrast of various styles of mixing including jazz, classical, country, rock, hip hop and electronica etc. Example exercises featuring professional recordings and mixes. Understanding and applying mixing concepts such as balance, dimension, and monitoring. Deliver final mixes that translate accurately to various speaker systems and listening environments. **FHGE: Non-GE; Transferable: CSU**

MUS 81D PRO TOOLS & PLUG-INS I 4 Units
2 hours lecture, 2 hours lecture-laboratory, 3 hours laboratory. (84 hours total per quarter)
Creative applications of Pro Tools hardware and software Plug-Ins used in contemporary music production and sound design. Signal processing, equalization, compression, Beat Detective, distortion, reverb, delay, pitch correction, modulation, advanced plug-in automation techniques. Compare plug-ins and processors from different companies including Sonnox, McDSP, Massey, Avid, Antares and Waves. Waves Certification Program textbook provides high-quality, standardized means of mastering Waves plug-ins. Successful completion achieves Waves Certification Level A. **FHGE: Non-GE; Transferable: CSU**

MUS 81E PRO TOOLS & PLUG-INS II 4 Units
2 hours lecture, 2 hours lecture-laboratory, 3 hours laboratory. (84 hours total per quarter)
Audio processing and mixing techniques using Pro Tools Plug-Ins with Waves Gold Certification Training material. Study and compare plug-ins from different manufactures including Sonnox, McDSP, Massey, Avid, Antares and Waves. Drum sample triggering and audio quantizing techniques. Apply Melodyne and Autotune pitch correction, EQ and compression, Elastic Audio editing. Sound restoration plug-ins, forensic audio enhancement, convolution reverbs, virtual instruments, advanced plug-in automation and signal processing techniques. Example exercises include sound design plug-ins for music, film, and video games. Successful completion achieves Waves Gold Level Certification. **FHGE: Non-GE; Transferable: CSU**

MUS 81F MUSIC VIDEO PRODUCTION 4 Units
Advisory: MDIA 20, MUS 81B.
3 hours lecture, 2.5 hours lecture-laboratory. (66 hours total per quarter)
Beginning digital video production course. Learning the basics of digital video production by shooting a music video. Music videos provide a unique opportunity to look at the moving image from the perspective of a recorded piece of music. Ideal platform for developing essential technical skills while learning the importance of aesthetic choices in the video production process. Emphasis on the aesthetics and technical aspects of video camera operation; pre-production planning, including collaboration, visualization, and storyboarding; production techniques and concepts such as mise-en-scene , set design, and lighting. Emphasis on visual story telling and creative problem solving. **FHGE: Non-GE; Transferable: CSU**

MUS 81G ADVANCED MIXING & MASTERING WITH PRO TOOLS 4 Units
2 hours lecture, 2 hours lecture-laboratory, 3 hours laboratory. (84 hours total per quarter)
Advanced mixing and mastering techniques with Pro Tools. EQ, compression, reverb, delays and tempo maps as applied to all styles of music including jazz, pop, rock, hip-hop, orchestral and electronica. Apply critical listening to mixes and enhance mixes with automation, audio plug-ins and external hardware equipment. Use multi-band compression and advancing audio processing in mastering. Study mixes of professional audio engineers and recording artists. Prepare to work in commercial production facilities and apply these techniques in a home studio. Learn professional collaboration workflows, file management and delivery to a wide range of formats including CD, DVD, MP3 and Internet Streaming. Although this course uses Pro Tools, the concepts and techniques can be applied to any digital audio workstation (Logic, Cubase etc.) or any traditional analog mixing console. **FHGE: Non-GE; Transferable: CSU**

MUS 81J SURROUND SOUND PRODUCTION 4 Units
2 hours lecture, 2 hours lecture-laboratory, 3 hours laboratory. (84 hours total per quarter)
Record, mix, and produce surround music with digital audio workstations. Calibrating surround speaker systems, recording surround music in the studio and concert hall, multichannel mixing for music and post, processing source sound elements using surround reverbs and delays, mastering music and post sessions to industry specifications, and encoding mixes into popular surround formats. Analysis of historically significant surround sound music recordings and film soundtracks. **FHGE: Non-GE; Transferable: CSU**

MUS 82A PRO TOOLS 101: INTRODUCTION TO PRO TOOLS 4 Units
2 hours lecture, 2 hours lecture-laboratory, 3 hours laboratory. (84 hours total per quarter)
Introduction to Pro Tools with Avid Certification training material. Basic audio editing tools and techniques, plug-ins and mixing in the Pro Tools environment. Build sessions that include multitrack recordings of live instruments, MIDI sequences, virtual instruments, audio loops and beats. Practical experience with examples from major label recording artists and feature films. Understanding menus, windows, preferences and system configurations for Pro Tools in home studios and professional facilities. Intro to automation, dialog editing and audio post production for film and video. Required for Avid Pro Tools Certification. **FHGE: Non-GE; Transferable: CSU**

MUS 82B PRO TOOLS 110: PRO TOOLS PRODUCTION I 4 Units
2 hours lecture, 2 hours lecture-laboratory, 3 hours laboratory. (84 hours total per quarter)
Pro Tools production concepts and techniques with Avid Certification training material. Recording, editing, routing audio and MIDI data. Managing Pro Tools sessions, using virtual instruments, plug-ins, loop recording, Elastic Audio, Beat Detective and music notation. Conform loops and beats to any tempo. Introduction to control surfaces, automation modes and signal path workflows. Practical applications with examples from professional recording artists including pop, rock, jazz and hip hop. Create tempo maps, meter changes and transpose key signatures. Required for Avid Pro Tools Operator Level Certification. **FHGE: Non-GE; Transferable: CSU**

MUS 82C PRO TOOLS 201: PRO TOOLS PRODUCTION II 4 Units
2 hours lecture, 2 hours lecture-laboratory, 3 hours laboratory. (84 hours total per quarter)
Avid Pro Tools Certified training material covers concepts and skills needed to operate Pro Tools in a professional recording studio environment. Introduction to Pro Tools HD system configurations. Pro Tools HD features including control surfaces, automation, advanced editing, mixing, hardware setup and session management. Practical examples and experience with exercise files from professional music, film and TV productions. Required class for Avid Pro Tools Operator Level Certification. Prepares for enrollment in Pro Tools 300 Expert Level Certification Courses. **FHGE: Non-GE; Transferable: CSU**

MUS 82D PRO TOOLS 210M: MUSIC PRODUCTION TECHNIQUES 4 Units
2 hours lecture, 2 hours lecture-laboratory, 3 hours laboratory. (84 hours total per quarter)
Avid Pro Tools Certified course completes skills needed to operate sophisticated Pro Tools systems in professional music production environments. Music production techniques, composing with MIDI, loop editing, sampling in Pro Tools, Beat Detective, drum replacement and augmentation, final mixing and mastering. Collaborate workflows between home studios and commercial recording facilities. Pro Tools keyboard shortcuts for increased efficiency. Practical examples and experience with exercise files from professional recording artists. Successful completion achieves Avid Pro Tools Operator Music Certification. **FHGE: Non-GE; Transferable: CSU**

MUS 82E PRO TOOLS 210P: POST PRODUCTION TECHNIQUES 4 Units

2 hours lecture, 2 hours lecture-laboratory, 3 hours laboratory. (84 hours total per quarter)

Synchronizing Pro Tools for audio post production with film, video and multimedia. Recording and editing ADR (automated dialog replacement), music, sound effects and multichannel audio. Mixing stereo and surround sound formats synchronized to digital picture. Layback and export options for final delivery to broadcast industry formats including Quicktime and Avid media. Practical experience with examples from feature films, documentaries and TV commercials. Successful completion achieves Avid Pro Tools Operator Post Certification. **FHGE: Non-GE; Transferable: CSU**

MUS 82G PRO TOOLS 310M: ADVANCED MUSIC PRODUCTION TECHNIQUES 4 Units

2 hours lecture, 2 hours lecture-laboratory, 3 hours laboratory. (84 hours total per quarter)

Advanced operation of Pro Tools in a professional music production environment. Audio recording, editing, MIDI, virtual instruments, final mix down, automation and mastering techniques. Integration of Pro Tools shortcuts and equipment configurations for increased efficiency in recording studio facility workflows. Hands-on experience with examples from major label recording artists, producers and mix engineers. Successful completion achieves Avid Pro Tools Expert Level Music Certification. **FHGE: Non-GE; Transferable: CSU**

MUS 83A INTRODUCTION TO MUSIC THERAPY 4 Units

4 hours lecture, 1 hour laboratory. (60 hours total per quarter)

Introduction to the field of music therapy and the creative powers of sound. Survey the history of the American Music Therapy Association as applied by practicing music therapists. Study diverse styles of music including classical, jazz, blues, pop, hip-hop, new age and world music used as a transformative force to enhance social, emotional, educational, behavioral development and pain management. Apply music therapy concepts to compose and produce original music. Develop music making skills with drumming, group songwriting, lyric analysis, guided relaxation, movement, improvisation and original compositions integrated with the latest music software technologies including Pro Tools and Virtual Instruments. Study prevention of injury and maintenance of health for musicians and performing artists. Survey careers in the music therapy industry including degrees, certifications and multi-media production applications. **FHGE: Non-GE; Transferable: CSU**

MUS 84A INTRODUCTION TO GAME AUDIO 4 Units

Formerly: MUS 82F

Advisory: Not open to students with credit in MUS 82F.

2 hours lecture, 2 hours lecture-laboratory, 3 hours laboratory. (84 hours total per quarter)

Recording, editing and mastering sound for games and interactive multimedia. Working with dialog, scripts, sound effects, foley, ambient backgrounds, loops, elastic audio, tempo matching, digital processing and plug-ins. Producing game music, layering, splicing, mixing cinematic audio. Deliver game audio formats to commercial players and end users. Hands-on experience with professional examples of game audio production soundtracks and workflows including Sony Computer Entertainment and Microsoft Game Studios. Part of Avid Pro Tools Certification training program. **FHGE: Non-GE; Transferable: CSU**

MUS 84B ADVANCED SOUND DESIGN FOR GAMES 4 Units

Formerly: MUS 82H

2 hours lecture, 2 hours lecture-laboratory, 3 hours laboratory (84 hours total per quarter)

Designing and implementing sound effects for games and interactive media. Recording custom sound effects and working with commercial sound effects libraries. Advanced techniques for designing hard effects, foley sounds, and ambient backgrounds. Industry-standard workflows for sound effects implementation with audio middleware solutions. Hands-on experience with professional examples of game audio sound design on desktop, console, and mobile platforms. **FHGE: Non-GE; Transferable: CSU**

MUS 84C MUSIC COMPOSITION FOR GAMES 4 Units

2 hours lecture, 2 hours lecture-laboratory, 3 hours laboratory. (84 hours total per quarter)

Composing, orchestrating, and implementing music for games and interactive multimedia. Fundamental composition and orchestration techniques for strings, brass, woodwinds, and percussion. Mixing and mastering finished compositions for optimal interactivity. Industry-standard workflows for interactive music implementation with sophisticated audio middleware solutions. Hands-on experience with professional examples of game music on desktop, console, and mobile platforms. **FHGE: Non-GE; Transferable: CSU**

NANOTECHNOLOGY

Physical Sciences, Mathematics & Engineering (650) 949-7259
www.foothill.edu/psme/

NANO 10 INTRODUCTION TO NANOTECHNOLOGY 5 Units

Formerly: NANO 50

Advisory: CHEM 30A & 30B; not open to students with credit in NANO 50.

3 hours lecture, 3 hours lecture-laboratory, 1.5 hours laboratory. (90 hours total per quarter)

Introduction to Nanoscience and Nanotechnology, emphasis on nanoscale phenomenon, including novel properties and industrial applications of nanoengineered materials. Review of the history and development of nanotechnology, and synergy of chemistry, physics, and biology. Introduces tools for fabrication, structural characterization, and physical properties measurements. Hands on introduction to Atomic Force Microscopy and Scanning Electron Microscopy. **FHGE: Non-GE; Transferable: UC/CSU**

NANO 51 APPLICATIONS OF NANOTECHNOLOGY 5 Units

Formerly: ENGR 76

Advisory: CHEM 30A or equivalent; PHYS 10 or equivalent; BIOL 10 or equivalent; not open to students with credit in ENGR 76.

5 hours lecture. (60 hours total per quarter)

Introduction to the underlying principles and industrial applications of nanoscience and nanotechnology. Introduces scientific principles and theory relevant at the nanoscale dimension, including the emergence and engineering of novel properties at scale. Overview of current and future applications of nanotechnology in materials engineering, physics, chemistry, biology, electronics and computing, clean energy technology, and medicine. Introduces the field of nanomaterials engineering from an application design perspective, and serves as the foundation to the integrated nanotechnology program. **FHGE: Non-GE; Transferable: CSU**

NANO 52 NANOMATERIALS & NANOSTRUCTURES 5 Units

Advisory: Knowledge of atomic and molecular structure, basic physical properties of materials, electricity and magnetism, and thermal and electrical conductivity of materials.

5 hours lecture. (60 hours total per quarter)

Introduction to the fundamental science and technology of nanomaterials, including semiconductors, carbon nanostructures, polymer and composite materials, and high performance metals and alloys. Topics include a review of the periodic table, atomic and electronic structure, chemical bonding and molecular geometry, crystal structure and crystallization, phase diagrams and phase transitions, and semiconduction. Particular emphasis placed on understanding material processes, such as the physics of solids, importance of defects and impurities in material structures, thermal conduction, deformation and plasticity, and electromagnetism. Depending on student interests, advanced topics can include surface chemistry, quantum structures, and fabrication of nanostructures such as carbon nanotubes and organic thin films. **FHGE: Non-GE; Transferable: CSU**

NANO 53 NANOMATERIALS CHARACTERIZATION 5 Units

Advisory: NANO 52 or equivalent; basic knowledge of materials science, physics, and inorganic/organic chemistry; experience with some type of analytical instrumentation is beneficial.

5 hours lecture. (60 hours total per quarter)

Techniques for micro and nano characterization of materials, including imaging, structural and surface analysis techniques, and physical properties measurements. Surveys the physics of modern instrumentation involved in characterizing materials, and the typical approaches to analyzing a wide variety of materials and nanostructures. Materials analysis approaches to quality assurance and quality control, failure analysis, and problem solving. Hands-on exercises and experiential learning will include use of the Scanning Electron Microscope (SEM), Atomic Force Microscope (AFM), Auger Electron Spectroscopy (AES), X-Ray Photoelectron Spectroscopy (XPS), and Raman spectroscopy. **FHGE: Non-GE; Transferable: CSU**

NANO 54 NANOFABRICATION TOOLS & PROCESS 5 Units
Advisory: NANO 52 and 53 or equivalent; basic knowledge of materials science, physics, and inorganic/organic chemistry.
5 hours lecture. (60 hours total per quarter)
Introduction to common fabrication techniques used in the synthesis, preparation, and processing of nanostructured materials. Topics include thin film coating and deposition, plasma deposition and surface modification, powder metallurgy, and fabrication of silicon nano and micro structures. Emphasis on safety, process development, monitoring and optimization, and quality control. Students will fabricate and characterize small prototype materials as part of the integrated nanomaterials engineering program. **FHGE: Non-GE; Transferable: CSU**

NANO 62 NANOMATERIALS ENGINEERING: STRUCTURES, PROCESSING & CHARACTERIZATION 5 Units
Advisory: NANO 51, CHEM 1A and PHYS 2A.
4 hours lecture, 3 hours laboratory. (84 hours total per quarter)
Provides support to students and practitioners of materials engineering to learn about structure-property relationships, materials processing and characterization, for twenty key nanostructures and nanostructured materials. Provides support for students using characterization and deposition tools to explore nanomaterials engineering, process development and optimization. **FHGE: Non-GE; Transferable: CSU**

NON-CREDIT: BASIC SKILLS

Non-Credit (650) 949-6950

NCBS 400 LANGUAGE & LIFE SKILLS LITERACY 0 Units
Unlimited Repeatability.
72 hours total.
Provides elementary and secondary level instruction and a self-paced lab experience for students working to improve communication, pronunciation, reading and speaking. Students work with instructor and computer based language program, Rosetta Stone, to improve English language skills. Assists students in preparation for credit level ESL courses. **FHGE: Non-GE**

NCBS 401A MATHEMATICAL FOUNDATIONS FOR COLLEGE PART I 0 Units
Unlimited Repeatability.
20 hours total.
Part one of a bridge to college program that focuses on the development of quantitative thinking skills within the context of: the culture of the college classroom: reading and understanding the syllabus, completing assignments and meeting deadlines, taking quizzes and exams, and classroom communication skills; the assessment of skills without a calculator; exploration of the resources offered by the community college in mathematics; the development of basic mathematical literacy skills to enhance future success in mathematics. Introduction to addition, subtraction, multiplication and division of whole numbers in preparation for basic skills mathematics course. **FHGE: Non-GE**

NCBS 401B MATHEMATICAL FOUNDATIONS FOR COLLEGE PART II 0 Units
Prerequisite: NCBS 401A.
Unlimited Repeatability.
40 hours total.
Part two of a bridge to college program that focuses on the development of quantitative thinking skills within the context of: the culture of the college classroom: reading and understanding the syllabus, completing assignments and meeting deadlines, taking quizzes and exams, and classroom communication skills; the assessment of skills without a calculator; exploration of the resources offered by the community college in mathematics; the development of basic mathematical literacy skills to enhance future success in mathematics. Introduction to addition, subtraction, multiplication and division of fractions in preparation for basic skills mathematics course. **FHGE: Non-GE**

NCBS 402 BOOTS TO BOOKS–COLLEGE SUCCESS & ORIENTATION FOR THE RETURNING U.S. VETERAN 0 Units
Unlimited Repeatability.
24 hours total.
Bridge to college course intended for recent veterans of the U.S. Armed Forces. Emphasis on college success strategies, college support systems, career exploration, study skills, reading, writing and math preparation, and learning styles. Also includes health and wellness issues such as motivation, self-management, stress reduction, focus, depression, hyperactivity, test anxieties. Course activities include readings, group work, discussions, case studies, and interactive lectures. **FHGE: Non-GE**

NCBS 405 SUPPLEMENTAL INSTRUCTION: PHYSICAL SCIENCE, MATH & ENGINEERING 0 Units
Unlimited Repeatability.
60-360 hours total.
An open-entry, open-exit course for students who seek academic support, through supplemental instructions and use of computers, to fill in missing prerequisite knowledge and strengthen skills developed in a referring course or courses as follows: CHEM 1A, 1B, 1C, 12A, 12B, 12C, 20, 25, 30A, 30B, 70; C S 1A, 1B, 1C, 1M, 2A, 2B, 2C, 10, 18, 20A, 21A, 22A, 30A, 30B, 30C, 31A, 40A, 49, 50A, 50B, 50C, 50D, 50E, 52A, 52B, 52C, 54A, 54B, 54C, 56A, 60A, 60B, 60C, 61A, 63A, 64A, 80A, 81A, 82A, 83A; ENGR 6, 10, 25, 28, 35, 37, 37L, 39, 40, 45, 49, 70R, 81, 82, 83, 102; MATH 1A, 1B, 1C, 1D, 2A, 2B, 10, 11, 12, 22, 42, 44, 48A, 48B, 48C, 54H, 57, 70R, 105, 108, 220, 230, 230J, 235; PHYS 2A, 2AM, 2B, 2BM, 2C, 2CM, 4A, 4B, 4C, 4D, 5A, 5B, 5C, 6, 12, 70R. **FHGE: Non-GE**

NON-CREDIT: BIOLOGICAL & HEALTH SCIENCES

Biological and Health Sciences (650) 949-7249 www.foothill.edu/bio/

NCBH 400 SUPPLEMENTAL INSTRUCTION: BIOLOGICAL & HEALTH SCIENCES 0 Units
Unlimited Repeatability.
36-360 hours total.
An open-entry, open-exit course for students who seek academic support through supplemental instruction and use of computers, to fill in missing prerequisite knowledge and strengthen skills developed in a referring course or courses as follows: BIOL 1A, 1B, 1C, 1D, 8, 9, 10, 12, 13, 14, 15, 40A, 40B, 40C, 41, 45; D H 54, 61A, 61B; EMT 304, 305; EMTP 60A, 60B, 61A, 61B, 62A, 62B, 63A, 63B, 64A, 64B; PCA 52B, 53B, 53C, 54B, 54C, 56B, 56C, 56D, 56E, 56F, 56G, 60A, 60B, 60C, 60D, 60E, 61B, 62B, 62C; PHT 54A, 54B, 55A, 55B, 55C, 60, 62; RSPT, 50A, 50B, 50C, 51A, 51B, 51C, 52, 53A, 53B, 54, 55A-G, 60A, 60B, 60C, 61A, 61B, 61C, 62, 63A, 65; R T 53A, 53AL, 53B, 53BL, 53C, 53CL, V T 53A, 53B, 53C, 55, 56, 60, 61, 70, 72, 81, 84, 85, 86, 89, 91, 92, 93, 95. **FHGE: Non-GE**

NON-CREDIT: COUNSELING

Counseling and Student Services (650) 949-7296

NCCN 412A MAP TO COLLEGE: MY ACTION PLAN TO COLLEGE PART I 0 Units
Unlimited Repeatability.
20 hours total.
A bridge to college class that introduces high school students, re-entry students and adult students to community college. Focus on major areas of study, career programs, how to become a college student and the value of a college degree or certificate. **FHGE: Non-GE**

NCCN 412B MAP TO COLLEGE: MY ACTION PLAN TO COLLEGE PART II 0 Units
Unlimited Repeatability.
20 hours total.
A bridge to college class intended to help high school students, reentry students, and adult students make a smooth transition to college. Focus on identification of education goals, development of education plan, and attainment of college student success skills. Includes familiarization with college culture, and college and community resources for students. **FHGE: Non-GE**

NON-CREDIT: ENGLISH AS A SECOND LANGUAGE

Language Arts **(650) 949-6950** **www.foothill.edu/la/**

NCEL 400 BRIDGE TO COLLEGE 0 Units
Advisory: Completion of the adult education course sequence or test score above 247 on the CASAS Level C Reading test.
Unlimited Repeatability.
60 hours total.
A bridge to college course for non-native speakers of English that focuses on the development of English language skills within the context of: the culture of the college classroom: selecting and registering for classes, reading and understanding the syllabus, completing assignments and meeting deadlines, taking quizzes and test, and classroom communication skills; the assessment of skills, exploration of life paths and the resources offered by the community college; the development of basic digital literacy skills to access information on the Internet. **FHGE: Non-GE**

NCEL 401 ESL FOR CHILD CARE PROVIDERS 0 Units
Advisory: Concurrent enrollment in a Child Development course.
Unlimited Repeatability.
24 hours total.
Develops basic written and oral communications skills needed for success in credit Child Development courses. Emphasis on practice of listening, speaking, reading and writing skills necessary in a typical credit-level child development course. Skills will be taught within the context of common child development topics such as age-appropriate development and behavioral issues. Intended for students in the child development program who need assistance gaining college level skills.
FHGE: Non-GE

NCEL 402 VOCATIONAL ESL FOR ALLIED HEALTH: GERIATRIC HOME AIDE 0 Units
Unlimited Repeatability.
30 hours total.
Accompanies the geriatric home aid and nutrition courses as a support for English language learners and those needing additional time to cover the content in the Geriatric and Home Aid courses. Provides students with support for acquisition of vocabulary and skills covered in Geriatric and Home Aid courses, incorporating content-based language practice for non-native English speakers interested in Allied Health careers. Emphasis will be placed on practice of students' oral/aural skills as well as social and cultural skills necessary for successful interaction in health care settings. **FHGE: Non-GE**

NCEL 403A TRANSITIONING TO COLLEGE ESL FOR WORKING ADULTS PART I 0 Units
Unlimited Repeatability.
36 hours total.
Introduction for the adult English-learner to the community college campus and requirements for successful studies, and to prepare ESL students for successful transition to credit college-level coursework. Primary focus will be on Listening and Speaking activities in the classroom, including note taking and class participation.
FHGE: Non-GE

NCEL 403B TRANSITIONING TO COLLEGE ESL FOR WORKING ADULTS PART II 0 Units
Unlimited Repeatability.
36 hours total.
Assists the adult English-learner to navigate the community college campus and requirements for successful studies and to prepare ELS students for successful transition to credit college-level coursework. Primary focus will be on Reading and Writing skills needed in and outside the classroom for academic success.
FHGE: Non-GE

NCEL 411 ADVANCED–BEGINNING ENGLISH AS A SECOND LANGUAGE I 0 Units
Formerly: ESLL 200A
Unlimited Repeatability.
120 hours total.
Introductory advanced-beginning level integrated skills course for learners of English as an additional language. Focus is on developing a basic level of grammar and vocabulary through listening, speaking, reading and writing so that learners can communicate with other English speakers in and outside of the classroom.
FHGE: Non-GE

NCEL 412 ADVANCED–BEGINNING ENGLISH AS A SECOND LANGUAGE II 0 Units
Formerly: ESLL 200B
Unlimited Repeatability.
120 hours total.
Continuation of the advanced-beginning level integrated skills course for learners of English as an additional language. Focus on developing a basic level of grammar and vocabulary through listening, speaking, reading and writing so that learners can communicate with other English speakers in and outside of the classroom.
FHGE: Non-GE

NCEL 413 ADVANCED–BEGINNING ENGLISH AS A SECOND LANGUAGE III 0 Units
Unlimited Repeatability.
120 hours total.
Final advanced-beginning level integrated skills course for learners of English as an additional language. Focus on developing a basic level of grammar and vocabulary through listening, speaking, reading and writing so that learners can communicate with other English speakers in and outside of the classroom. **FHGE: Non-GE**

NCEL 421 INTERMEDIATE ENGLISH AS A SECOND LANGUAGE I 0 Units
Formerly: ESLL 210A
Unlimited Repeatability.
120 hours total.
Introductory intermediate level integrated skills course for learners of English as an additional language who already have a basic level of speaking, listening, reading and writing. Focus assists learners advance in their development of grammar and vocabulary through listening, speaking, reading and writing. **FHGE: Non-GE**

NCEL 422 INTERMEDIATE ENGLISH AS A SECOND LANGUAGE II 0 Units
Formerly: ESLL 210B
Unlimited Repeatability.
120 hours total.
This is a continuation of the intermediate level integrated skills course for learners of English as an additional language who already have a basic level of speaking, listening, reading and writing. The focus of this course is help learners advance in their development of grammar and vocabulary through listening, speaking, reading and writing. **FHGE: Non-GE**

NCEL 423 INTERMEDIATE ENGLISH AS A SECOND LANGUAGE III 0 Units
Unlimited Repeatability.
120 hours total.
This is the final intermediate level integrated skills course for learners of English as an additional language who already have a basic level of speaking, listening, reading and writing. The focus of this course is help learners advance in their development of grammar and vocabulary through listening, speaking, reading and writing.
FHGE: Non-GE

NON-CREDIT: LANGUAGE ARTS

Language Arts **(650) 949-7250** **www.foothill.edu/la/**

NCLA 406A SUPPLEMENTAL INSTRUCTION ENGLISH: ESSAY & PARAGRAPH-LEVEL REVISION 0 Units
Unlimited Repeatability.
60 to 360 hours total.
An open-entry, open-exit course for students who seek academic support in English. Instruction and/or review of writing skills such as paragraphing, topic sentence, thesis, development, essay organization, sentence structure, basic sentence patterns, style, sentence mechanics, through supplemental instruction developed in a referring course or courses as follows: ENGL 209, 110, 104A, 104B, 1A, 1S and 1T, 1B, 1C, 242A, 242B, 250A, 250, 252A, 252B. **FHGE: Non-GE**

NCLA 406B SUPPLEMENTAL INSTRUCTION ENGLISH: SENTENCE-LEVEL EDITING & PROOFREADING IN CONTEXT 0 Units
Unlimited Repeatability.
60 to 360 hours total.
An open-entry, open-exit course for students who seek academic support in English. Through individualized instruction, including one-on-one tutorials by an English department instructor, an instructional aide, and trained peer tutors as available, students receive help on sentence level (writing) and vocabulary development (reading). Course provides instruction and/or review of sentence level reading/writing skills such as basic sentence patterns, style and flow, sentence mechanics, proofreading, spelling and vocabulary development through supplemental instruction developed in a referring course or courses as follows: ENGL 209, 110, 104A, 104B, 1A, 1S and 1T, 1B, 1C, 242A, 242B, 250A, 250, 252A, 252B. **FHGE: Non-GE**

NON-CREDIT: PARENTING EDUCATION

Counseling and Student Services **(650) 949-6950**

NCP 400 STRONG START FOR CHILDREN 0 Units
Unlimited Repeatability.
8 hours total.
Introduces families and caregivers to stages of child development, best practices in parenting and links students to resources. Emphasis placed on child development, effective communication and discipline, and school readiness. The first of three courses (with NCP 401 and NCP 402) which leads to a Certificate of Completion in Parenting Skills and helps prepare students for credit classes in Child Development. May be offered bilingually. **FHGE: Non-GE**

NCP 401 NURTURING HEALTHY CHOICES 0 Units
Unlimited Repeatability.
8 hours total.
Introduces families and caregivers to healthy feeding practices, best practices in parenting, and links students to resources. Emphasis placed on family wellness, nutrition and healthy feeding dynamics as related to the child's developmental stages. Second course in a sequence of three (with NCP 400 and NCP 402) which leads to a Certificate of Completion in Parenting Skills and helps prepare students for credit classes in Child Development. May be offered bilingually. **FHGE: Non-GE**

NCP 402 PARENT INVOLVEMENT: THE IMPORTANCE OF FAMILY IN THE LIVES OF CHILDREN 0 Units
Unlimited Repeatability.
8 hours total.
Introduces families and caregivers to the importance of family in the lives of children, best practices in parenting and linking students to resources. Emphasis placed on parent involvement, accessing resources and navigating systems in multicultural communities. Third course in a sequence of three (with NCP 400 and NCP 401) which leads to a Certificate of Completion in Parenting Skills and helps prepare students for credit classes in child development. May be offered bilingually. **FHGE: Non-GE**

NCP 403 BUILDING BRIDGES, OPENING DOORS, RAISING EMOTIONALLY HEALTHY CHILDREN 0 Units
Unlimited Repeatability.
24 hours total.
A Parents as Partners Series targeted to families and their caregivers, providers and educators serving these families. Provides an understanding of the importance of meeting emotional needs in raising healthy children through parenting and child development, prenatal through adolescence. Completion of this class helps prepare students for credit classes in Child Development. May be offered bilingually. **FHGE: Non-GE**

NON-CREDIT: SHORT-TERM VOCATIONAL

Counseling and Student Services **(650) 949-6950**

NCSV 400 GERIATRIC HOME AIDE BASICS 0 Units
Unlimited Repeatability.
60 hours total.
Prepares students to care for ambulatory elderly clients in their own homes with focus on basic clientele needs and skills required to meet those needs. Intended for students pursuing a career as a geriatric home aide. Completion of both NCVS 400 and 401 leads to a noncredit certificate in Geriatric Home Aide. **FHGE: Non-GE**

NCSV 401 GERIATRIC HOME AIDE–NUTRITION 0 Units
Unlimited Repeatability.
44 hours total.
Prepares students to care for ambulatory elderly clients in their own homes. Focus on nutrition, including dietary needs of geriatric and AIDS patients, cultural foods, cooking, and kitchen sanitation. Intended for students pursuing a career as a geriatric home aide. Completion of both NCVS 400 and 401 leads to a noncredit certificate in Geriatric Home Aide. **FHGE: Non-GE**

NCSV 403 FAMILY CHILD CARE PROVIDER: CHILD DEVELOPMENT 0 Units
Advisory: Basic comprehension, reading and writing in English.
Unlimited Repeatability.
20 hours total.
Introduces students to stages of development, best practices in supporting healthy growth and development of children birth to pre-adolescence and family, community and educational resources. Emphasis will be placed on ages and stages of development and effective communication and guidance. First of three courses that leads to a Certificate of Completion in Family Child Care and prepares students for credit classes in child development. **FHGE: Non-GE**

NCSV 404 FAMILY CHILD CARE PROVIDER: CURRICULUM DEVELOPMENT 0 Units
Prerequisite: NCSV 403
Advisory: Basic comprehension, reading and writing in English.
Unlimited Repeatability.
20 hours total.
Introduces students to developmentally appropriate curriculum. Emphasis will be placed on an overview of educational philosophies, developing age appropriate activities and creating effective learning environments for children birth to pre-adolescence. Second of three courses that leads to a certificate of completion in Family Child Care and prepares students for credit classes in child development. **FHGE: Non-GE**

NCSV 405 FAMILY CHILD CARE PROVIDER: FAMILY CHILD CARE PROFESSIONAL 0 Units
Prerequisite: NCSV 404.
Unlimited Repeatability.
20 hours total.
Introduces students to best practices in becoming a Family Child Care Provider. Emphasis will be placed on professionalism, health and safety and licensing regulations. Third course of three courses that leads to a Certificate of Completion in Family Child Care and prepares students for credit classes in child development. **FHGE: Non-GE**

NON-CREDIT: WORKFORCE PREPARATION

Counseling and Student Services **(650) 949-6295**

NCWP 400 BLUEPRINT FOR WORKPLACE SUCCESS 0 Units
Unlimited Repeatability.
36 hours total.
Provides students with the necessary tools and techniques in order to identify and/or enhance the job-related abilities and qualities they possess, find a job, successfully apply and interview and keep the job by using effective workplace behaviors and communication skills. Completion of this course in addition to NCWP 401, 402 and 403 leads to a Job Readiness Certificate of Completion. **FHGE: Non-GE**

NCWP 401 BLUEPRINT FOR CUSTOMER SERVICE 0 Units
Unlimited Repeatability.
18 hours total.
Provides students necessary tools in order to develop good customer service skills for the workplace focusing on getting to know customers, listening and problem solving. Completion of this course in addition to NCWP 400, 402 and 403 leads to a Job Readiness Certificate of Completion. **FHGE: Non-GE**

NCWP 402 30 WAYS TO SHINE AS A NEW EMPLOYEE 0 Units
Unlimited Repeatability.
6 hours total.
Provides students with necessary tools in order to succeed in the workplace focusing on how to participate in a new work environment, to work with customers and new colleagues, how to dress and behave, and how to make a difference as a new employee. Completion of this course in addition to NCWP 400, 401 and 403 leads to a Job Readiness Certificate of Completion. **FHGE: Non-GE**

NCWP 403 JOB CLUB 0 Units
Unlimited Repeatability.
7 hours total.
Provides students with the necessary tools and skills in order to succeed in the workplace. These skills include the process of looking for appropriate work, preparing for an interview, contacting employers, writing a resume and cover letter for a specific job, and participating in a job interview. Completion of this course in addition to NCWP 400, 401 and 402 leads to a Job Readiness Certificate of Completion.
FHGE: Non-GE

PARAMEDIC

Biological and Health Sciences **(650) 949-6955**
www.foothill.edu/bio/programs/paramed/

EMTP 60A PARAMEDIC COGNITIVE & AFFECTIVE IA 9 Units
Prerequisites: BIOL 40A, 40B and 40C or equivalent.
Corequisite: EMTP 60B.
Advisory: Not open to students with credit in EMTP 100A.
First of three modularized lecture series which paramedic students will learn and discuss the EMS System, understand the relationship of anatomy and physiology of the human body, life span of the patient, cellular function and disease, medical terminology, and pharmacology related to patient care. Intended for students in the paramedic program. **FHGE: Non-GE; Transferable: CSU**

EMTP 60B PARAMEDIC COGNITIVE, PSYCHOMOTOR & AFFECTIVE IB 3 Units
Corequisite: EMTP 60A.
1 hour lecture, 6.5 hours laboratory. (90 hours total per quarter)
Paramedic skills presented: proper hand washing; personal protective equipment; patient assessment; intravenous access; intraosseous infusion; pharmacology; medication administration; airway management: endotracheal intubation, oropharygeal airway, nasopharyngeal airway, suctioning, dual lumen airways; advanced cardiac life support ambulance 911 call simulations and case studies; synchronized cardioversion; transcutaneous pacing; defibrillation; cardiovascular/chest pain emergency 911 call simulations; end tidal carbon dioxide monitoring; capnography; 12 lead ECG interpretation. Intended for students in the paramedic program. **FHGE: Non-GE; Transferable: CSU**

EMTP 61A PARAMEDIC COGNITIVE & AFFECTIVE IIA 9 Units
Prerequisites: EMTP 60A and 60B.
Corequisites: EMTP 61B and 63A.
Advisory: Not open to students with credit in EMTP 100B.
9 hours lecture. (108 hours total per quarter)
Continuation of EMTP 60A, the second of three modularized lecture series. Discusses airway anatomy and management, EKG, 12 leads and discuss various respiratory emergencies. In addition students will learn and discuss neurological disorders, cardiovascular emergencies, musculoskeletal injuries and treatment, and GI, and GU anatomy and disorders. Intended for students in the paramedic program.
FHGE: Non-GE; Transferable: CSU

EMTP 61B PARAMEDIC COGNITIVE, AFFECTIVE & PSYCHOMOTOR IIB 3 Units
Prerequisites: EMTP 60A and 60B.
Corequisites: EMTP 61A and 63A.
Advisory: Not open to students with credit in EMTP 100B.
1 hour lecture, 6.5 hours laboratory. (90 hours total per quarter)
The cognitive, psychomotor, and affective basis for EMT students wishing to become EMT paramedics. The paramedic: anatomy and physiology; patient assessment; respiratory ambulance 911 call simulations and case studies; nebulizer/BVM set-up; pleural decompression; digital intubation; foreign body airway obstruction; neurological ambulance 911 call simulations and case studies; 12 lead ECG interpretation; diabetic ambulance 911 call simulations and case studies; blood glucose analysis; medication administration; pharmacology; pediatric advanced life support ambulance 911 call simulations and case studies; non-traumatic abdominal ambulance 911 call simulations and case studies; bleeding control & shock management; pressure infusers; intubation with spinal immobilization; intravenous access; overdose and poisoning ambulance 911 call simulations and case studies. Intended for students in the paramedic program. **FHGE: Non-GE; Transferable: CSU**

EMTP 62A PARAMEDIC COGNITIVE & AFFECTIVE IIIA 9 Units
Prerequisites: EMTP 61A, 61B and 63A.
Corequisite: EMTP 62B.
Advisory: Not open to students with credit in EMTP 100C.
9 hours lecture. (108 hours total per quarter)
Continuation of EMTP 61A and is the third of three modularized lecture series. Discusses various toxicological emergencies, psychiatric emergencies, OB, pediatric anatomy and emergencies, command and control, triage, and the geriatric patient. Intended for students in the paramedic program. **FHGE: Non-GE; Transferable: CSU**

EMTP 62B PARAMEDIC COGNITIVE, AFFECTIVE & PSYCHOMOTOR IIIB 3 Units
Prerequisites: EMTP 61A, 61B and 63A.
Corequisite: EMTP 62A.
1 hour lecture, 6.5 hours laboratory. (90 hours total per quarter)
Paramedic skills presented: proper hand washing; personal protective equipment; patient assessment; intravenous access; intraosseous infusion; pharmacology; medication administration; airway management: endotracheal intubation, oropharygeal airway, nasopharyngeal airway, suctioning, dual lumen airways; advanced cardiac life support ambulance 911 call simulations and case studies; synchronized cardioversion; transcutaneous pacing; defibrillation; cardiovascular/chest pain emergency 911 call simulations; end tidal carbon dioxide monitoring; capnography; 12 lead ECG interpretation. Intended for students in the paramedic program. **FHGE: Non-GE; Transferable: CSU**

EMTP 63A PARAMEDIC HOSPITAL SPECIALTY ROTATIONS 1 Unit
Prerequisites: EMTP 60A and 60B.
Corequisites: EMTP 61A and 61B.
Advisory: Not open to students with credit in EMTP 102.
6 hours clinic. (72 hours total per quarter)
Application of skills that demonstrate principles and concepts of anatomy, physiology, pathophysiology, clinical symptoms and diagnosis as they pertain to pre-hospital emergency medical care of the sick and injured. The student will rotate through specialty areas of the hospital departments: pediatrics, pediatric intensive care unit, labor and delivery, surgery (airway management), respiratory therapy, other selected hospital areas, assisted Living, Skills Nursing Facilities, and facilities for the mentally and physically challenged. Intended for students in the paramedic program.
FHGE: Non-GE; Transferable: CSU

EMTP 63B PARAMEDIC HOSPITAL EMERGENCY DEPARTMENT ROTATIONS 3 Units
Prerequisites: EMTP 62A and 62B.
Corequisite: Completion of, or concurrent enrollment in EMTP 63A.
Advisory: Not open to students with credit in EMTP 102.
14 hours clinic. (168 hours total per quarter)
Application of skills that demonstrate principles and concepts of anatomy, physiology, pathophysiology, clinical symptoms and diagnosis as they pertain to pre-hospital emergency medical care of the sick and injured. The student will rotate through specialty areas of the hospital departments: pediatrics, pediatric intensive care unit, labor and delivery, surgery (airway management), respiratory therapy, and other selected hospital areas. Intended for students in the paramedic program. **FHGE: Non-GE; Transferable: CSU**

EMTP 64A PARAMEDIC AMBULANCE FIELD INTERNSHIP I 8 Units
Prerequisites: EMTP 63B.
Advisory: Not open to students with credit in EMTP 103A.
40 hours clinic. (480 hours total per quarter)
Application of paramedic knowledge and skills in the clinical setting as an intern responding on a 911 ambulance to ill and injured patients while being instructed and evaluated by a field preceptor. The student has the task of initiating, providing, and directing entire emergency patient care while under the supervision of a preceptor. First of two ambulance field internships required for certification as an EMT-Paramedic in California. **FHGE: Non-GE; Transferable: CSU**

EMTP 64B PARAMEDIC AMBULANCE FIELD INTERNSHIP II 8 Units
Prerequisite: EMTP 64A.
Advisory: Not open to students with credit in EMTP 103B.
40 hours clinic. (480 hours total per quarter)
Application of paramedic knowledge and skills in the clinical setting as an intern responding on a 911 ambulance to ill and injured patients while being instructed and evaluated by a field preceptor. The student has the task of initiating, providing, and directing entire emergency patient care while under the supervision of a preceptor. Second of two ambulance field internships required for certification as an EMT-Paramedic in California. **FHGE: Non-GE; Transferable: CSU**

PERFORMING ARTS

Fine Arts and Communication (650) 949-7479 www.foothill.edu/fa/

P A 311A PERFORMANCE PRACTICES IN THEATRE I 4 Units
Prerequisite: Enrollment subject to audition.
Advisory: Pass/No Pass; enrollment is limited to six times within the P A group.
12 hours laboratory. (144 hours total per quarter)
Study, rehearsal, and performance of assigned theatre performance repertoire. Through guided instruction, students learn the core theory and techniques of modern acting. Intended as a performance course for actors wishing to explore theatre repertoire more fully with other performance artists and under the tutelage of a theatre professional. **FHGE: Non-GE**

P A 311B PERFORMANCE PRACTICES IN THEATRE II 4 Units
Prerequisite: Enrollment subject to audition.
Advisory: Pass/No Pass; enrollment is limited to six times within the P A group.
12 hours laboratory. (144 hours total per quarter)
Study, rehearsal, and performance of assigned theatre performance repertoire. Building on the fundamentals learned in P A 311A, this course will concentrate on the use of voice in a performance setting. Intended as a performance course for actors wishing to explore theatre repertoire more fully with other performance artists and under the tutelage of a theatre professional. **FHGE: Non-GE**

P A 311C PERFORMANCE PRACTICES IN THEATRE III 4 Units
Prerequisite: Enrollment subject to audition.
Advisory: Pass/No Pass; enrollment is limited to six times within the P A group.
12 hours laboratory. (144 hours total per quarter)
Study, rehearsal, and performance of assigned theatre performance repertoire. Building on the fundamentals learned in PA 311B, this course will concentrate on the use of movement in a performance setting. Intended as a performance course for actors wishing to explore theatre repertoire more fully with other performance artists and under the tutelage of a theatre professional. **FHGE: Non-GE**

P A 311D PERFORMANCE PRACTICES IN THEATRE IV 4 Units
Prerequisite: Enrollment subject to audition.
Advisory: Pass/No Pass; enrollment is limited to six times within the P A group.
12 hours laboratory. (144 hours total per quarter)
Study, rehearsal, and performance of assigned theatre performance repertoire. Building on the previous courses, this class will examine the works of specific periods of theatre. Intended as a performance course for actors wishing to explore theatre repertoire more fully with other performance artists and under the tutelage of a theatre professional. **FHGE: Non-GE**

P A 311E PERFORMANCE PRACTICES IN THEATRE V 4 Units
Prerequisite: Enrollment subject to audition.
Advisory: Pass/No Pass; enrollment is limited to six times within the P A group.
12 hours laboratory. (144 hours total per quarter)
Study, rehearsal, and performance of assigned theatre performance repertoire. Building on the previous courses, this class will explore the techniques of improvisation in theatre. Intended as a performance course for actors wishing to explore theatre repertoire more fully with other performance artists and under the tutelage of a theatre professional. **FHGE: Non-GE**

P A 311F PERFORMANCE PRACTICES IN THEATRE VI 4 Units
Prerequisite: Enrollment subject to audition.
Advisory: Pass/No Pass; enrollment is limited to six times within the P A group.
12 hours laboratory. (144 hours total per quarter)
Study, rehearsal, and performance of assigned theatre performance repertoire. Building on all previous courses, this class will expand the advanced actor's performance capabilities through more in depth text and character analysis. Intended as a performance course for actors wishing to explore theatre repertoire more fully with other performance artists and under the tutelage of a theatre professional. **FHGE: Non-GE**

P A 315A PERFORMANCE PRACTICES IN TECHNICAL THEATRE I–BASICS OF TECHNICAL THEATRE 4 Units
Prerequisite: Enrollment subject to audition.
Advisory: Pass/No Pass; enrollment is limited to six times within the P A group.
12 hours laboratory. (144 hours total per quarter)
Study, rehearsal, and performance of basic technical theatre. Intended for theatre students wishing to learn more about backstage practices. Culminates in a full-scale production performed for a public audience. **FHGE: Non-GE**

P A 315B PERFORMANCE PRACTICES IN TECHNICAL THEATRE II–SETS 4 Units
Prerequisite: Enrollment subject to audition.
Advisory: Pass/No Pass; enrollment is limited to six times within the P A group.
12 hours laboratory. (144 hours total per quarter)
Study, rehearsal, and performance of technical theatre. Builds on 315A, adding best practices in set design and construction for theatre. Culminates in a full-scale production performed for a public audience. **FHGE: Non-GE**

P A 315C PERFORMANCE PRACTICES IN TECHNICAL THEATRE III– COSTUME & MAKE-UP 4 Units
Prerequisite: Enrollment subject to audition.
Advisory: Pass/No Pass; enrollment is limited to six times within the P A group.
12 hours laboratory. (144 hours total per quarter)
Study, rehearsal, and performance of technical theatre. Builds on 341B, adding instruction in costumes and make-up designed for theatre. Culminates in a full-scale production performed for a public audience. **FHGE: Non-GE**

P A 315D PERFORMANCE PRACTICES IN TECHNICAL THEATRE IV–LIGHTING 4 Units
Prerequisite: Enrollment subject to audition.
Advisory: Pass/No Pass; enrollment is limited to six times within the P A group. 12 hours laboratory. (144 hours total per quarter)
Study, rehearsal, and performance of technical theatre. Builds on 315C, adding techniques of light design and implementation for theatre. Culminates in a full-scale production performed for a public audience. **FHGE: Non-GE**

P A 315E PERFORMANCE PRACTICES IN TECHNICAL THEATRE V–SOUND 4 Units
Prerequisite: Enrollment subject to audition.
Advisory: Pass/No Pass; enrollment is limited to six times within the P A group. 12 hours laboratory. (144 hours total per quarter)
Study, rehearsal, and performance of technical theatre. Builds on 315D, adding techniques of sound design and operation for theatre. Culminates in a full-scale production performed for a public audience. **FHGE: Non-GE**

P A 315F PERFORMANCE PRACTICES IN TECHNICAL THEATRE VI–STAGE MANAGEMENT 4 Units
Prerequisite: Enrollment subject to audition.
Advisory: Pass/No Pass; enrollment is limited to six times within the P A group. 12 hours laboratory. (144 hours total per quarter)
Study, rehearsal, and performance of technical theatre. Builds on previous courses, adding techniques of stage management for theatre. Culminates in a full-scale production performed for a public audience. **FHGE: Non-GE**

P A 321A PERFORMANCE PRACTICES IN VOCAL MUSIC I 2 Units
Prerequisite: Enrollment subject to audition.
Advisory: Pass/No Pass; enrollment is limited to six times within the P A group. 6 hours laboratory. (72 hours total per quarter)
Study, rehearsal, and performance of vocal/choral repertoire for singers of little to no experience. Intended as a beginning performance course for ensemble singers wishing to explore the vast choral repertoire with other performance artists and under the tutelage of a choral professional. **FHGE: Non-GE**

P A 321B PERFORMANCE PRACTICES IN VOCAL MUSIC II 2 Units
Prerequisite: Enrollment subject to audition.
Advisory: Pass/No Pass; enrollment is limited to six times within the P A group. 6 hours laboratory. (72 hours total per quarter)
Study, rehearsal, and performance of vocal/choral repertoire for singers of who have taken PA 321A. Further emphasis on music theory and choral training. For ensemble singers wishing to explore the vast choral repertoire with other performance artists and under the tutelage of a choral professional. **FHGE: Non-GE**

P A 321C PERFORMANCE PRACTICES IN VOCAL MUSIC III 2 Units
Prerequisite: Enrollment subject to audition
Advisory: Pass/No Pass; enrollment is limited to six times within the P A group. 6 hours laboratory. (72 hours total per quarter)
Study, rehearsal, and performance of vocal/choral repertoire for singers of who have taken PA 321B. Expands choral styles and vocal range. For ensemble singers wishing to explore the vast choral repertoire with other performance artists and under the tutelage of a choral professional. **FHGE: Non-GE**

P A 321D PERFORMANCE PRACTICES IN VOCAL MUSIC IV 2 Units
Prerequisite: Enrollment subject to audition.
Advisory: Pass/No Pass; enrollment is limited to six times within the P A group. 6 hours laboratory. (72 hours total per quarter)
Study, rehearsal, and performance of vocal/choral repertoire for singers of who have taken PA 321C. Teaches intermediate-level harmonies and theory and expanding the vocal repertoire. For ensemble singers wishing to explore the vast choral repertoire with other performance artists and under the tutelage of a choral professional. **FHGE: Non-GE**

P A 321E PERFORMANCE PRACTICES IN VOCAL MUSIC V 2 Units
Prerequisite: Enrollment subject to audition.
Advisory: Pass/No Pass; enrollment is limited to six times within the P A group. 6 hours laboratory. (72 hours total per quarter)
Study, rehearsal, and performance of vocal/choral repertoire for singers of who have taken PA 321D. Expands vocal range, abilities, and repertoire. For ensemble singers wishing to explore the vast choral repertoire with other performance artists and under the tutelage of a choral professional. **FHGE: Non-GE**

P A 321F PERFORMANCE PRACTICES IN VOCAL MUSIC VI 2 Units
Prerequisite: Enrollment subject to audition.
Advisory: Pass/No Pass; enrollment is limited to six times within the P A group. 6 hours laboratory. (72 hours total per quarter)
Study, rehearsal, and performance of vocal/choral repertoire for singers of who have taken PA 321E. Advanced class gives students the chance to take on leadership roles in both performance and rehearsals. For ensemble singers wishing to explore the vast choral repertoire with other performance artists and under the tutelage of a choral professional. **FHGE: Non-GE**

P A 331A PERFORMANCE PRACTICES IN INSTRUMENTAL MUSIC I 6 Units
Prerequisite: Enrollment subject to audition.
Advisory: Pass/No Pass; enrollment is limited to six times within the P A group. 18 hours laboratory. (216 hours total per quarter)
Study, rehearsal, and performance of ensemble instrumental performance. Intended as a performance course for players of string, wind, brass and percussion instruments of little ensemble experience under the tutelage of a music professional. **FHGE: Non-GE**

P A 331B PERFORMANCE PRACTICES IN INSTRUMENTAL MUSIC II 6 Units
Prerequisite: Enrollment subject to audition.
Advisory: Pass/No Pass; enrollment is limited to six times within the P A group. 18 hours laboratory. (216 hours total per quarter)
Study, rehearsal, and performance of ensemble instrumental performance for musicians who have taken PA 331A or equivalent. Further emphasis on musicality and technique. Designed as a performance course for players of string, wind, brass and percussion instruments under the tutelage of a music professional. **FHGE: Non-GE**

P A 331C PERFORMANCE PRACTICES IN INSTRUMENTAL MUSIC III 6 Units
Prerequisite: Enrollment subject to audition.
Advisory: Pass/No Pass; enrollment is limited to six times within the P A group. 18 hours laboratory. (216 hours total per quarter) Study, rehearsal, and performance of ensemble instrumental performance for musicians who have taken P A 331B or equivalent. Emphasizes both individual accuracy and section unification. Intended as a performance course for players of string, wind, brass and percussion instruments under the tutelage of a music professional. **FHGE: Non-GE**

P A 331D PERFORMANCE PRACTICES IN INSTRUMENTAL MUSIC IV 6 Units
Prerequisite: Enrollment subject to audition.
Advisory: Pass/No Pass; enrollment is limited to six times within the P A group. 18 hours laboratory. (216 hours total per quarter)
Study, rehearsal, and performance of ensemble instrumental performance for musicians who have taken P A 331C or equivalent. Concentrates on styles and periods of music, and their interpretation. Intended as a performance course for players of string, wind, brass and percussion instruments under the tutelage of a music professional. **FHGE: Non-GE**

P A 331E PERFORMANCE PRACTICES IN INSTRUMENTAL MUSIC V 6 Units
Prerequisite: Enrollment subject to audition.
Advisory: Pass/No Pass; enrollment is limited to six times within the P A group.
18 hours laboratory. (216 hours total per quarter)
Study, rehearsal, and performance of ensemble instrumental performance for musicians who have taken P A 331D or equivalent. Addition of playing in smaller ensembles. A performance course for players of string, wind, brass and percussion instruments under the tutelage of a music professional. **FHGE: Non-GE**

P A 331F PERFORMANCE PRACTICES IN INSTRUMENTAL MUSIC VI 6 Units
Prerequisite: Enrollment subject to audition.
Advisory: Pass/No Pass; enrollment is limited to six times within the P A group.
18 hours laboratory. (216 hours total per quarter)
Study, rehearsal, and performance of ensemble instrumental performance for musicians who have taken P A 331E or equivalent. Explores advanced repertoire and playing technique. A performance course for players of string, wind, brass and percussion instruments under the tutelage of a music professional. **FHGE: Non-GE**

P A 341A PERFORMANCE PRACTICES IN OPERA–CHORUS, COACHINGS, REHEARSALS & PERFORMANCE VOICE 6 Units
Prerequisite: Enrollment subject to audition.
Advisory: Pass/No Pass; enrollment is limited to six times within the P A group.
18 hours laboratory. (216 hours total per quarter)
Study, rehearsal, and performance of opera repertoire for students with little performance experience. A beginning course for performers wishing to explore the vast opera repertoire with other artists and under the tutelage of opera professionals. **FHGE: Non-GE**

P A 341B PERFORMANCE PRACTICES IN OPERA–SMALL ROLES 6 Units
Prerequisite: Enrollment subject to audition.
Advisory: Pass/No Pass; enrollment is limited to six times within the P A group.
18 hours laboratory. (216 hours total per quarter)
Study, rehearsal, and performance of opera repertoire. Builds on the skills acquired in P A 341A, adding tutelage for students wishing to perform in a minor role. Culminates in a full-scale production performed for a public audience. **FHGE: Non-GE**

P A 341C PERFORMANCE PRACTICES IN OPERA–COSTUME & MAKE-UP 6 Units
Prerequisite: Enrollment subject to audition.
Advisory: Pass/No Pass; enrollment is limited to six times within the P A group.
18 hours laboratory. (216 hours total per quarter)
Study, rehearsal, and performance of opera repertoire. Builds on 341B, adding instruction in costumes and make-up designed for opera. Culminates in a full-scale production performed for a public audience. **FHGE: Non-GE**

P A 341D PERFORMANCE PRACTICES IN OPERA–SETS 6 Units
Prerequisite: Enrollment subject to audition.
Advisory: Pass/No Pass; enrollment is limited to six times within the P A group.
18 hours laboratory. (216 hours total per quarter) Study, rehearsal, and performance of opera repertoire. Best practices in set design and construction for opera. Culminates in a full-scale production performed for a public audience. **FHGE: Non-GE**

P A 341E PERFORMANCE PRACTICES IN OPERA–LIGHTING 6 Units
Prerequisite: Enrollment subject to audition.
Advisory: Pass/No Pass; enrollment is limited to six times within the P A group.
18 hours laboratory. (216 hours total per quarter)
Study, rehearsal, and performance of opera repertoire. Techniques of light design and set-up for opera. Culminates in a full-scale production performed for a public audience. **FHGE: Non-GE**

P A 341F PERFORMANCE PRACTICES IN OPERA– ADVANCED OPERA 6 Units
Prerequisite: Enrollment subject to audition.
Advisory: Pass/No Pass; enrollment is limited to six times within the P A group.
18 hours laboratory. (216 hours total per quarter)
Study, rehearsal, and performance of opera repertoire. Emphasis on performance techniques for the advanced singer. Culminates in a full-scale production performed for a public audience. **FHGE: Non-GE**

PHARMACY TECHNOLOGY

Biological and Health Sciences (650) 949-6955
www.foothill.edu/bio/programs/pharmtec/

PHT 50 ORIENTATION TO PHARMACY TECHNOLOGY 3 Units
Prerequisite: PHT 200L.
3 hours lecture. (36 hours total per quarter)
Orientation to the role and working environment of the pharmacy technician, in both inpatient and outpatient settings. An introduction to the legal responsibilities and technical activities of the pharmacy technician. Intended for students in the pharmacy technology program. **FHGE: Non-GE; Transferable: CSU**

PHT 51 BASIC PHARMACEUTICS 4 Units
Prerequisite: Admission to the Pharmacy Technology Program.
4 hours lecture. (48 hours total per quarter)
An introduction to the pharmacological principles as they are related to and support an understanding of rational drug usage. An understanding of the profound influence of drug laws, standards and regulations. Intended for students in the pharmacy technology program. **FHGE: Non-GE; Transferable: CSU**

PHT 52A INPATIENT DISPENSING 3 Units
Prerequisite: Admission to Pharmacy Technology Program.
2 hours lecture, 3 hours laboratory. (60 hours total per quarter)
A general study of the usual technician functions associated with an institutional drug distribution system. Practical experience in the manipulative and record-keeping functions of extemporaneous preparations in an inpatient pharmacy. Intended for students in the pharmacy technology program. **FHGE: Non-GE; Transferable: CSU**

PHT 52B ASEPTIC TECHNIQUE & IV PREPARATION 4 Units
Prerequisite: PHT 52A.
3 hours lecture, 3 hours laboratory. (72 hours total per quarter)
Compounding of sterile products according to the appropriate technique. An introduction to the concepts of sterility and incompatibility. The use of applicable quality assurance processes and performance of work in accordance with the laws, regulations, and standards which govern the preparation of sterile products, with special emphasis on the preparation of parenteral chemotherapy with strict adherence to all precautionary standards. Intended for students in the pharmacy technology program. **FHGE: Non-GE; Transferable: CSU**

PHT 53 AMBULATORY PHARMACY PRACTICE 4 Units
Prerequisite: Admission to the Pharmacy Technology Program.
3 hours lecture, 3 hours laboratory. (72 hours total per quarter)
A review of the skills needed to operate effectively in an ambulatory setting, with emphasis on receiving and controlling inventory, processing prescriptions using computerized prescription processing, and medical insurance billing. Customer relations. Intended for students in the pharmacy technology program. **FHGE: Non-GE; Transferable: CSU**

PHT 54A DOSAGE CALCULATIONS A 3 Units
Prerequisite: MATH 220 or equivalent.
3 hours lecture. (36 hours total per quarter)
An introduction to the use of pharmaceutical measuring systems with emphasis on the metric system and intersystem conversions. Intended for students in the pharmacy technology program. **FHGE: Non-GE; Transferable: CSU**

PHT 54B DOSAGE CALCULATIONS B 3 Units
Prerequisite: PHT 54A.
3 hours lecture. (36 hours total per quarter)
Calculation of the correct oral and parenteral dosages of drugs using information from prescriptions or medications orders. Accurate determination of the correct amount

of ingredients for the compounding of pharmaceutical products from a prescription or medications order. Intended for students in the pharmacy technology program. **FHGE: Non-GE; Transferable: CSU**

PHT 55A PHARMACOLOGY A 3 Units
Prerequisite: BIOL 14 or equivalent.
3 hours lecture. (36 hours total per quarter)
Introduction to the general principals of pharmacology and pharmacokinetics with a focus on the anatomy, physiology and application of pharmacological principles pertaining to the peripheral and central nervous system. Drugs are discussed related to their mechanism of action, indications, adverse effects, contraindications, precautions and drug interactions. Intended for students in the pharmacy technology program. **FHGE: Non-GE; Transferable: CSU**

PHT 55B PHARMACOLOGY B 3 Units
Prerequisite: PHT 55A.
3 hours lecture. (36 hours total per quarter)
A study of the fundamentals of pharmacology with a focus on the anatomy, physiology and application of pharmacological principles related to various body systems and disorders; the cardiovascular system, respiratory system and gastrointestinal system. Drugs are discussed in relation to their mechanism of action, indications, adverse effects, contraindications, precautions and drug interactions. Intended for students in the pharmacy technology program. **FHGE: Non-GE; Transferable: CSU**

PHT 55C PHARMACOLOGY C 3 Units
Prerequisite: PHT 55B.
3 hours lecture. (36 hours total per quarter)
A study of the fundamentals of pharmacology with a focus on the anatomy, physiology and application of pharmacological principles related to various body systems and disorders; the endocrine system, infectious diseases, cancer, the immune system and nutrition. Drugs are discussed in relation to their mechanism of action, indications, adverse effects, contraindications, precautions and drug interactions. Intended for students in the pharmacy technology program. **FHGE: Non-GE; Transferable: CSU**

PHT 56A DISPENSING & COMPOUNDING A 4 Units
Prerequisite: PHT 50.
2 hours lecture, 6 hours laboratory. (96 hours total per quarter)
General preparation of non-sterile solid and liquid pharmaceutical dosage forms for oral and topical use. Practical experience in the manipulative and record keeping functions associated with the compounding and dispensing of prescriptions for ambulatory patients. Study of dosage forms, advantages and disadvantages, uses, storage and packaging of pharmaceutical products. Intended for students in the pharmacy technology program. **FHGE: Non-GE; Transferable: CSU**

PHT 56B DISPENSING & COMPOUNDING B 3 Units
Prerequisite: PHT 56A.
2 hours lecture, 3 hours laboratory. (60 hours total per quarter)
General preparation of topical, transdermal, rectal, ophthalmic, and otic pharmaceutical dosage forms. Practical experience in the manipulative and record keeping functions associated with the compounding and dispensing of prescriptions. Study of dosage forms, advantages and disadvantages, uses, storage and packaging of pharmaceutical products. Intended for students in the pharmacy technology program. **FHGE: Non-GE; Transferable: CSU**

PHT 60 RETAIL CLINICAL 3 Units
Prerequisite: Admission to the Pharmacy Technology Program.
18 hours clinical experience. (216 hours total per quarter)
The practice of pharmacy technology skills in a retail environment developed in didactic and laboratory training. Activities will be evaluated by a preceptor at the site. Intended for students in the pharmacy technology program. **FHGE: Non-GE; Transferable: CSU**

PHT 61 HOME HEALTH CARE SUPPLIES 3 Units
Prerequisite: PHT 50.
2 hours lecture, 3 hours laboratory. (60 hours total per quarter)
Study of diseases and conditions which require ongoing health maintenance by the patient, and the tests and devices used for the control of these diseases and conditions. Single-use test kits for routine health screening. An evaluation of alternative forms of health care. A study of the vitamins and minerals commonly used in pharmaceutical preparations. Intended for students in the pharmacy technology program. **FHGE: Non-GE; Transferable: CSU**

PHT 62 HOSPITAL CLINICAL 3 Units
Prerequisite: Admission to Pharmacy Technology Program.
18 hours clinical experience. (216 hours total per quarter)
The practice of pharmacy technology skills in either inpatient or outpatient hospital environments developed in didactic and laboratory training. Activities will be evaluated by a preceptor. Intended for students in the pharmacy technology program. **FHGE: Non-GE; Transferable: CSU**

PHT 63 PHARMACY TECHNICIAN CERTIFICATION EXAM (PTCE) REVIEW 1 Unit
Prerequisites: PHT 60 and 62 or equivalent.
1 hour lecture, 1 hour laboratory. (24 hours total per quarter)
Intended for students in the Pharmacy Technician Program or for students who have completed an ASHP accredited Pharmacy Technician Program. Course provides application requirements for the Pharmacy Technician Certification Exam (PTCE) and Pharmacy Technician license in the State of California. Comprehensive review of pharmacy technician technical and didactic competencies to prepare students for the Pharmacy Technician Certification Exam (PTCE). Also includes several mock practice Pharmacy Technician Certification Exams. Intended for students in the pharmacy technology program. **FHGE: Non-GE; Transferable: CSU**

PHT 200L PHARMACY TECHNICIAN AS A CAREER 1 Unit
Advisory: Demonstrated proficiency in English by placement into ENGL 1A as determined by score on the English placement test or through an equivalent placement process.
1 hour lecture. (12 hours total per quarter)
Introduction to the pharmaceutical sciences and the functions of a pharmacy technician in health care. Role of the pharmacy technician, areas of specialization in the field, technical standards, state registration requirements and employment opportunities.

PHILOSOPHY

Business and Social Sciences (650) 949-7322 www.foothill.edu/bss/

PHIL 1 CRITICAL THINKING & WRITING 5 Units
Prerequisite: One of the following: ENGL 1A, 1AH or 1S & 1T.
5 hours lecture. (60 hours total per quarter)
Develops understanding of informal logic and practical reasoning skills necessary for academic success, including tools needed to analyze information from a variety of sources such as academic essays, philosophic literature, news media and advertising. Focus on skills of argumentation including, but not limited to, elements of an argument, deductive and inductive forms of argumentation, the evaluation of arguments and the recognition of a variety of fallacies. Skills developed through a series of written assignments of increasing scope and difficulty culminating in a sophisticated argumentative essay. **FHGE: Communication & Analytical Thinking; Transferable: UC/CSU**

PHIL 2 INTRODUCTION TO SOCIAL & POLITICAL PHILOSOPHY 4 Units
4 hours lecture. (48 hours total per quarter)
Social and political philosophies of classical, modern and contemporary thinkers. Issues of concern to include the justification and structure of the political state, constitution of government, individual rights and distribution of wealth. **FHGE: Humanities; Transferable: UC/CSU**

PHIL 4 INTRODUCTION TO PHILOSOPHY 4 Units
4 hours lecture. (48 hours total per quarter)
Introductory survey of writings, principles and concerns of philosophy. Primarily examines major topics in the study of metaphysics and epistemology through reading and critical examination of the writings of major figures in the history of philosophy. Related topics of concern to include ethics, theology and political philosophy. **FHGE: Non-GE; Transferable: UC/CSU**

PHIL 7 INTRODUCTION TO SYMBOLIC LOGIC 5 Units
5 hours lecture. (60 hours total per quarter)
The use of logic as a tool for constructing, analyzing and evaluating arguments. Topics to be covered will be the basic construction of premises and conclusion to form arguments, common formal and informal fallacies, categorical propositions and syllogisms, propositional logic, natural deduction and predicate logic. **FHGE: Communication & Analytical Thinking; Transferable: UC/CSU**

PHIL 8 ETHICS 5 Units
5 hours lecture. (60 hours total per quarter)
Analysis and application of competing conceptions of the good. Course focuses on ethical theory (utilitarianism, duty-oriented ethics, virtue ethics, egoism, relitivism etc.) and various topics in applied ethics. **FHGE: Non-GE; Transferable: UC/CSU**

PHIL 11 INTRODUCTION TO THE PHILOSOPHY OF ART 4 Units
4 hours lecture. (48 hours total per quarter)
Analysis of central problems and challenges in aesthetics. Art and beauty, possibility of objectivity in criticism, modern and traditional definitions of a work of art. Considers truth and meaning in fine arts and literature, natural beauty and its relationship to excellence in music and architecture. **FHGE: Non-GE; Transferable: UC/CSU**

PHIL 20A HISTORY OF WESTERN PHILOSOPHY FROM SOCRATES THROUGH ST. THOMAS 4 Units
4 hours lecture. (48 hours total per quarter)
Examination of Western philosophy with an emphasis on Greek philosophy from Thales through Aristotle and selected medieval philosophers from Augustine to St. Thomas Aquinas. **FHGE: Humanities; Transferable: UC/CSU**

PHIL 20B HISTORY OF WESTERN PHILOSOPHY FROM THE RENAISSANCE THROUGH KANT 4 Units
4 hours lecture. (48 hours total per quarter)
Examination of the major European philosophers and philosophic movements of the 17th and 18th centuries. Particular attention to paid to the transition out of the medieval period into the age of enlightenment. **FHGE: Humanities; Transferable: UC/CSU**

PHIL 20C CONTEMPORARY PHILOSOPHY: 19TH & 20TH CENTURY THOUGHT 4 Units
Advisory: Demonstrated proficiency in English by placement into ENGL 1A as determined by score on the English placement test or through an equivalent placement process.
4 hours lecture. (48 hours total per quarter)
Survey of the history of western philosophy during the 19th and 20th centuries. Examination of major philosophic developments, theories and movements. Special attention to the influence of 19th and 20th century thought on our contemporary world view. **FHGE: Humanities; Transferable: UC/CSU**

PHIL 24 COMPARATIVE WORLD RELIGIONS: EAST 4 Units
Advisory: Demonstrated proficiency in English by placement into ENGL 1A as determined by score on the English placement test or through an equivalent placement process.
4 hours lecture. (48 hours total per quarter)
Origin, history and significant ideas of the world's major Eastern religions. Particular focus on practice and concepts in Hinduism, Buddhism, Confucianism, Taoism, and Zen. **FHGE: Humanities; Transferable: UC/CSU**

PHIL 25 COMPARATIVE WORLD RELIGIONS: WEST 4 Units
4 hours lecture. (48 hours total per quarter)
Explores the origin, history and significant ideas of the world's Western religions. Compare the fundamental insights, ideals and contributions toward the human moral heritage and wisdom of the Early Religions, Judaism, Zoroastrianism, Christianity, and Islam. **FHGE: Humanities; Transferable: UC/CSU**

PHIL 30 INTRODUCTION TO CRITICAL THINKING 4 Units
Formerly: PHIL 50
Advisory: Demonstrated proficiency in English by placement into ENGL 1A as determined by score on the English placement test or through an equivalent placement process; not open to students with credit in PHIL 50.
4 hours lecture. (48 hours total per quarter)
Develops understanding of informal logic and practical reasoning skills necessary for academic success, including tools needed to analyze information from a variety of sources such as academic essays, philosophic literature, news media and advertising. Focus on skills of argumentation including, but not limited to, elements of an argument, deductive and inductive forms of argumentation, the evaluation of arguments and the recognition of a variety of fallacies. Skills developed through written analysis of a variety of sources including but not limited to academic articles, news media, televised debates and advertisements. **FHGE: Communication & Analytical Thinking; Transferable: UC/CSU**

PHIL 70R INDEPENDENT STUDY IN PHILOSOPHY 1 Unit
PHIL 71R 2 Units
PHIL 72R 3 Units
PHIL 73R 4 Units
3–12 hours per week. (36–144 hours total per quarter)
Provides an opportunity for the student to expand their studies in Philosophy beyond the classroom by completing a project or an assignment arranged by agreement between the student and instructor. The student is required to contract with the instructor to determine the scope of assignment and the unit value assigned for successful completion. Students may take a maximum of 6 units of Independent Study per department. **FHGE: Non-GE; Transferable: CSU**

PHOTOGRAPHY

Fine Arts and Communication (650) 949-7318 www.foothill.edu/fa/photo

Foothill offers Photography activity courses in 3 different family categories. No single course may be repeated. Enrollment is limited to 6 courses per family within the Foothill-De Anza Community College District. Please refer to the De Anza College Catalog for the corresponding families and courses.

Digital Photography: PHOT 4A, 4B, 4C, 20, 68B, 72
Analog Photography: PHOT 1, 2, 3, 13, 51, 68A
Photography-Professional Practices: PHOT 22, 68F, 71, 74, 78D

PHOT 1 BLACK & WHITE PHOTOGRAPHY I 4 Units
Advisory: This course is included in the Analog Photography family of activity courses.
2 hours lecture, 3 hours lecture-laboratory, 1.5 hours laboratory. (78 hours total per quarter)
Fundamentals of black and white still photography. Introduction to the historical development of the medium and the role that photography has played in shaping social issues and and its effect on culture. Practical investigation of photography's potential to contribute to personal visual expression. Exposure to multiple perspectives on photography as practiced and contributed by diverse cultures. Topics cover photographic seeing, camera operation, use of aperture and shutter settings for aesthetic and sensitometric control, film processing, printing, and use of natural light for personal expression and communication. Introduction to electronic imaging processes. **FHGE: Non-GE; Transferable: UC/CSU**

PHOT 2 BLACK & WHITE PHOTOGRAPHY II 4 Units
Advisory: PHOT 1 or equivalent experience; this course is included in the Analog Photography family of activity courses.
2 hours lecture, 3 hours lecture-laboratory, 1.5 hours laboratory. (78 hours total per quarter)
Emphasis on control of available light through use of tripods and push-processing; use of electronic flash and studio lights; attributes of various films and appropriate chemistry for each; graded papers; larger format cameras, introduction to sensitometry; specialized developing and printing techniques, enhancing personal photographic expression; digital manipulation of the photographic image. **FHGE: Non-GE; Transferable: UC/CSU**

PHOT 3 BLACK & WHITE PHOTOGRAPHY III 4 Units
Formerly: PHOT 50
Advisory: PHOT 2 or equivalent experience; this course is included in the Analog Photography family of activity courses; not open to students with credit in PHOT 50.
2 hours lecture, 3 hours lecture-laboratory, 1.5 hours laboratory. (78 hours total per quarter)
Exploration of photographic seeing through the use of advanced processing and printing techniques; introduction to the Zone System and film calibration; creating special effects; high contrast and infrared films; integration of aesthetics and technique, emphasis on development of a personal style. **FHGE: Non-GE; Transferable: UC/CSU**

PHOT 4A DIGITAL PHOTOGRAPHY I 4 Units
Formerly: PHOT 65A
Advisory: PHOT 1, 5 or equivalent; this course is included in the Digital Photography family of activity courses; not open to students with credit in PHOT 65A.

2 hours lecture, 3 hours lecture-/laboratory, 1.5 hours laboratory. (78 hours total per quarter)
Introduction to the tools for expressive communication in digital photography using Adobe Photoshop and Adobe Photoshop Lightroom. Development of skills in image capture, enhancement, printing, and web publishing, for both fine art and commercial applications. **FHGE: Non-GE; Transferable: UC/CSU**

PHOT 4B DIGITAL PHOTOGRAPHY II 4 Units
Formerly: PHOT 65B
Advisory: PHOT 4A or equivalent experience; this course is included in the Digital Photography family of activity courses; not open to students with credit in PHOT 65B.
2 hours lecture, 3 hours lecture-laboratory, 1.5 hours laboratory. (78 hours total per quarter)
Intermediate-level exploration with the tools for expressive communication in digital photography using Adobe Photoshop and Adobe Photoshop Lightroom. Development of skills in image capture, enhancement, printing, and web publishing, for both fine art and commercial applications. **FHGE: Non-GE; Transferable: UC/CSU**

PHOT 4C DIGITAL PHOTOGRAPHY III 4 Units
Formerly: PHOT 65C
Advisory: PHOT 4B or equivalent; this course is included in the Digital Photography family of activity courses; not open to students with credit in PHOT 65C.
2 hours lecture, 3 hours lecture-laboratory, 1.5 hours laboratory. (78 hours total per quarter)
Advanced-level exploration with the tools for expressive communication in digital photography using Adobe Photoshop and Adobe Photoshop Lightroom. Development of skills in image capture, enhancement, printing, and web publishing, for both fine art and commercial applications. **FHGE: Non-GE; Transferable: UC/CSU**

PHOT 5 INTRODUCTION TO PHOTOGRAPHY 4 Units
3 hours lecture, 2 hours lecture-laboratory. (60 hours total per quarter)
A survey of the historical and practical aspects of photography as an art form. Students will be introduced to the use of light, composition and communication through images. Significant photographers from a diversity of backgrounds will inspire students in the practice of photography and developing an appreciation of the varied uses of the photographic image in our culture. **FHGE: Humanities; Transferable: UC/CSU**

PHOT 8 PHOTOGRAPHY OF MULTICULTURAL AMERICA 4 Units
Advisory: Not open to students with credit in PHOT 8H.
3 hours lecture, 3 hours laboratory. (72 hours total per quarter)
Examination of photography's role in shaping ideas about race, class, gender, sexuality and national identity in America. Critical analysis of images from a wide range of genres including: commercial photography, portraiture, social documentary, photojournalism, ethnographic and scientific photography, erotica, and fine-art photography are discussed within their historical and social context. **FHGE: Humanities; Transferable: UC/CSU**

PHOT 8H HONORS PHOTOGRAPHY OF MULTICULTURAL AMERICA 4 Units
Prerequisite: Honors Institute participant.
Advisory: Not open to students with credit in PHOT 8.
3 hours lecture, 3 hours laboratory. (72 hours total per quarter)
Examination of photography's role in shaping ideas about race, class, gender, sexuality and national identity in America. Critical analysis of images from a wide range of genres including: commercial photography, portraiture, social documentary, photojournalism, ethnographic and scientific photography, erotica, and fine-art photography are discussed within their historical and social context. The honors course offers an enriched and challenging experience for the more talented student, including deeper content, more rigorous grading, and more demanding and creative assignments requiring application of higher-level thinking, writing, and communication skills. **FHGE: Humanities; Transferable: UC/CSU**

PHOT 10 HISTORY OF PHOTOGRAPHY 4 Units
Advisory: ENGL 1A, 1AH, 1S & 1T or equivalent; not open to students with credit in PHOT 10H.
3 hours lecture, 3 hours laboratory. (72 hours total per quarter)
The history of still photography from the earliest investigations of the camera obscura to late 20th Century electronic imaging. Emphasis on the role of photographs as a social and cultural force and on our artistic heritage of camera work. **FHGE: Humanities; Transferable: UC/CSU**

PHOT 10H HONORS HISTORY OF PHOTOGRAPHY 4 Units
Prerequisite: Honors Institute participant.
Advisory: ENGL 1A, 1AH, 1S & 1T or equivalent; Not open to students with credit in PHOT 10.
3 hours lecture, 3 hours laboratory. (72 hours total per quarter)
The history of still photography from the earliest investigations of the camera obscura to late 20th Century electronic imaging. Emphasis on the role of photographs as a social and cultural force and on our artistic heritage of camera work. The honors course offers an enriched and challenging experience for the more talented student, including deeper content, more rigorous grading, and more demanding and creative assignments requiring application of higher-level thinking, writing, and communication skills. **FHGE: Humanities; Transferable: UC/CSU**

PHOT 11 CONTEMPORARY ISSUES IN PHOTOGRAPHY 4 Units
Advisory: Not open to students with credit in PHOT 11H or 59.
3 hours lecture, 3 hours laboratory. (72 hours total per quarter)
Survey of contemporary issues in photography. Critical theory and other issues surrounding contemporary photographic practices are explored through the style and content of work by selected contemporary photographers. Censorship, copyright, appropriation, and other current issues affecting the contemporary photographer are discussed. The interplay of traditional and digital photography and how it affects our concepts of truth, reality, society, and culture. **FHGE: Humanities; Transferable: UC/CSU**

PHOT 11H HONORS CONTEMPORARY ISSUES IN PHOTOGRAPHY 4 Units
Prerequisite: Honors Institute participant.
Advisory: Not open to students with credit in PHOT 11 or 59.
3 hours lecture, 3 hours laboratory. (72 hours total per quarter)
Survey of contemporary issues in photography. Critical theory and other issues surrounding contemporary photographic practices are explored through the style and content of work by selected contemporary photographers. Censorship, copyright, appropriation, and other current issues affecting the contemporary photographer are discussed. The interplay of traditional and digital photography and how it affects our concepts of truth, reality, society, and culture. The honors course offers an enriched and challenging experience for the more talented student, including deeper content, more rigorous grading, and more demanding and creative assignments requiring application of higher-level thinking, writing, and communication skills. **FHGE: Humanities; Transferable: UC/CSU**

PHOT 13 EXPERIMENTAL PHOTOGRAPHY 4 Units
Advisory: PHOT 2; this course is included in the Analog Photography family of activity courses; not open to students with credit in PHOT 56.
2 hours lecture, 3 hours lecture-laboratory, 1.5 hour laboratory. (78 hours total per quarter)
Exploration of experimental approaches to creative photography, using silver and nonsilver processes. Introduction to digital manipulation of images. **FHGE: Non-GE; Transferable: UC/CSU**

PHOT 20 INTRODUCTION TO COLOR PHOTOGRAPHY 4 Units
Formerly: PHOT 70
Advisory: PHOT 5, 65A or 72; this course is included in the Digital Photography family of activity courses; not open to students with credit in PHOT 70.
2 hours lecture, 3 hours lecture-laboratory, 1.5 hours laboratory. (78 hours total per quarter)
Introduction to history of color processes. Introduction to the theories, principles, instruction in color correction and manipulation, and expressive potential of digital color photography. **FHGE: Non-GE; Transferable: CSU; UC pending**

PHOT 22 PHOTOJOURNALISM 4 Units
Formerly: PHOT 63
Advisory: PHOT 2, 72 or equivalent; this course is included in the Photography-Professional Practices family of activity courses; not open to students with credit in PHOT 63.
2 hours lecture, 3 hours lecture/laboratory, 1.5 hours laboratory. (78 hours total per quarter)
Instruction in basic skills needed for effective online and print photography for use in newspapers, magazines, web journals and blogs with emphasis on developing appropriate behavior and craft needed in meeting deadlines for photojournal publication. Assignments include news photographs, human interest and feature pictures, and the picture story. Special emphasis on print quality, picture editing, layout design, image content and captioning. Introduction to digital capture, preparation of files and transmittal of photographs, and video and sound recording techniques. **FHGE: Non-GE; Transferable: CSU; UC pending**

PHOT 51 ZONE SYSTEM PHOTOGRAPHY 4 Units
Prerequisite: PHOT 2.
Advisory: This course is included in the Analog Photography family of activity courses.
2 hours lecture, 3 hours lecture-laboratory, 1.5 hours laboratory. (78 hours total per quarter)
An exploration of the Zone System through use of special processing and fine printing techniques. A study of the integration of aesthetics, film calibration, development of film, printing, and techniques associated with the Zone System. Acquisition of fine printing and archival processing techniques suitable for producing exhibit quality presentations. Application of understanding of Zone System to both digital and color materials. Appreciation of contributions by photographers of diverse backgrounds. **FHGE: Non-GE; Transferable: CSU**

PHOT 57A PHOTOGRAPHIC PORTFOLIO DEVELOPMENT 4 Units
Prerequisite: PHOT 3 or 4B or instructor's permission.
3 hours lecture, 3 hours laboratory. (72 hours total per quarter)
Professional practices course for the organization and assembly of a photographic portfolio from concept to final presentation. This intensive advanced class requires building of a group of photographic works that function both individually and as a group. Goal setting for the vocational and transfer students and packaging work for school, job and exhibition applications will be a priority. Concerns will include how to build a portfolio and organize images that communicate clearly, how to utilize technical execution for effective communication and techniques for giving and receiving feedback to further photographic projects. **FHGE: Non-GE; Transferable: CSU**

PHOT 57B PROFESSIONAL PRACTICES IN PHOTOGRAPHY 4 Units
Prerequisite: PHOT 57A or instructor's permission.
3 hours lecture, 3 hours laboratory. (72 hours total per quarter)
Organization of photographic work from prior classes and projects to meet individual goals including transfer, exhibition and employment. Development of professional materials such as resume, website and business cards as well as finalization of a photographic portfolio. Develop support materials for applications and exhibitions. Share work with photography community through exhibition or other methods of display. **FHGE: Non-GE; Transferable: CSU**

PHOT 68A DARKROOM TOPICS IN PHOTOGRAPHY 1 Unit
Advisory: PHOT 1 or 5; this course is included in the Analog Photography family of activity courses.
2 hours lecture-laboratory. (24 hours total per quarter)
Investigation of a specific aspect or topic of photography through discussion and demonstration by the instructor(s). **FHGE: Non-GE; Transferable: CSU**

PHOT 68B DIGITAL TOPICS IN PHOTOGRAPHY 1 Unit
Advisory: PHOT 1 or 5; this course is included in the Digital Photography family of activity courses.
2 hours lecture-laboratory. (24 hours total per quarter)
Investigation of a specific aspect or topic of photography through discussion and demonstration by the instructor(s). **FHGE: Non-GE; Transferable: CSU**

PHOT 68C STUDIO LIGHTING TOPICS IN PHOTOGRAPHY 1 Unit
Advisory: PHOT 1 or 5.
2 hours lecture-laboratory. (24 hours total per quarter)
Investigation of a specific aspect or topic of photography through discussion and demonstration by the instructor(s). **FHGE: Non-GE; Transferable: CSU**

PHOT 68E LECTURE TOPICS IN PHOTOGRAPHY 1 Unit
Advisory: PHOT 1 or 5.
2 hours lecture-laboratory. (24 hours total per quarter)
Investigation of a specific aspect or topic of photography through discussion and demonstration by the instructor(s). **FHGE: Non-GE; Transferable: CSU**

PHOT 68F EXHIBITION TOPICS IN PHOTOGRAPHY 1 Unit
Advisory: PHOT 1 or 5; this course is included in the Photography-Professional Practices family of activity courses.
2 hours lecture-laboratory. (24 hours total per quarter)
Investigation of a specific aspect or topic of photography through discussion and demonstration by the instructor(s). **FHGE: Non-GE; Transferable: CSU**

PHOT 71 THE PHOTOGRAPHIC BOOK 4 Units
Advisory: PHOT 1 or 5 or 4A or equivalent experience; this course is included in the Photography Professional Practices family of activity courses.
2 hours lecture, 3 hours lecture-laboratory, 1.5 hours laboratory. (78 hours total per quarter)
Exploration of the book for the display and sharing of photographic imagery including the history of the photographic book and its uses in fine art, commercial and documentary photography. Use of appropriate technology for creation of photographic books including digital image editing, color correction, graphic design and typography. Investigation of sequencing and presentation of photographs in book format for communication. **FHGE: Non-GE; Transferable: CSU**

PHOT 72 LIGHTROOM & PHOTOGRAPHIC DESIGN 4 Units
Advisory: PHOT 1 or 5 or equivalent experience; this course is included in the Digital Photography family of activity courses.
3 hours lecture, 3 hours laboratory. (72 hours total per quarter)
Develop intermediate photographic skills with the use of Adobe Photoshop Lightroom and photographic design techniques. Evaluate and utilize current methods of workflow including archiving, file management, development, image publishing, beginning color management and printing. Build skills in composition, design, project editing and visual communication. Utilize design principles to create images that communicate effectively. **FHGE: Non-GE; Transferable: CSU**

PHOT 74 STUDIO PHOTOGRAPHY TECHNIQUES 4 Units
Advisory: PHOT 1 or PHOT 5; this course is included in the Photography-Professional Practices Family of activity courses.
2 hours lecture, 3 hours lecture-laboratory, 1.5 hours laboratory. (78 hours total per quarter)
Introduction and overview to studio lighting, digital medium format cameras, exploration of photographic practices in a studio environment; emphasis on developing effective skills and techniques necessary to begin a career in studio photography. **FHGE: Non-GE; Transferable: CSU**

PHOT 78A LANDSCAPE FIELD STUDY IN PHOTOGRAPHY 1 Unit
Advisory: PHOT 1 or 5.
2 hours lecture-laboratory. (24 hours total per quarter)
Investigates historical and contemporary approaches to photographing landscape. Through field trips, lecture and demonstrations, students will learn about ways that other photographers have interpreted the landscape. Photographic techniques will enable students to develop a personal approach to photographing the landscape. **FHGE: Non-GE; Transferable: CSU**

PHOT 78B SOCIAL CONCERNS FIELD STUDY IN PHOTOGRAPHY 1 Unit
Advisory: PHOT 1 or 5.
2 hours lecture-laboratory. (24 hours total per quarter)
Investigation of a specific aspect or topic of photography through discussion and demonstration by the instructor(s) in the field. **FHGE: Non-GE; Transferable: CSU**

PHOT 78C DOCUMENTARY FIELD STUDY IN PHOTOGRAPHY 1 Unit
Advisory: PHOT 1 or 5.
2 hours lecture-laboratory. (24 hours total per quarter)
Investigation of a specific aspect or topic of photography through discussion and demonstration by the instructor(s) in the field. **FHGE: Non-GE; Transferable: CSU**

PHOT 78D MUSEUM/GALLERY FIELD STUDY IN PHOTOGRAPHY 1 Unit
Advisory: PHOT 1 or 5; this course is included in the Photography-Professional Practices family of activity courses.
2 hours lecture-laboratory. (24 hours total per quarter)
Investigation of a specific aspect or topic of photography through discussion and demonstration by the instructor(s) in the field. **FHGE: Non-GE; Transferable: CSU**

PHYSICAL EDUCATION

Kinesiology and Athletics (650) 949-7742 www.foothill.edu/ath/

Foothill offers PHED activity courses in 8 different family categories. No single course may be repeated. Enrollment is limited to 6 courses per family within the Foothill-De Anza Community College District. Please refer to the De Anza College Catalog for the corresponding families and courses.

Aquatics Family: PHED 10A, 10B, 10C, 11A, 11B, 11C
Cardio Fitness Family: PHED 22E, 23A, 23B, 23C, 26F, 27, 27A, 27B, 27C, 41, 41A, 41B, 41C
Combatives Family: PHED 18, 18B, 18C, 19B, 19C, 19D
Cross Training Family: PHED 47B, 47C, 49A, 49B
Flexibility & Stability Family: PHED 20A, 20B, 20C, 21, 21A, 21B, 21C, 21D, 21E, 22, 22A, 22B, 22C
Individual Sports Family: PHED 24, 24A, 24B, 24C, 24D, 25A & 25B, 26, 26A, 26C, 26D, 26E, 33, 33A & 33B, 36A, 36B, 36C, 37, 37A & 37B, 42
Strength Development Family: PHED 14, 45, 45A, 45C, 46, 46B
Team Sports Family: PHED 13, 13A, 13B, 13C, 28, 31A, 31B, 31C, 31D, 32C, 38A, 38B, 38C, 38D, 38E, 40, 40A, 40B, 40C

PHED 10A AQUATICS: LEVEL I, BEGINNING SWIMMING 1 Unit
Advisory: This course is included in the Aquatic family of activity courses.
3 hours laboratory. (36 hours total per quarter)
Introduction to swimming and safety skills. Includes physical and mental adjustment to water, buoyancy and body position, survival skills, and basic swim strokes. **FHGE: Lifelong Learning; Transferable: UC/CSU**

PHED 10B AQUATICS: LEVEL II, INTERMEDIATE SWIMMING 1 Unit
Advisory: This course is included in the Aquatic family of activity courses.
3 hours laboratory. (36 hours total per quarter)
A continuation of development of swim and safety skills beyond the beginning phase. Includes physical and mental adjustment to water, buoyancy and body position, survival skills, and the basic competitive swim strokes. Includes intermediate water safety skills and knowledge leading to safe practices while in, on or about the water. **FHGE: Lifelong Learning; Transferable: UC/CSU**

PHED 10C AQUATICS: LEVEL III, MASTERS SWIMMING/ ADVANCED SWIM TRAINING 1 Unit
Advisory: This course is included in the Aquatic family of activity courses.
3 hours laboratory. (36 hours total per quarter)
Advanced programs & concepts of swim strokes, competitive flip turns, and endurance training for competition. **FHGE: Lifelong Learning; Transferable: UC/CSU**

PHED 11A WATER EXERCISE 1 Unit
Advisory: This course is included in the Aquatic family of activity courses.
3 hours laboratory. (36 hours total per quarter)
A unique non-impact form of aquatic exercise to improve cardiovascular endurance, muscular strength, endurance, and flexibility while wearing a flotation belt to maintain an upright position in deep water. **FHGE: Lifelong Learning; Transferable: UC/CSU**

PHED 11B AQUATIC FITNESS 1 Unit
Advisory: This course is included in the Aquatic family of activity courses.
3 hours laboratory. (36 hours total per quarter)
An aerobic water fitness program applying the basic principles of exercise and dynamics of water movement. **FHGE: Lifelong Learning; Transferable: UC/CSU**

PHED 11C WATER AWARENESS 1 Unit
Advisory: This course is included in the Aquatic family of activity courses.
3 hours laboratory. (36 hours total per quarter)
Water awareness for non-swimmers Including basic water safety information as well as elementary swim techniques. **FHGE: Lifelong Learning; Transferable: UC/CSU**

PHED 13 BEGINNING WATER POLO 1 Unit
Advisory: This course is included in the Team Sports family of activity courses.
3 hours laboratory. (36 hours total per quarter)
Basic water polo skills and techniques including ball handling, dribbling, passing, shooting & blocking. Includes an introduction to the rules of the game as well as basic tactical strategies for offense and defense. **FHGE: Lifelong Learning; Transferable: CSU; UC pending**

PHED 13A INTERMEDIATE WATER POLO 1 Unit
Advisory: This course is included in the Team Sports family of activity courses.
3 hours laboratory. (36 hours total per quarter)
Intermediate water polo skills and techniques including ball handling, dribbling, passing, shooting, and blocking. Includes a review of the rules of the game, team offense, team defense, developing players at specific positions and an introduction to specific team plays and strategies. **FHGE: Lifelong Learning; Transferable: UC/CSU**

PHED 13B ADVANCED WATER POLO 1 Unit
Advisory: This course is included in the Team Sports family of activity courses.
3 hours laboratory. (36 hours total per quarter)
Advanced skills in various offensive and defensive techniques of water polo. **FHGE: Lifelong Learning; Transferable: UC/CSU**

PHED 13C WATER POLO GAME SKILLS 1 Unit
Advisory: This course is included in the Team Sports family of activity courses.
3 hours laboratory. (36 hours total per quarter)
Practice and preparation for competitive water polo, emphasizing water polo skills, fundamentals and strategies of the game, position specific training and full body preparation. **FHGE: Lifelong Learning; Transferable: UC/CSU**

PHED 14 NUTRITIONAL ASSESSMENT & FITNESS 1 Unit
Formerly: PHED 50C
Advisory: This course is included in the Strength Development family of activity courses; not open to students with credit in PHED 50C.
3 hours laboratory. (36 hours total per quarter)
A study of nutritional concepts, body fat assessment and work-out programs for lifetime fitness. **FHGE: Lifelong Learning; Transferable: UC/CSU**

PHED 18 BEGINNING TAI CHI (TAIJI) 1 Unit
Formerly: PHED 19A
Advisory: This course is included in the Combatives family of activity courses.
3 hours laboratory. (36 hours total per quarter)
Beginning Tai Chi (Taiji) introduces the fundamentals and principles of Taijiquan. Emphasizes body alignment in stillness with natural breathing and its relationship to mind-body awareness. Traditional Chen Style Taijiquan Lao Jia (Old Frame) first routine and the standing posture with breathing exercises (Wuji Qigong) will be practiced to facilitate the development of basic body strength and mind-body coordination. **FHGE: Lifelong Learning; Transferable: UC/CSU**

PHED 18B INTERMEDIATE TAI CHI (TAIJI) 1 Unit
Prerequisite: PHED 18.
Advisory: This course is included in the Combatives family of activity courses.
3 hours laboratory. (36 hours total per quarter)
Intermediate Taiji focuses on the understanding and transition of body alignment in stillness to dynamic alignment during the Taijiquan form practice. Emphasizes maintaining the body alignment djuring movements and through motion with natural breathing. External movements guiding the internal energy flow exercises (Hun Yuan Qigong) and a series of connected spiral movements (Silk Reeling Exercises) will be taught in this class as well as to mind body awareness. Practice of second section of Chen Style Taijiquan Lao Jia (Old Frame) first routine to facilitate the development of the body-ground connection. **FHGE: Lifelong Learning; Transferable: UC/CSU**

PHED 18C ADVANCED TAI CHI (TAIJI) 1 Unit
Prerequisite: PHED 18B
Advisory: This course is included in the Combatives family of activity courses.
3 hours laboratory. (36 hours total per quarter)
Advanced Taiji focuses on the applications and dynamic alignment during the Taijiquan form practice. Emphasizes total integration of mind and body movements through Taijiquan push-hand exercises and the development of ting jin (listening energy). Emphasis on the sensitivity and awareness of surroundings to achieve a focused center in order to neutralize and redirect incoming forces. **FHGE: Lifelong Learning; Transferable: UC/CSU**

PHED 19B KICKBOXING FOR FITNESS 1 Unit
Advisory: This course is included in the Combatives family of activity courses.
3 hours laboratory. (36 hours total per quarter)
Introduction to the basic skills and mechanics of kickboxing for fitness. Total cardiovascular workout emphasizing basic footwork, body mechanics, punching and kicking combinations and basic offensive and defensive techniques. **FHGE: Lifelong Learning; Transferable: UC/CSU**

PHED 19C INTERMEDIATE KICKBOXING FOR FITNESS 1 Unit
Prerequisite: PHED 19B.
Advisory: This course is included in the Combatives family of activity courses.
3 hours laboratory. (36 hours total per quarter)
Intermediate kickboxing focuses on punching and kicking combination drills, with fewer breaks or interruptions, and with an increase in intensity, impact and duration. An emphasis is placed on intermediate level footwork and body mechanics to improve coordination, reaction time and balance. **FHGE: Lifelong Learning; Transferable: UC/CSU**

PHED 19D ADVANCED KICKBOXING FOR FITNESS 1 Unit
Prerequisite: PHED 19C.
Advisory: This course is included in the Combatives family of activity courses.
3 hours laboratory. (36 hours total per quarter)
Emphasizes high-intensity and moderate- to high-impact advanced level kickboxing sequences using complex and choreographed movements. **FHGE: Lifelong Learning; Transferable: UC/CSU**

PHED 20A BEGINNING MAT PILATES 1 Unit
Advisory: This course is included in the Flexibility & Stability family of activity courses.
3 hours laboratory. (36 hours total per quarter)
Beginning Pilates stresses the fundamentals and principles of the Pilates method. Traditional Mat Pilates exercises and principles are combined to achieve body control, core strength and joint mobility. **FHGE: Lifelong Learning; Transferable: UC/CSU**

PHED 20B INTERMEDIATE MAT PILATES 1 Unit
Prerequisite: PHED 20A.
Advisory: This course is included in the Flexibility & Stability family of activity courses.
3 hours laboratory. (36 hours total per quarter)
An intermediate level mat Pilates class focusing on fluid transitions between stretching and strengthening intermediate exercises to improve coordination, endurance, posture, flexibility and balance for a more streamlined shape. Focuses on neutral pelvic placement and increasingly challenging series of exercises considered intermediate. **FHGE: Lifelong Learning; Transferable: UC/CSU**

PHED 20C ADVANCED PILATES 1 Unit
Prerequisite: PHED 20B.
Advisory: This course is included in the Flexibility & Stability family of activity courses.
3 hours laboratory. (36 hours total per quarter)
A vigorous and dynamic full body conditioning class using mat and standing exercises to tighten, tone and lengthen core muscles and flexibility exercises to improve mobility and stability. Focuses on the vertical positioning of the body which is the most advanced manifestation of Pilates. **FHGE: Lifelong Learning; Transferable: UC/CSU**

PHED 21 FOUNDATIONS OF YOGA 1 Unit
Advisory: This course is included in the Flexibility & Stability family of activity courses.
3 hours laboratory. (36 hours total per quarter)
Introduction to the fundamentals of yoga, including foundation principles and practices. Emphasis on the demonstration and practice of correct alignment, balance and connection for yoga poses (asanas), yogic locks, and pranayama (breathing techniques) for overall fitness and stress management. **FHGE: Lifelong Learning; Transferable: UC/CSU**

PHED 21A BEGINNING HATHA YOGA 1 Unit
Advisory: This course is included in the Flexibility & Stability family of activity courses.
3 hours laboratory. (36 hours total per quarter)
Principles and methods of practice in the discipline of beginning hatha yoga. Emphasis on the practice and demonstration of the beginning postures and the usage of hatha yoga for increased focus and concentration, integration of personal values and actions, and integration of mind, body and spirit. **FHGE: Lifelong Learning; Transferable: UC/CSU**

PHED 21B INTERMEDIATE HATHA YOGA 1 Unit
Prerequisite: PHED 21A.
Advisory: This course is included in the Flexibility & Stability family of activity courses.
3 hours laboratory. (36 hours total per quarter)
Intermediate training in yoga, skills and techniques with independent, group, and personalized training. Emphasis is on practice of intermediate asanas (poses) and pranayama (breathing techniques) with the introduction of ujayi breath. **FHGE: Lifelong Learning; Transferable: UC/CSU**

PHED 21C ADVANCED HATHA YOGA 1 Unit
Prerequisite: PHED 21B.
Advisory: This course is included in the Flexibility & Stability family of activity courses.
3 hours laboratory. (36 hours total per quarter)
A combination of the traditional forms of yoga woven into one powerful all-inclusive practice. Postures are combined into a vigorous, flowing series, linking one movement to the next, building strength, flexibility, and endurance. **FHGE: Lifelong Learning; Transferable: UC/CSU**

PHED 21D VINYASA FLOW YOGA 1 Unit
Advisory: This course is included in the Flexibility & Stability family of activity courses.
3 hours laboratory. (36 hours total per quarter)
A form of traditional hatha yoga that focuses on integrating breath and movement, awareness and alignment, strength, and flexibility. Uses series of sequences of advancing difficulty with repeated closing sections between each sequence. Each variation is linked to the next one by a succession of specific transitional movements. Likened to a dynamic dance, postures or asanas are connected through the breath for a transformative and balancing effect. Practice ranges from slow flowing to fast aerobic, developing strength and endurance. **FHGE: Lifelong Learning; Transferable: UC/CSU**

PHED 21E RESTORATIVE YOGA 1 Unit
Advisory: This course is included in the Flexibility & Stability family of activity courses.
3 hours laboratory. (36 hours total per quarter)
A relatively modern form of yoga that focuses on opening the connective tissue and fascia of the body in order to create balance, connection, alignment, strength and flexibility. Poses are held for extended periods of time with additional support and emphasis on allowing the body to release without force. **FHGE: Lifelong Learning; Transferable: UC/CSU**

PHED 22 BEGINNING FULL-BODY FLEXIBILITY 1 Unit
Advisory: This course is included in the Flexibility & Stability family of activity courses.
3 hours laboratory. (36 hours total per quarter)
Increased flexibility enhances physical performance, helps maintain muscle fitness and assists in injury rehabilitation. Intended for individuals with a variety of fitness experience levels. Students must provide their own fitness mat. **FHGE: Lifelong Learning; Transferable: UC/CSU**

PHED 22A INTERMEDIATE FULL-BODY FLEXIBILITY 1 Unit
Prerequisite: PHED 22.
Advisory: This course is included in the Flexibility & Stability family of activity courses.
3 hours laboratory. (36 hours total per quarter)
An intermediate level stretching program emphasizing seated and standing flexibility exercises for the hips, hamstrings, quadriceps, wrists, ankels, shoulders, obliques, and lumbar, thoracic and cervical spine. Complimentary abdominal exercises and standing postures will be introduced to develop balance, tone and endurance.
FHGE: Lifelong Learning; Transferable: UC/CSU

PHED 22B PILATES & YOGA 1 Unit
Advisory: This course is included in the Flexibility & Stability family of activity courses.
3 hours laboratory. (36 hours total per quarter)

Combines basic Pilates mat exercises to strengthen abdominals with full body yoga based stretches for development of improved posture, flexibility, and relaxation. Students must provide their own fitness mat. **FHGE: Lifelong Learning; Transferable: UC/CSU**

PHED 22C CORE CONDITIONING 1 Unit
Advisory: This course is included in the Flexibility & Stability family of activity courses.
3 hours laboratory. (36 hours total per quarter)
A combination Pilates and Yoga class designed to improve strength, body control, and coordination. Resistance and stability equipment will be incorporated with abdominal, low back, and full body exercises. Students must provide their own fitness mat.
FHGE: Lifelong Learning; Transferable: UC/CSU

PHED 22E FUNCTIONAL TRAINING FOR ENDURANCE 1 Unit
Advisory: This course is included in the Cardio Fitness family of activity courses.
3 hours laboratory. (36 hours total per quarter)
Explore the concept of functional training as it applies to the endurance athlete. Learn, utilize and understand effective training strategies to promote improved performance by the student. Emphasis placed on the application of skills and improved fitness. The importance of proper nutrition to improve performance will also be included.
FHGE: Lifelong Learning; Transferable: UC/CSU

PHED 23A TRAIL HIKING 1 Unit
Advisory: This course is included in the Cardio Fitness family of activity courses.
3 hours laboratory. (36 hours total per quarter)
The opportunity to exercise in the great outdoors to gain and improve cardiovascular fitness, muscular strength and endurance through hiking at a fitness pace on the trail.
FHGE: Lifelong Learning; Transferable: UC/CSU

PHED 23B DAY HIKING 1 Unit
Advisory: This course is included in the Cardio Fitness family of activity courses.
3 hours laboratory. (36 hours total per quarter)
A hiking class that prepares healthy, fit individuals for a final 8-12 mile hike on established trails over moderate to steep terrain. **FHGE: Lifelong Learning; Transferable: UC/CSU**

PHED 23C MULTI-DAY HIKING 2 Units
Advisory: This course is included in the Cardio Fitness family of activity courses; transportation, equipment and any park fees are provided by the student.
6 hours laboratory. (72 hours total per quarter)
Emphasis on preparing fit individuals for a final two-day hike of up to 10-miles each day over moderate to steep terrain. Basic outdoor skills such as fitness development, risk management, trip planning and minimum impact will be identified. **FHGE: Lifelong Learning; Transferable: UC/CSU**

PHED 24 INTRODUCTION TO GOLF 1 Unit
Advisory: This course is included in the Individual Sports family of activity courses
3 hours laboratory. (36 hours total per quarter)
Introduces the fundamentals of the golf swing, knowledge of equipment, terminology and course etiquette. **FHGE: Lifelong Learning; Transferable: UC/CSU**

PHED 24A SWING DEVELOPMENT FOR THE EXPERIENCED GOLFER 1 Unit
Advisory: This course is included in the Individual Sports family of activity courses.
3 hours laboratory. (36 hours total per quarter)
Development of golf skills for the intermediate/advanced player including grip, posture, alignment and swing fundamentals, selection of equipment, knowledge of rules, etiquette and course management. **FHGE: Lifelong Learning; Transferable: UC/CSU**

PHED 24B SKILLS OF GOLF COURSE PLAY 1 Unit
Advisory: Students are expected to have previously gained an understanding of and proficiency with basic golf swings for a variety of club types; no previous golf course experience is necessary; this course is included in the Individual Sports family of activity courses.
3 hours laboratory. (36 hours total per quarter)
Introduction to beginning golf course play includes basic fundamentals of the golf swing, knowledge of rules and golf course etiquette as well as developing on course experience. **FHGE: Lifelong Learning; Transferable: UC/CSU**

PHED 24C INTERMEDIATE GOLF COURSE PLAY 2 Units
Prerequisite: PHED 25B.
Advisory: This course is included in the Individual Sports family of activity courses; not open to students with credit in H P 25DX.
6 hours laboratory. (72 hours total per quarter)
Students will play an 18 hole golf course including multiple game formats (scramble, shotgun and bestball), practice with club selection and "reading" the ball.
FHGE: Lifelong Learning; Transferable: UC/CSU

PHED 24D ADVANCED GOLF COURSE PLAY 2 Units
Prerequisite: PHED 24C.
Advisory: This course is included in the Individual Sports family of activity courses.
6 hours laboratory. (72 hours total per quarter)
Students will play an 18 hole golf course with focus on increasing pace of play, development of advanced skills and execution of the golf swing, proper etiquette and strategies for lowering a score and establishing a handicap. **FHGE: Lifelong Learning; Transferable: UC/CSU**

PHED 25A SWING ANALYSIS 1 Unit
Advisory: This course is included in the Individual Sports family of activity courses.
3 hours laboratory. (36 hours total per quarter)
Using Swing Solutions video technology, the student will identify and correct individual golf swing flaws and design drills to develop skills to improve golf strokes.
FHGE: Lifelong Learning; Transferable: UC/CSU

PHED 25B BEGINNING GOLF COURSE PLAY 2 Units
Advisory: Students are expected to have previously gained an understanding of and proficiency with basic golf swings for a variety of club types; no previous golf course experience is necessary; this course is included in the Individual Sports family of activity courses.
6 hours laboratory. (72 hours total per quarter)
Students will play an 18 hole round of golf utilizing a variety of swing skills and clubs (ie. woods, irons, wedge, putter). Both long and short game skills and strategies will be incorporated on the course. Students will apply rules of golf and course etiquette during play. **FHGE: Lifelong Learning; Transferable: UC/CSU**

PHED 26 BEGINNING TENNIS SKILLS 1 Unit
Advisory: This course is included in the Individual Sports family of activity courses.
3 hours laboratory. (36 hours total per quarter)
Introduction to beginning tennis play including basic strokes, drills, rules and etiquette.
FHGE: Lifelong Learning; Transferable: UC/CSU

PHED 26A INTERMEDIATE TENNIS 1 Unit
Advisory: This course is included in the Individual Sports family of activity courses.
3 hours laboratory. (36 hours total per quarter)
Intermediate/advanced tennis for competitive play includes covering drills, advanced strategies, techniques and rules. **FHGE: Lifelong Learning; Transferable: UC/CSU**

PHED 26C BEGINNING DOUBLES TENNIS 1 Unit
Advisory: This course is included in the Individual Sports family of activity courses.
3 hours laboratory. (36 hours total per quarter)
Introduction to doubles tennis play. Includes basic court position, skill drills, and offensive and defensive strategies. **FHGE: Lifelong Learning; Transferable: UC/CSU**

PHED 26D INTERMEDIATE DOUBLES TENNIS 1 Unit
Advisory: This course is included in the Individual Sports family of activity courses.
3 hours laboratory. (36 hours total per quarter)
Reviews strategy for intermediate doubles play. Includes introduction to volley, overhead, approach shots, service, return and poaching. **FHGE: Lifelong Learning; Transferable: UC/CSU**

PHED 26E ADVANCED DOUBLES TENNIS 1 Unit
Advisory: This course is included in the Individual Sports family of activity courses.
3 hours laboratory. (36 hours total per quarter)
Reviews strategy for advanced doubles play. Advanced strategies and court positions of the Australian and I formations. Students will participate in competitive match play. **FHGE: Lifelong Learning; Transferable: UC/CSU**

PHED 26F AEROBIC TENNIS 1 Unit
Advisory: This course is included in the Cardio Fitness family of activity courses.
3 hours laboratory. (36 hours total per quarter)
Combines tennis skills and drills with high energy fitness activity. Students will engage in tennis specific activities, drills, and movements, designed to keep the heart rate in the training zone. **FHGE: Lifelong Learning; Transferable: UC/CSU**

PHED 27 WALK FOR HEALTH 1 Unit
Advisory: This course is included in the Cardio Fitness family of activity courses; not open to students with credit in H P 16.
3 hours laboratory. (36 hours total per quarter)
Introduction to fitness walking. Includes basic principles of exercise and how they relate to fitness walking. **FHGE: Lifelong Learning; Transferable: UC/CSU**

PHED 27A RUN FOR FITNESS 1 Unit
Advisory: This course is included in the Cardio Fitness family of activity courses; not open to students with credit in H P 61.
3 hours laboratory. (36 hours total per quarter)
Explanation of all phases of running, improve cardiovascular fitness, increase flexibility, develop endurance, introduction to the physiologic responses of the body to running. **FHGE: Lifelong Learning; Transferable: UC/CSU**

PHED 27B INTERMEDIATE RUN FOR FITNESS 1 Unit
Prerequisite: PHED 27A.
Advisory: This course is included in the Cardio Fitness family of activity courses.
3 hours laboratory. (36 hours total per quarter)
Focus on proper training and running technique, race management, nutrition, prevention and treatments of common running injuries. Intended for the student wishing to improve fitness and running skills. **FHGE: Lifelong Learning; Transferable: UC/CSU**

PHED 27C INTERMEDIATE WALK FOR HEALTH 1 Unit
Prerequisite: PHED 27.
Advisory: This course is included in the Cardio Fitness family of activity courses.
3 hours laboratory. (36 hours total per quarter)
Development of advanced walking skills for fitness and athletic walkers. Including program customization and how walking fits into a healthy lifestyle. **FHGE: Lifelong Learning; Transferable: UC/CSU**

PHED 28 SLOW PITCH SOFTBALL 1 Unit
Advisory: This course is included in the Team Sports family of activity courses; not open to students with credit in H P 28.
3 hours laboratory. (36 hours total per quarter)
Coeducational softball games with instruction in throwing, fielding and hitting.
FHGE: Lifelong Learning; Transferable: UC/CSU

PHED 31A FUTSAL–INDOOR SOCCER BEGINNING 1 Unit
Formerly: PHED 29
Advisory: This course is included in the Team Sports family of activity courses; not open to students with credit in PHED 29.
3 hours laboratory. (36 hours total per quarter)
Indoor soccer class developing basic skills including passing, shooting, dribbling and heading. Includes game strategy, tactics, and laws of the game. **FHGE: Lifelong Learning; Transferable: UC/CSU**

PHED 31B FUTSAL–INDOOR SOCCER INTERMEDIATE 1 Unit
Prerequisite: PHED 31A.
Advisory: This course is included in the Team Sports family of activity courses.
3 hours laboratory. (36 hours total per quarter)
Indoor soccer class developing intermediate skills including curve passing, chip shooting, dribbling and heading. Includes intermediate game strategy, tactics, and laws of the game. **FHGE: Lifelong Learning; Transferable: UC/CSU**

PHED 31C FUTSAL–INDOOR SOCCER ADVANCED 1 Unit
Prerequisite: PHED 31B.
Advisory: This course is included in the Team Sports family of activity courses.
3 hours laboratory. (36 hours total per quarter)
Indoor soccer class developing advanced skills including power passing, power shooting, speed dribbling and offensive heading. Includes advanced game strategy, tactics, and laws of the game. **FHGE: Lifelong Learning; Transferable: UC/CSU**

PHED 31D TOURNAMENT FUTSAL–INDOOR SOCCER 1 Unit
Advisory: This course is included in the Team Sports family of activity courses.
3 hours laboratory. (36 hours total per quarter)
Tournament Indoor soccer provides students the opportunity to demonstrate their soccer skills in a competitive tournament environment. **FHGE: Lifelong Learning; Transferable: CSU; UC pending**

PHED 32C SOCCER GAME SKILLS 1 Unit
Formerly PHED 29A
Advisory: This course is included in the Team Sports family of activity courses; not open to students with credit in PHED 29A.
3 hours laboratory. (36 hours total per quarter)
Practice and preparation for competitive soccer emphasizing soccer skills fundamentals and strategies of the game, position specific training and full body preparation. **FHGE: Lifelong Learning; Transferable: UC/CSU**

PHED 33 BEGINNING TABLE TENNIS 1 Unit
Advisory: This course is included in the Individual Sports family of activity courses.
3 hours laboratory. (36 hours total per quarter)
Strategy and competition for both singles and doubles table tennis play. **FHGE: Lifelong Learning; Transferable: UC/CSU**

PHED 33A INTERMEDIATE TABLE TENNIS 1 Unit
Prerequisite: PHED 33.
Advisory: This course is included in the Individual Sports family of activity courses.
3 hours laboratory. (36 hours total per quarter)
Focus on the strategies of singles and doubles play. Includes introduction to serving long and short, forehands smashes, drop shots, angle play, and doubles formations. **FHGE: Lifelong Learning; Transferable: UC/CSU**

PHED 33B ADVANCED TABLE TENNIS 1 Unit
Prerequisite: PHED 33A.
Advisory: This course is included in the Individual Sports family of activity courses.
3 hours laboratory. (36 hours total per quarter)
Focus on the strategies of singles and double play Including serving with a variety of spins, forehand and backhand smashes, drop shots, angle play and doubles formations. Strong emphasis on fitness, flexibility and nutrition. How to design a point, set and match will also be a main focus of this course. **FHGE: Lifelong Learning; Transferable: UC/CSU**

PHED 36A BEGINNING ARCHERY 1 Unit
Formerly: PHED 36
Advisory: This course is included in the Individual Sports family of activity courses; not open to students with credit in PHED 36.
3 hours laboratory. (36 hours total per quarter)
Introduction to Olympic archery using the recurve bow. Includes building a good basic foundation for shooting using the recurve bow through the utilization and practice of various skill development techniques. **FHGE: Lifelong Learning; Transferable: UC/CSU**

PHED 36B INTERMEDIATE ARCHERY 1 Unit
Prerequisite: PHED 36A, equivalency or instructor's permission.
Advisory: This course is included in the Individual Sports family of activity courses.
3 hours laboratory. (36 hours total per quarter)
Intermediate skills will be developed through the in depth observation and understanding of the elements that produce consistency and competency in using the recurve bow. Basic maintenance of equipment will be covered. **FHGE: Lifelong Learning; Transferable: UC/CSU**

PHED 36C ADVANCED ARCHERY 1 Unit
Prerequisite: PHED 36B, equivalency or instructor's permission.
Advisory: This course is included in the Individual Sports family of activity courses.
3 hours laboratory. (36 hours total per quarter)
Advanced archery concepts in shot foundation development. Scapulae positioning, breathing, imagery, focusing, relaxation and various physical training methodologies are presented. Aligning and tuning methods will be presented. **FHGE: Lifelong Learning; Transferable: UC/CSU**

PHED 37 BEGINNING BADMINTON: SINGLES & DOUBLES 1 Unit
Advisory: This course is included in the Individual Sports family of activity courses.
3 hours laboratory. (36 hours total per quarter)
Strategy and competition for both singles and doubles in badminton play.
FHGE: Lifelong Learning; Transferable: UC/CSU

PHED 37A INTERMEDIATE BADMINTON: SINGLES & DOUBLES 1 Unit
Prerequisite: PHED 37.
Advisory: This course is included in the Individual Sports family of activity courses.
3 hours laboratory. (36 hours total per quarter)
Focus on the strategies of singles and doubles play. Includes serving long and short, forehand smashes, drop shots, angle play and doubles formations. **FHGE: Lifelong Learning; Transferable: UC/CSU**

PHED 37B ADVANCED BADMINTON: SINGLES & DOUBLES 1 Unit
Prerequisite: PHED 37A.
Advisory: This course is included in the Individual Sports family of activity courses.
3 hours laboratory. (36 hours total per quarter)
Focus on the strategies of singles and doubles play. Introduction to serving long and short, forehand smashes, drop shots, angle play, and doubles formations. Emphasis on fitness, flexibility, and nutrition. How to design a point, set and match will be a main focus. **FHGE: Lifelong Learning; Transferable: UC/CSU**

PHED 38A BASKETBALL FUNDAMENTALS 1 Unit
Advisory: This course is included in the Team Sports family of activity courses.
3 hours laboratory. (36 hours total per quarter)
An introduction to the fundamental skills and techniques of the sport of basketball through skill work and drills. Includes sprint drills, ball passing, plyometric and stretching exercises. **FHGE: Lifelong Learning; Transferable: UC/CSU**

PHED 38B BASKETBALL GAME SKILLS 1 Unit
Advisory: This course is included in the Team Sports family of activity courses.
3 hours laboratory. (36 hours total per quarter)
Intermediate skills and techniques of the sport of basketball. Includes offensive and defensive foundations, unique situations in game play, personal strategies and core concepts for winning in basketball game play. **FHGE: Lifelong Learning; Transferable: UC/CSU**

PHED 38C BEGINNING BASKETBALL 1 Unit
Advisory: This course is included in the Team Sports family of activity courses; students with disabilities that significantly limit mobility or sensory perception may have difficulty participating and/or put themselves at risk of injury due to the physical demands of the course.
3 hours laboratory. (36 hours total per quarter)
Introduction to the basic rules and strategies of the game of basketball. This will be accomplished through demonstration and practice of skills as well as competition. **FHGE: Lifelong Learning; Transferable: UC/CSU**

PHED 38D INTERMEDIATE BASKETBALL 1 Unit
Prerequisite: PHED 38C.
Advisory: This course is included in the Team Sports family of activity courses; students with disabilities that significantly limit mobility or sensory perception may have difficulty participating and/or put themselves at risk of injury due to the physical demands of the course.
3 hours laboratory. (36 hours total per quarter)
This course will introduce students to intermediate level skills, strategies and play in basketball. This will include but not be limited to fundamentals, game strategy and team offense and defense alignments. **FHGE: Lifelong Learning; Transferable: UC/CSU**

PHED 38E ADVANCED BASKETBALL 1 Unit
Prerequisite: PHED 38D.
Advisory: This course is included in the Team Sports family of activity courses; students with disabilities that significantly limit mobility or sensory perception may have difficulty participating and/or put themselves at risk of injury due to the physical demands of the course.
3 hours laboratory. (36 hours total per quarter)
Introduce students to advanced basketball skills, strategies and games. This will include but not limited to, advanced offensive and defensive techniques, game strategies and advanced team play. **FHGE: Lifelong Learning; Transferable: UC/CSU**

PHED 39 INDOOR SOCCER 1 Unit
Advisory: This course is included in the Team Sports family of activity courses; not open to students with credit in H P 29A.
3 hours laboratory. (36 hours total per quarter)
Introduction in the fundamental skills and strategies for indoor soccer. Includes rules and an opportunity for active participation in game situations. **FHGE: Lifelong Learning; Transferable: UC/CSU**

PHED 40 BEGINNING VOLLEYBALL 1 Unit
Advisory: This course is included in the Team Sports family of activity courses.
3 hours laboratory. (36 hours total per quarter)
Introduction to the game of volleyball. Includes basic skills, strategy, and team play.
FHGE: Lifelong Learning; Transferable: UC/CSU

PHED 40A INTERMEDIATE VOLLEYBALL 1 Unit
Prerequisite: PHED 40.
Advisory: This course is included in the Team Sports family of activity courses.
3 hours laboratory. (36 hours total per quarter)
Introduce and build upon prior knowledge of the intermediate game of volleyball. Strategies and skills at an intermediate level will be presented and will promote the appreciation for this lifetime activity. **FHGE: Lifelong Learning; Transferable: UC/CSU**

PHED 40B ADVANCED VOLLEYBALL 1 Unit
Prerequisite: PHED 40A.
Advisory: This course is included in the Team Sports family of activity courses.
3 hours laboratory. (36 hours total per quarter)
Introduces the advance level skills, theory, and strategies in volleyball. This includes advanced techniques and tactics of tournament competition. This class will including drills, practice, and intensive review of rules and tournament play. **FHGE: Lifelong Learning; Transferable: UC/CSU**

PHED 40C VOLLEYBALL: GAME SKILLS 1 Unit
Advisory: This course is included in the Team Sports family of activity courses.
3 hours laboratory. (36 hours total per quarter)
Presents teach game play in live game situations. Includes rotations and offensive and defensive strategies. **FHGE: Lifelong Learning; Transferable: UC/CSU**

PHED 41 INDOOR CYCLING: SPIN 1 Unit
Advisory: This course is included in the Cardio Fitness family of activity courses.
3 hours laboratory. (36 hours total per quarter)
An indoor cycling program to enhance cardiovascular fitness and improve cycling techniques. Emphasis will be on improving endurance through non-impact activity.
FHGE: Lifelong Learning; Transferable: UC/CSU

PHED 41A INDOOR CYCLING: HILLS & SPRINTS 1 Unit
Advisory: This course is included in the Cardio Fitness family of activity courses.
3 hours laboratory. (36 hours total per quarter)
Cardio interval exercise set to appropriate cadence music on an indoor bicycle with periods of aerobic and anaerobic work mixed with appropriate recovery periods.
FHGE: Lifelong Learning; Transferable: UC/CSU

PHED 41B INTERMEDIATE INDOOR CYCLING 1 Unit
Prerequisite: PHED 41.
Advisory: This course is included in the Cardio Fitness family of activity courses.
3 hours laboratory. (36 hours total per quarter)
Promotes physical fitness using an indoor stationary bike. This intermediate indoor cycling course focuses on pedaling techniques, safety procedures, and conditioning exercises necessary for an intermediate cycling. **FHGE: Lifelong Learning; Transferable: UC/CSU**

PHED 41C INTERMEDIATE INDOOR CYCLING: HILLS & SPRINTS 1 Unit
Prerequisite: PHED 41A.
Advisory: This course is included in the Cardio Fitness family of activity courses.
3 hours laboratory. (36 hours total per quarter)
An intermediate cardio interval exercise class which includes high-end endurance. Periods of aerobic and anaerobic work depending on the "ride" and "terrain" for this intermediate class. **FHGE: Lifelong Learning; Transferable: UC/CSU**

PHED 42 BOWLING FOR FITNESS 1 Unit
Advisory: This course is included in the Individual Sports family of activity courses.
3 hours laboratory. (36 hours total per quarter)
A comprehensive study of the physical skills and practice for lifetime enjoyment of bowling. **FHGE: Lifelong Learning; Transferable: UC/CSU**

PHED 45 FITNESS FOR LIFE 1 Unit
Advisory: This course is included in the Strength Development family of activity courses.
3 hours laboratory. (36 hours total per quarter)
Increase muscle strength, endurance and cardiovascular fitness through self paced program of use on cardio, strength and fitness machines. **FHGE: Lifelong Learning; Transferable: UC/CSU**

PHED 45A FOUNDATIONS OF STRENGTH & CONDITIONING 1 Unit
Advisory: This course is included in the Strength Development family of activity courses.
3 hours laboratory. (36 hours total per quarter)
Provide an exercise program to develop the key components of health related physical fitness: cardiovascular/respiratory conditioning, muscular strength, muscular endurance, flexibility and body composition. **FHGE: Lifelong Learning; Transferable: UC/CSU**

PHED 45C CIRCUIT TRAINING 1 Unit
Advisory: This course is included in the Strength Development family of activity courses.
3 hours laboratory. (36 hours total per quarter)
Increase strength, flexibility and cardiovascular endurance through the application of circuit training. **FHGE: Lifelong Learning; Transferable: UC/CSU**

PHED 46 WEIGHT LIFTING FOR HEALTH & FITNESS 1 Unit
Advisory: This course is included in the Strength Development family of activity courses.
3 hours laboratory. (36 hours total per quarter)
Provides training and instruction on the use of weights for lifetime fitness and health. **FHGE: Lifelong Learning; Transferable: UC/CSU**

PHED 46A INTERMEDIATE WEIGHT TRAINING FOR HEALTH & FITNESS 1 Unit
Prerequisite: PHED 46
Advisory: This course is included in the Strength Development family of activity courses.
3 hours laboratory. (36 hours total per quarter)
A total body conditioning class that emphasizes intense free weight exercises set to music and incorporates core conditioning. Featured equipment includes dumbbells, body bar, resistance bands, body weight and balls. Students must provide their own fitness mat. **FHGE: Lifelong Learning; Transferable: UC/CSU**

PHED 46B ADVANCED WEIGHT LIFTING FOR HEALTH & FITNESS 1 Unit
Advisory: This course is included in the Strength Development family of activity courses.
3 hours laboratory. (36 hours total per quarter)
Advanced training and instruction in the use of weights for lifetime health and fitness. **FHGE: Lifelong Learning; Transferable: UC/CSU**

PHED 47B THIGHS, ABS & GLUTEUS (TAG) 1 Unit
Advisory: This course is included in the Cross Training family of activity courses.
3 hours laboratory. (36 hours total per quarter)
Strengthen thigh, abdominal and gluteus muscles in an intensive, fun and highly energized workout. **FHGE: Lifelong Learning; Transferable: UC/CSU**

PHED 47C HIGH-INTENSITY INTERVAL TRAINING (HIIT) 1 Unit
Advisory: This course is included in the Cross Training family of activity courses.
3 hours laboratory. (36 hours total per quarter)
An intense total body workout to improve endurance and strengthen and define every muscle using high intensity intervals. This type of training is an effective way to train taking fitness to the next level. Students must provide their own fitness mat. **FHGE: Lifelong Learning; Transferable: UC/CSU**

PHED 49A SURVIVOR TRAINING 1 Unit
Advisory: This course is included in the Cross Training family of activity courses.
3 hours laboratory. (36 hours total per quarter)
Intended for the average group exercise participant, using sports fitness drills and functional training to develop footwork, anaerobic and aerobic conditioning, muscular strength and power. **FHGE: Lifelong Learning; Transferable: UC/CSU**

PHED 49B BOOT CAMP TRAINING 1 Unit
Advisory: This course is included in the Cross Training family of activity courses.
3 hours laboratory. (36 hours total per quarter)
Group training uses functional fitness activities to develop core strength, cardiovascular conditioning and muscle strength and power. **FHGE: Lifelong Learning; Transferable: UC/CSU**

PHED 70R INDEPENDENT STUDY IN 1 Units
PHED 71R PHYSICAL EDUCATION 2 Units
PHED 72R 3 Units
PHED 73R 4 Units
3–12 hours per week. (36–144 hours total per quarter)
Provides an opportunity for the student to expand their studies in Physical Education beyond the classroom by completing a project or an assignment arranged by agreement between the student and instructor. The student is required to contract with the instructor to determine the scope of assignment and the unit value assigned for successful completion. Students may take a maximum of 6 units of Independent Study per department. **FHGE: Non-GE; Transferable: CSU**

PHYSICAL EDUCATION - ADAPTIVE PHYSICAL EDUCATION [FORMERLY ADAPTIVE LEARNING]

Kinesiology and Athletics (650) 949-7742 www.foothill.edu/ath/

PHDA 16 MODIFIED GENERAL CONDITIONING 1 Unit
Formerly: ALAP 60X
Advisory: Not open to students with credit in ALAP 60X.
3 hours laboratory. (36 hours total per quarter)
Personal instruction in exercise programs to develop a comprehensive exercise program based on physical abilities and individual goals. Cardiovascular endurance, flexibility, muscular strength and endurance, balance and/or motor skills, as appropriate. **FHGE: Lifelong Learning; Transferable: UC/CSU**

PHDA 17 MODIFIED RESISTIVE EXERCISE 1 Unit
Formerly: ALAP 61X
Advisory: Not open to students with credit in ALAP 61X.
3 hours laboratory. (36 hours total per quarter)
Instructs students in methodologies for increasing muscular strength. Uses free weights, weight machines, as appropriate. Teaches skills necessary to prepare students for mainstreamed physical education. **FHGE: Lifelong Learning; Transferable: UC/CSU**

PHDA 18 INDIVIDUALIZED EXERCISE FOR SPECIAL POPULATIONS 1 Unit
Formerly: ALAP 62X
Advisory: Not open to students with credit in ALAP 62X.
3 hours laboratory. (36 hours total per quarter)
Cardiovascular endurance, muscular endurance and strength, flexibility, balance and coordination activities, motor skills, as appropriate. Emphasis on adapting and developing an exercise program to meet individual needs and goals. **FHGE: Lifelong Learning; Transferable: UC/CSU**

PHDA 19 BACK HEALTH & FITNESS 1 Unit
Formerly: ALAP 63X
Advisory: Not open to students with credit in ALAP 63X.
3 hours laboratory. (36 hours total per quarter)
Exercises for improving body mechanics for those with musculo-skeletal impairments. Body mechanics and lumbar spine stabilization. **FHGE: Lifelong Learning; Transferable: UC/CSU**

PHDA 20 MODIFIED FUNCTIONAL FITNESS 1 Unit
Fomerly: ALAP 66X
Advisory: Not open to students with credit in ALAP 66X.
3 hours laboratory. (36 hours total per quarter)
Exercises for improving activities of daily living. Emphasis on proper body mechanics, postures and movement patterns. Development of joint mobility, muscular strength, muscular endurance, balance, coordination and locomotion as it relates to daily activities. **FHGE: Lifelong Learning; Transferable: UC/CSU**

PHDA 21A MODIFIED AQUATICS 1 Unit
Formerly: ALAP 70X
Advisory: Not open to students with credit in ALAP 70X.
3 hours laboratory. (36 hours total per quarter)
Individualized swimming instruction to improve cardiovascular endurance. **FHGE: Lifelong Learning; Transferable: UC/CSU**

PHDA 21B MODIFIED WATER EXERCISE 1 Unit
Formerly: ALAP 71X
Advisory: Not open to students with credit in ALAP 71X.
3 hours laboratory. (36 hours total per quarter)
Individually prescribed aquatic exercises to increase muscular strength and endurance, flexibility, cardiovascular endurance, gross motor coordination, relaxation, as appropriate. **FHGE: Lifelong Learning; Transferable: UC/CSU**

PHDA 22 TEAM SPORTS FOR SPECIAL POPULATIONS 1 Unit
Formerly: ALAP 80X
Advisory: Not open to students with credit in ALAP 80X.
3 hours laboratory. (36 hours total per quarter)
A variety of team sports, adapted for the physically limited adult. Team activity and rules of play for team sports, including, but not limited to, soccer, basketball, track and field, softball. **FHGE: Lifelong Learning; Transferable: UC/CSU**

PHYSICAL SCIENCES & ENGINEERING

Physical Sciences, Mathematics & Engineering (650) 949-7259
www.foothill.edu/psme

PSE 41 CLASS PRACTICES: MIDDLE SCHOOL SCIENCE 2 Units
Prerequisites: Satisfactory score on the mathematics placement test or MATH 105 or 108; college level chemistry, physics or biology course; approval by the instructor; participation in an interview session; will require a current TB test, finger printing, and background investigation.
Advisory: ENGL 209 or ESLL 25; Pass/No Pass; not open to students with credit in CHEM 41.
1.5 hours lecture, 2 hours laboratory. (42 hours total per quarter)
Introduce prospective science, technology, engineering, and mathematics (STEM) teachers to the field of middle school education and the teaching and learning of science in middle school classrooms. Students are placed in local middle school classrooms to observe, participate, and assist a mentor teacher in instruction. Participate in a weekly seminar where relevant topics in education are discussed. Students are expected to work a minimum of 18 hours in the middle school classroom during the quarter. Observe a successful and experienced mentor teacher, assist the mentor teacher and provide support to ensure a positive classroom environment conducive to learning. **FHGE: Non-GE; Transferable: UC/CSU**

PSE 42 CLASS PRACTICES: ELEMENTARY SCHOOL SCIENCE 2 Units
Prerequisites: PSE 41; approval by the instructor; will require a current TB test.
Advisory: ENGL 209 or ESLL 25; Pass/No Pass; not open to students with credit in CHEM 42.
1.5 hours lecture, 2 hours laboratory. (42 hours total per quarter)
Introduce prospective science, technology, engineering, and mathematics (STEM) teachers to the field of elementary school education and the teaching and learning of science in elementary school classrooms. Students are placed in local elementary school classrooms to observe, participate, and assist a mentor teacher in instruction. Participate in a weekly seminar where relevant topics in education are discussed. Students are expected to work a minimum of 18 hours in the elementary school classroom during the quarter. Observe a successful and experienced mentor teacher, assist the mentor teacher, and provide support to ensure a positive classroom environment conducive to learning. **FHGE: Non-GE; Transferable: UC/CSU**

PSE 43 CLASS PRACTICES: HIGH SCHOOL SCIENCE 2 Units
Prerequisites: Must participate in an interview session; satisfactory score on the mathematics placement test or MATH 105 or 108; college level chemistry, physics or biology course; approval by the instructor; will require a current TB test, finger printing, and background investigation.
Advisory: ENGL 209 or ESLL 25; Pass/No Pass.
1.5 hours lecture, 2 hours laboratory. (42 hours total per quarter)
Introduce prospective science, technology, engineering, and mathematics (STEM) teachers to the field of high school education and the teaching and learning of science in high school classrooms. Students are placed in local high school classrooms to observe, participate, and assist a mentor teacher in instruction. Participate in the weekly seminar and discussion of learning in K-12 culture, cognitive development of students, and best means to teach appropriate science concepts at this level. Students are expected to work a minimum of 18 hours in the high school classroom during the quarter. Introduced to the concepts that as classroom assistants or teachers, as role models to the K-12 students and there is a large responsibility inherent in assuming this role. Support creating a respectful and inclusive classroom atmosphere where children learn most effectively. **FHGE: Non-GE; Transferable: UC/CSU**

PSE 111A PASS THE TORCH TEAM LEADER TRAINING I 1 Unit
Prerequisites: An earned A or B+ grade with instructor recommendation in one of the following: MATH 220, 105, 48A, 48B, 48C, 10, 1A, 1B, 1C, 1D, 2A, 2B or a "Pass" in MATH 230.
1 hour lecture. (12 hours total per quarter)
Training in team leading skills necessary for assisting a member in the Pass the Torch Program, including study skills, college policies, professionalism, ethics and role modeling of successful student behavior. Techniques of subject specific tutoring skills. Practice of these skills through sample student work and instructor assignments and, when applicable, content-specific suggestions from the member's instructor. Intended for students matched in a Pass the Torch math study team for the first time. **FHGE: Non-GE**

PSE 111B PASS THE TORCH TEAM LEADER TRAINING II 1 Unit
Prerequisites: PSE 111A; an earned A or B+ grade with instructor recommendation in one of the following: MATH 220, 105, 48A, 48B, 48C, 10, 1A, 1B, 1C, 1D, 2A, 2B or a "Pass" in MATH 230.
1 hour lecture. (12 hours total per quarter)
Advanced training in team leading skills necessary for assisting a member in the Pass the Torch Program. Students will be asked to engage in advanced reflections on tutoring and advanced level critique of one's own and other tutoring processes. Techniques of subject specific tutoring skills with attention given to diverse learning styles. Practice of these skills through sample student work and instructor assignments and, when applicable, content-specific suggestions from the member's instructor. Intended for students matched in a Pass the Torch math study team for the second time. **FHGE: Non-GE**

PHYSICS

Physical Sciences, Mathematics & Engineering **(650) 949-7259**
www.foothill.edu/psme/

PHYS 2A GENERAL PHYSICS 5 Units
Prerequisite: MATH 48C or higher placement on the placement test.
4 hours lecture, 1 hour lecture-laboratory, 2 hours laboratory. (84 hours total per quarter)
Lectures, demonstrations, and problems in mechanics; properties of matter. **FHGE: Natural Sciences; Transferable: UC/CSU**

PHYS 2AM GENERAL PHYSICS– CALCULUS SUPPLEMENT 1 Unit
Prerequisite: MATH 1A.
Corequisite: Completion of or concurrent enrollment in MATH 1B and PHYS 2A.
1 hour lecture. (12 hours total per quarter)
Application of calculus to physics topics and problems in mechanics. **FHGE: Non-GE; Transferable: UC/CSU**

PHYS 2B GENERAL PHYSICS 5 Units
Prerequisite: PHYS 2A.
4 hours lecture, 1 hour lecture-laboratory, 2 hours laboratory. (84 hours total per quarter)
Lectures, demonstrations, and problems in thermal physics; electricity and magnetism and fluids. **FHGE: Non-GE; Transferable: UC/CSU**

PHYS 2BM GENERAL PHYSICS– CALCULUS SUPPLEMENT 1 Unit
Prerequisite: MATH 1B.
Corequisite: Completion of or concurrent enrollment in PHYS 2B.
1 hour lecture. (12 hours total per quarter)
Application of calculus to physics topics and problems in electricity and magnetism. **FHGE: Non-GE; Transferable: UC/CSU**

PHYS 2C GENERAL PHYSICS 5 Units
Prerequisite: PHYS 2B.
4 hours lecture, 1 hour lecture-laboratory, 2 hours laboratory. (84 hours total per quarter)
Lectures, demonstrations, and problems in waves; optics; introductory quantum mechanics; atomic physics; and nuclear physics. **FHGE: Non-GE; Transferable: UC/CSU**

PHYS 2CM GENERAL PHYSICS– CALCULUS SUPPLEMENT 1 Unit
Prerequisite: MATH 1B.
Corequisite: Completion of or concurrent enrollment in PHYS 2C.
1 hour lecture. (12 hours total per quarter)
Application of calculus to physics topics and problems in thermodynamics, waves, optics and modern physics. **FHGE: Non-GE; Transferable: UC/CSU**

PHYS 4A GENERAL PHYSICS (CALCULUS) 6 Units
Prerequisite: PHYS 6 or PHYS 2A.
Corequisite: Completion of or concurrent enrollment in MATH 1B.
Advisory: Not open to students that have credit in PHYS 5A and 5B.
5 hours lecture, 1 hour lecture-laboratory, 2 hours laboratory. (96 hours total per quarter)
Mathematics-physics interrelationships, classical Newtonian mechanics.
FHGE: Natural Sciences; Transferable: UC/CSU

PHYS 4B GENERAL PHYSICS (CALCULUS) 6 Units
Prerequisite: PHYS 4A.
Corequisite: Completion of or concurrent enrollment in MATH 1C.
5 hours lecture, 1 hour lecture-laboratory, 2 hours laboratory. (96 hours total per quarter)
Classical electricity and magnetism. **FHGE: Non-GE; Transferable: UC/CSU**

PHYS 4C GENERAL PHYSICS (CALCULUS) 6 Units
Prerequisites: PHYS 4B or 5A, 5B and 5C; MATH 1C.
5 hours lecture, 1 hour lecture-laboratory, 2 hours laboratory. (96 hours total per quarter)
Thermodynamics; mechanical, acoustical, and electromagnetic waves; optics.
FHGE: Non-GE; Transferable: UC/CSU

PHYS 4D GENERAL PHYSICS (CALCULUS) 6 Units
Prerequisite: PHYS 4C.
Corequisite: Completion of or concurrent enrollment in MATH 2A.
5 hours lecture, 1 hour lecture-laboratory, 2 hours laboratory. (96 hours total per quarter)
Special relativity, statistical mechanics, quantum mechanics, atomic physics, nuclear physics, particle physics. **FHGE: Non-GE; Transferable: UC/CSU**

PHYS 5A GENERAL PHYSICS (CALCULUS) EXTENDED 5 Units
Prerequisite: MATH 1A.
Corequisite: Completion of or concurrent enrollment in MATH 1B.
4 hours lecture, 1 hour lecture-laboratory, 2 hours laboratory. (84 hours total per quarter)
Mathematics-physics interrelationships, classical Newtonian mechanics. PHYS 5A+5B+5C provides the same content as PHYS 4A+4B at a slower pace.
FHGE: Natural Sciences; Transferable: UC/CSU

PHYS 5B GENERAL PHYSICS (CALCULUS) EXTENDED 5 Units
Prerequisite: PHYS 5A.
Corequisite: Completion of or concurrent enrollment in MATH 1C.
4 hours lecture, 1 hour lecture-laboratory, 2 hours laboratory. (84 hours total per quarter)
Mathematics-physics interrelationships, classical Newtonian mechanics and Electricity. PHYS 5A+5B+5C is designed to provide the same content as PHYS 4A+4B at a slower pace. **FHGE: Non-GE; Transferable: UC/CSU**

PHYS 5C GENERAL PHYSICS (CALCULUS) EXTENDED 5 Units
Prerequisite: PHYS 5B.
Corequisite: Completion of or concurrent enrollment in MATH 1C.
4 hours lecture, 1 hour lecture-laboratory, 2 hours laboratory. (84 hours total per quarter)
Classical electricity and magnetism. PHYS 5A+5B+5C is designed to provide the same content as PHYS 4A+4B at a slower pace. **FHGE: Non-GE; Transferable: UC/CSU**

PHYS 6 INTRODUCTORY PHYSICS 5 Units
Prerequisite: Satisfactory score on the mathematics placement test or MATH 48C.
5 hours lecture. (60 hours total per quarter)
Lectures, demonstrations, and problems in mechanics, electricity and magnetism.
FHGE: Non-GE; Transferable: UC/CSU

PHYS 12 INTRODUCTION TO MODERN PHYSICS 5 Units
5 hours lecture. (60 hours total per quarter)
Non-mathematical introduction to the ideas of modern physics intended for majors in the physical sciences. Introduction to the history and ideas of physics focus on three areas of modern physics, thermodynamics and the concept of entropy, Einstein's special and general theories of relativity, and quantum mechanics. The key ideas in these areas are explained using demonstrations, analogies, and examples drawn, whenever possible, from the student's own experience. Examine the impact these physics ideas have had on other fields, such as poetry, literature and music. No background in science or math is assumed. **FHGE: Non-GE; Transferable: UC/CSU**

PHYS 27 COOKING THE EARTH 4 Units
Advisory: Not open to students with credit in BIOL 27.
3 hours lecture, 3 hours laboratory. (72 hours total per quarter)
Cooking the Earth presents the science behind the Climate Change headlines and will answer the question "How does climate change work?" Explore changes that are occurring in the atmosphere due to climate change and their affect on Earth's ecosystems. Will also explore the predicted changes in Earth's systems over the next century. Does not require a background in physics or biology. **FHGE: Non-GE; Transferable: UC/CSU**

PHYS 54H HONORS INSTITUTE SEMINAR IN PHYSICS 1 Unit
Formerly: PHYS 34H
Prerequisite: Honors Institute participant.
Advisory: Not open to students with credit in PHYS 34H.
1 hour lecture. (12 hours total per quarter)
A seminar in directed readings, discussions and projects in physics. Specific topics to be determined by the instructor. The subject matter for this seminar will be drawn from a number of possible topics, including Lagrangian/Hamiltonian mechanics, celestial mechanics, astrophysics, the role of the Eigenvalue problem in advanced physics, historical approaches to physics (Galileo, Newton) or other topics of mutual interest to the instructor and students. **FHGE: Non-GE; Transferable: CSU**

PHYS 70R INDEPENDENT STUDY IN PHYSICS 1 Unit
PHYS 71R 2 Units
PHYS 72R 3 Units
PHYS 73R 4 Units
3–12 hours per week. (36–144 hours total per quarter)
Provides an opportunity for the student to expand their studies in Physics beyond the classroom by completing a project or an assignment arranged by agreement between the student and instructor. The student is required to contract with the instructor to determine the scope of assignment and the unit value assigned for successful completion. Students may take a maximum of 6 units of Independent Study per department. **FHGE: Non-GE; Transferable: CSU**

POLITICAL SCIENCE

Business and Social Sciences (650) 949-7322 www.foothill.edu/bss/

POLI 1 POLITICAL SCIENCE: INTRODUCTION TO AMERICAN GOVERNMENT & POLITICS 5 Units
Advisory: Demonstrated proficiency in English by placement into ENGL 1A as determined by score on the English placement test or through an equivalent placement process.
5 hours lecture. (60 hours total per quarter)
Contemporary analysis of the structure and function of American Government, its constitutional and political systems at the federal, state and local levels. Focus on the following topics: paradigms in the social sciences, models of justice and models of democracy, evolution of American elites and American constitutionalism, role of media in American political culture, political parties and political socialization, concept of the separation of powers: legislative, executive and judiciary branches, protest and protest movements, Civil Rights Acts of 1964 and 1991. **FHGE: Social & Behavioral Sciences; Transferable: UC/CSU**

POLI 2 COMPARATIVE GOVERNMENT & POLITICS 4 Units
Advisory: Demonstrated proficiency in English by placement into ENGL 1A as determined by score on the English placement test or through an equivalent placement process; not open to students with credit in POLI 2H.
4 hours lecture. (48 hours total per quarter)
Introductory analysis of comparative governmental systems and politics emphasizing a variety of political forms, theory of political differentiation and development, and patterns, processes and regularities among political systems in developing and developed world. **FHGE: Non-GE; Transferable: UC/CSU**

POLI 2H HONORS COMPARATIVE GOVERNMENT & POLITICS 4 Units
Prerequisites: Demonstrated proficiency in English by placement into ENGL 1A as determined by score on the English placement test or through an equivalent placement process; Honors Institute participant.
Advisory: Not open to students with credit in POLI 2.
4 hours lecture. (48 hours total per quarter)
Introductory analysis of comparative governmental systems and politics emphasizing a variety of political forms, theory of political differentiation and development, and patterns, processes and regularities among political sysems in developing and developed world. As an honors course, it is a full seminar with advanced teaching methods focusing on major writing, reading, and research assignments, student class presentations, group discussions and interactions. **FHGE: Non-GE; Transferable: UC/CSU**

POLI 3 INTRODUCTION TO POLITICAL PHILOSOPHY/POLITICAL THEORY 5 Units
Advisory: Demonstrated proficiency in English by placement into ENGL 1A as determined by score on the English placement test or through an equivalent placement process; not open to students with credit in POLI 3H.
5 hours lecture. (60 hours total per quarter)
Analysis of the history of political thought, the development of forms of political ideologies and their manifestation in forms of the state. Philosophical formulations of concepts of state of nature, natural law, natural rights, civil and political society explored as integral parts of philosophies of: Plato and Aristotle, Augustine and Aquinas, Machiavelli and Hobbes, Locke and Rousseau, Bentham and Mill, Hegel, Marx, and Antonio Gramsci. **FHGE: Social & Behavioral Sciences; Transferable: UC/CSU**

POLI 3H HONORS INTRODUCTION TO POLITICAL PHILOSOPHY/POLITICAL THEORY 5 Units
Prerequisite: Demonstrated proficiency in English by placement into ENGL 1A as determined by score on the English placement test or through an equivalent placement process; Honors Institute participant.
Advisory: Not open to students with credit in POLI 3.
5 hours lecture. (60 hours total per quarter)
Analysis of the history of political thought, the development of various forms of political ideologies and their manifestation in forms of the state. Philosophical formulations of concepts of state of nature, natural law, natural rights, civil and political society explored as integral parts of political philosophies of: Plato and Aristotle, Augustine and Aquinas, Machiavelli and Hobbes, Locke and Rousseau, Bentham and Mill, Hegel, Marx and Gramsci. As an honors course, it is a full seminar with advanced teaching methods focusing on major writing, reading, and research assignments, student oral class presentations, group discussions and interactions. **FHGE: Social & Behavioral Sciences; Transferable: UC/CSU**

POLI 9 POLITICAL ECONOMY 4 Units
Advisory: Not open to students with credit in ECON 9, 9H or POLI 9H.
4 hours lecture. (48 hours total per quarter)
Analysis of the contending theoretical formulations of International Political Economy (IPE) emphasizing the interconnection between economics and politics in the broad context of a global economy and the formulation of national public policy. Economic and political Policy issues of current national and international significance are emphasized. **FHGE: Social & Behavioral Sciences; Transferable: UC/CSU**

POLI 9H HONORS POLITICAL ECONOMY 4 Units
Prerequisite: Honors Institute participant.
Advisory: Demonstrated proficiency in English by placement into ENGL 1A as determined by score on the English placement test or through an equivalent placement process; not open to students with credit in ECON 9, 9H or POLI 9, 4 hours lecture. (48 hours total per quarter)
Analysis of the contending theoretical formulations of International Political Economy (IPE) emphasizing the interconnection between economics and politics in the broad context of a global economy and the formulation of national public policy. Economic and political Policy issues of current national and international significance are emphasized. As an honors course, it is a full thematic seminar with advanced teaching methods focusing on extensive writing, reading, and research assignments, student lectures, group discussions and interactions. Distinguishing features include: heightened focus on and evaluation of global objectives and components of developed and developing nations, increased depth of analysis and breadth of examination, higher level of student critical thinking. Expanded learning outcomes and fuller description of these focused elements. **FHGE: Social & Behavioral Sciences; Transferable: UC/CSU**

POLI 15 INTERNATIONAL RELATIONS/ WORLD POLITICS 4 Units
Advisory: Demonstrated proficiency in English by placement into ENGL 1A as determined by score on the English placement test or through an equivalent placement process; not open to students with credit in POLI 15H.
4 hours lecture. (48 hours total per quarter)
Analysis of the central elements of international relations including: contending theoretical formulations of international relations, factors of sovereignty, nationalism, relations between the core, semi-periphery and peripheral countries, the role of the World Trade Organization in international trade relations, international terrorism and global warming. The international struggle for global hegemony and the impact of terrorism on world politics are systematically analyzed in the context of an increasingly unipolar world. **FHGE: Social & Behavioral Sciences; Transferable: UC/CSU**

POLI 15H HONORS INTERNATIONAL RELATIONS/ WORLD POLITICS **4 Units**

Prerequisites: Demonstrated proficiency in English by placement into ENGL 1A as determined by score on the English placement test or through an equivalent placement process; Honors Institute participant.
Advisory: Not open to students with credit in POLI 15.
4 hours lecture. (48 hours total per quarter) Analysis of the contending theoretical formulations of international relations,the international political economy,factors of sovereignty, nationalism, relations between the core, semi-periphery and peripheral countries, the role of the World Trade Organization in international trade relations, international terrorism and global warming. The impact of international terrorism and international security on world politics are systematically analyzed in the context of an increasingly unipolar world as the struggle for hegemony ensues. As an honors course, it is a full seminar with advanced teaching methods focusing on major writing, reading, and research assignments, student class presentations, group discussions and interactions. **FHGE: Social & Behavioral Sciences; Transferable: UC/CSU**

POLI 54H HONORS INSTITUTE SEMINAR IN POLITICAL SCIENCE **1 Unit**

Formerly: POLI 34, 34H
Prerequisite: Honors Institute participant.
Advisory: Not open to students with credit in POLI 34 or 34H.
1 hour lecture. (12 hours total per quarter)
A seminar in directed readings, discussions and projects in political science. Specific topics to be determined by the instructor. **FHGE: Non-GE; Transferable: CSU**

PRIMARY CARE ASSOCIATE

Biological and Health Sciences **(650) 725-6959**
www.foothill.edu/bio/programs/primary/

PCA 50 ORIENTATION TO PRIMARY CARE ASSOCIATE PROGRAM **1 Unit**

Formerly: P C 190X
Prerequisite: Admission to the Primary Care Associate Program.
Advisory: Not open to students with credit in P C 190X.
1 hour lecture. (12 hours total per quarter)
Orientation to the Primary Care Associate Program and self-guided tasks required to complete a student pre-entry portfolio. Includes important health and safety clearances to ensure that students can participate safely in Primary Care Associate training. Intended for students in the primary care associate program. **FHGE: Non-GE; Transferable: CSU**

PCA 51A BASIC SCIENCE/MICROBIOLOGY/ INFECTIOUS DISEASE **2 Units**

Formerly: P C 190Z
Prerequisite: PCA 50.
Advisory: Not open to students with credit in P C 190Z.
2 hours lecture. (24 hours total per quarter)
Review of microbiology, cell physiology, molecular basis of biologic processes including genetics and the immune response. Builds on pre-entry knowledge to advance the depth and application of that knowledge to the range of disease states commonly seen in primary medical care. Coordinates with concurrent introductory topics in pharmacology. Includes function of organisms that cause human disease: prion, virus, prokaryotic bacteria, fungi, parasites. Prepares student for understanding the infectious disease process experienced in interaction of host and infecting organism. Intended for students in the primary care associate program. **FHGE: Non-GE; Transferable: CSU**

PCA 52A ANATOMY/PHYSIOLOGY/ PATHOPHYSIOLOGY I **4 Units**

Prerequisite: PCA 50.
3 hours lecture, 3 hours laboratory. (72 hours total per quarter)
First of two courses presenting human anatomy, physiology and pathophysiology as pertinent to disorders of primary care. Composed of (1) introductory overview of normal development, structure and function of components of all human body systems with emphasis on integration of normal system function and homeostatic mechanisms; (2)review of mechanisms of injury and tissue response (basic pathology);(3)in-depth study of selected systems [immune, hematologic, dermatologic, musculoskeletal, neurologic, EENT (eye, ear, nose, throat), respiratory], with emphasis on alterations from normal produced by the range of common disease states in these systems. Expands concepts presented in concurrent course PCA 51A. Intended for students in the primary care associate program. **FHGE: Non-GE; Transferable: CSU**

PCA 52B ANATOMY/PHYSIOLOGY/ PATHOPHYSIOLOGY II **3.5 Units**

Prerequisite: PCA 52A.
3 hours lecture, 1.5 hours laboratory (54 hours total per quarter)
Second of two courses presenting human anatomy, physiology and pathophysiology as pertinent to disorders of primary care. Course composed of (1)lectures to continue advancing student knowledge of organ function within selected major human body systems (cardiovascular, gastrointestinal, renal-urologic, reproductive, and endocrine), (2) appreciating alterations of physiology produced by disease states commonly seen in primary care medicine. Includes systems-based anatomy lectures in preparation for gross anatomy lab. Lab provides application of lecture concepts to study of cadaver specimens, diagnostic images, microscopic slides and photomicrographs. An integrative component includes lectures on psychiatry/ behavior (normal and abnormal) and pathophysiology of common primary care disorders that affect multiple systems. Intended for students in the primary care associate program. **FHGE: Non-GE; Transferable: CSU**

PCA 53A PHARMACOLOGY I **3 Units**

Prerequisite: PCA 50.
3 hours lecture. (36 hours total per quarter)
First of three-course sequence of pharmacology courses. Introducing pharmacology principles and drug function in management of disease, prescription writing and laws for safe and ethical prescribing of medication. Pharmacologic management of infectious disease and disorders of hematology, dermatology, musculoskeletal, neurologic, ophthlamologic, ear, nose, throat (EENT), and respiratory systems. Intended for students in the primary care associate program. **FHGE: Non-GE; Transferable: CSU**

PCA 53B PHARMACOLOGY II **3 Units**

Prerequisite: PCA 53A.
3 hours lecture. (36 hours total per quarter)
Second of three-course sequence of pharmacology courses structured to expand the knowledge of drug function in management of disease. Builds on introductory concepts from PCA 53A and provides specific in-depth discussion of pharmacological management of infectious disease and disorders of the following systems: cardiovascular, gastrointestinal, renal-urologic, reproductive, endocrine, psychiatric/behavioral. Intended for students in the primary care associate program. **FHGE: Non-GE; Transferable: CSU**

PCA 53C PHARMACOLOGY III **1 Unit**

Prerequisite: PCA 53B.
1 hour lecture. (12 hours total per quarter)
Third of three-course sequence of pharmacology courses structured to expand the knowledge of drug function in management of disease in special groups and settings. Builds on concepts from PCA 53B; provides in-depth discussion of pharmacological management of pediatric and geriatric patients, patients at end of life, and patients living with chronic disease including cancer. Includes introduction to pharmacologic management of patients in urgent/emergent settings and hospital-based care. Intended for students in the primary care associate program. **FHGE: Non-GE; Transferable: CSU**

PCA 54A PRE-CLINICAL I **3 Units**

Formerly: P C 80P
Prerequisite: PCA 50
Advisory: Not open to students with credit in P C 80P.
1.5 hours lecture, 4.5 hours laboratory. (72 hours total per quarter)
First of three courses in the preclinical sequence. Focusing on clinical skills, clinical problem solving and technical skills. Includes (1) review of general health history and screening adult physical exam skills; (2) problem-focused history and diagnostic physical exam skills of selected systems [musculoskeletal, neurologic, respiratory-pulmonary, EENT (ear, eye, nose, throat). Intended for students in the primary care associate program. **FHGE: Non-GE; Transferable: CSU**

PCA 54B PRE-CLINICAL II **2.5 Units**

Formerly: P C 80P
Prerequisite: PCA 54A.
Advisory: Not open to students with credit in P C 80P.
1 hour lecture, 4.5 hours laboratory. (66 hours total per quarter)

Second of three courses in the preclinical sequence. Focusing on clinical skills, clinical problem solving and technical skills. Includes (1) problem-focused history and diagnostic physical exam skills of selected systems (cardiovascular, gastrointestinal, renal-urologic, reproductive, endocrine, psychiatric/behavioral); (2)instruction in skills to evaluate disorders of multiple systems; (3) technical skills pertinent to medical office setting. Intended for students in the primary care associate program. **FHGE: Non-GE; Transferable: CSU**

PCA 54C PRE-CLINICAL III 2.5 Units
Formerly: P C 81P
Prerequisite: PCA 54B.
Advisory: Not open to students with credit in P C 81P.
1 hour lecture, 4.5 hours laboratory. (66 hours total per quarter)
Third of three courses in the preclinical sequence. Focusing on clinical skills, clinical problem solving and technical skills. Includes instruction in (1) health history and physical exam of pediatric and geriatric patients, patients living with chronic disease, and patients at end of life; (2) technical skills pertinent to pre-hospital and hospital settings. Intended for students in the primary care associate program. **FHGE: Non-GE; Transferable: CSU**

PCA 54D PRE-CLINICAL IV 1 Unit
Formerly: P C 82P
Prerequisite: PCA 54C.
Advisory: Not open to students with credit in P C 82P.
.5 hour lecture, 1.5 hour laboratory. (24 hours total per quarter)
The last course of the pre-clinical sequence. Focusing on behavioral medicine, clinical skills, and clinical problem solving. Includes a series of technical skills workshops necessary to provide care in the hospital and emergency room setting. Intended for students in the primary care associate program. **FHGE: Non-GE; Transferable: CSU**

PCA 55D PROFESSIONALISM/CULTURAL MEDICINE IV 3 Units
Prerequisite: PCA 55C.
3 hours lecture. (36 hours total per quarter)
Continuation of PCA 55C. Focus on preparation for practice for the PA profession: including national certification and California licensing requirements, medical malpractice, and health care practice issues. It includes development of skills to practice culturally appropriate medicine. Intended for students in the primary care associate program. **FHGE: Non-GE; Transferable: CSU**

PCA 56A CORE MEDICINE I 6 Units
Formerly: P C 80
Prerequisite: PCA 50.
Advisory: Not open to students with credit in P C 80.
6 hours lecture. (72 hours total per quarter)
First of seven courses. covering presentation, evaluation, diagnosis and management of primary care disorders of the following systems: hematology, dermatology, musculoskeletal (axial, appendicular), neurologic, opthalmologic, ear/nose/throat (ENT), and respiratory. Intended for students in the primary care associate program. **FHGE: Non-GE; Transferable: CSU**

PCA 56B CORE MEDICINE II 8.5 Units
Formerly: P C 80
Prerequisite: PCA 56A.
Advisory: Not open to students with credit in P C 80.
8.5 hours lecture. (102 hours total per quarter)
Second of seven courses. Covering the presentation, evaluation, diagnosis and management of primary care disorders of the following systems: cardiovascular, gastrointestinal, renal-urologic, reproductive-obstetrics, endocrine, psychiatric/ behavioral, multisystems-rheumatologic. Intended for students in the primary care associate program. **FHGE: Non-GE; Transferable: CSU**

PCA 56C CORE MEDICINE III 10 Units
Formerly: P C 81
Prerequisite: PCA 56B.
Advisory: Not open to students with credit in P C 81.
10 hours lecture. (120 hours total per quarter)
Third of seven courses. Covering presentation, evaluation, diagnosis and management of disorders of the following special groups seen in primary care settings:children, elders, patients at end of life and those living with chronic disease. Systems-based instruction in detecting and managing complex medical conditions, comorbidities and oncologic disorders is presented. Emphasis on care across the life span. End of life issues are explored. Expand and build on knowledge of topics introduced during PCA 56A and 56B. Intended for students in the primary care associate program. **FHGE: Non-GE; Transferable: CSU**

PCA 56D CORE MEDICINE IV 5 Units
Formerly: P C 82
Prerequisite: PCA 56C.
Advisory: Not open to students with credit in P C 82.
5 hours lecture. (60 hours total per quarter)
Fourth of seven courses. Covering presentation, evaluation, diagnosis and management urgent/emergent diseases and disorders. Includes preparation for hospital-based care in inpatient, surgery and emergency medicine departments. Intended for students in the primary care associate program. **FHGE: Non-GE; Transferable: CSU**

PCA 56E CORE MEDICINE V 1.5 Units
Formerly: P C 83
Prerequisite: PCA 56D.
Advisory: Not open to students with credit in P C 83.
1.5 hours lecture. (18 hours total per quarter)
Fifth of seven courses. Assists the student to develop awareness of the role primary care clinicians play in issues of Epidemiology and Public Health. Students use case histories from their clinical experience to explore epidemiologic principles. Intended for students in the primary care associate program. **FHGE: Non-GE; Transferable: CSU**

PCA 56F CORE MEDICINE VI 1.5 Units
Formerly: P C 83
Prerequisite: PCA 56E.
Advisory: Not open to students with credit in P C 83.
1.5 hours lecture. (18 hours total per quarter)
Sixth of seven courses. Expands awareness of the role hospital-based clinicians play in issues of Epidemiology and Public Health. Students use case histories from their hospital-based experience to explore epidemiologic principles. Intended for students in the primary care associate program. **FHGE: Non-GE; Transferable: CSU**

PCA 56G CORE MEDICINE VII 2 Units
Formerly: P C 84
Prerequisite: PCA 56F.
Advisory: Not open to students with credit in P C 84.
2 hours lecture. (24 hours total per quarter)
Final course of seven. Provides a summary review of all aspects of Core Medicine, Basic Science, Anatomy & Physiology, Pharmacology in preparation for summative evaluation, graduation and taking the Physician Assistant National Certifying Exam (PANCE). Intended for students in the primary care associate program. **FHGE: Non-GE; Transferable: CSU**

PCA 60A PRECEPTORSHIP I 4 Units
Formerly: P C 81P
Prerequisites: PCA 54B.
Advisory: Not open to students with credit in P C 81P.
1 hour lecture, 15 hours preceptorship. (192 hours total per quarter)
First of five courses in the clinical sequence. Includes classroom lectures and supervised experience evaluating diverse patients in primary care settings. Utilizes skills acquired in pre-clinical courses. Emphasizes medical care of adults presenting with non-complex, single medical problem. Includes awareness of primary or secondary problems of mental health. Provides introduction to care of children, elders, women, medically underserved patients. An introductory community/public health component is included. Development of progress in clinical performance with each successive academic period. Intended for students in the primary care associate program. **FHGE: Non-GE; Transferable: CSU**

PCA 60B PRECEPTORSHIP II 7 Units
Formerly: P C 82P
Prerequisite: PCA 60A.
Advisory: Not open to students with credit in P C 82P.
1 lecture hour, 30 hours preceptorship. (372 hours total per quarter)
Second of five courses in the clinical sequence. Includes classroom lectures and supervised experience evaluating patients in primary care settings. Utilizes skills acquired in pre-clinical courses. Emphasizes medical care of adults presenting with complex or multiple acute or chronic illness. Includes awareness of primary or secondary problems of mental health. Provides opportunity for care of children, elders, women, medically underserved patients. A community/public health component is included. Lectures provide introduction to health care delivery in surgical and emergency department settings. Development of progress in clinical performance with each successive academic period. Intended for students in the primary care associate program. **FHGE: Non-GE; Transferable: CSU**

PCA 60C PRECEPTORSHIP III 7 Units
Formerly: P C 83P
Prerequisite: PCA 60B.
Advisory: Not open to students with credit in P C 83P.
35 hours preceptorship. (420 hours total per quarter)
Third of five courses in the clinical sequence to include assessing, planning, implementing, and evaluating patients in a primary care clinical setting. In addition to the content in PCA 60A and B, it includes Emergency and Surgical care in the hospital setting. Development of progress in clinical performance with each successive academic period. Intended for students in the primary care associate program.
FHGE: Non-GE; Transferable: CSU

PCA 60D PRECEPTORSHIP IV 7 Units
Formerly: P C 84P
Prerequisite: PCA 60C.
Advisory: Not open to students with credit in P C 84P.
35 hours preceptorship. (420 hours total per quarter)
Fourth of five courses in the clinical sequence to include assessing, planning, implementing, and evaluating patients in a primary care clinical setting. In addition to the content in PCA 60C, it includes hospital in-patient care. Development of progress in clinical performance with each successive academic period. Intended for students in the primary care associate program. **FHGE: Non-GE; Transferable: CSU**

PCA 60E PRECEPTORSHIP V 6 Units
Formerly: P C 84P
Prerequisite: PCA 60D.
Advisory: Not open to students with credit in P C 84P.
30 hours preceptorship. (360 hours total per quarter)
The last of five courses in the clinical sequence to include assessing, planning, implementing, and evaluating patients in a primary care setting, ER, surgical, and in-patient setting. Additional information about geriatric care is included. Continuation of PCA 60D. Intended for students in the primary care associate program. **FHGE: Non-GE; Transferable: CSU**

PCA 61A PROFESSIONALISM/CULTURAL MEDICINE I 1 Unit
Formerly: PCA 55A
Prerequisite: PCA 50.
1 hour lecture. (12 hours total per quarter)
Focus on core content related to professional, ethical and cross cultural issues in the Primary Care Associate profession. Content includes overview of the history of the Primary Care Associate professions, medical ethics, overview of the Primary Care Associate and Non-Primary Care Associate professions, health policies and overview of the national health care system. Includes development of skill to practice culturally appropriate medicine. Intended for students in the primary care associate program. **FHGE: Non-GE; Transferable: CSU**

PCA 61B PROFESSIONALISM/CULTURAL MEDICINE II 1 Unit
Formerly: PCA 55B & 55C
Prerequisite: PCA 61A.
Advisory: Not open to students with credit in PCA 55B or C.
1 hour lecture. (12 hours total per quarter)
Continuation of PCA 61A. It continues to focus on professional, ethical, and cross cultural issues in the PA profession. Content includes national accreditation and state regulations for PA programs. National certifications and State licensing requirements for PAs. It includes information on the PA scope of practice and delegation of services agreement as well as information on electronic medical records, coding and billing for services. Includes effects of language barriers in the delivery of medical care, working with interpreters and health literacy. Intended for students in the primary care associate program. **FHGE: Non-GE; Transferable: CSU**

PCA 62A BEHAVIORAL MEDICINE I 1 Unit
Prerequisite: PCA 50.
.5 hours lecture, .5 hours lecture-laboratory (12 hours total per quarter)
First of three courses in the behavioral medicine sequence. Focus on the social and behavioral sciences knowledge and skills to conduct a therapeutic medical interview. Includes basic interviewing, problem solving, basic counseling techniques and patient education skills. Includes content on feedback techniques, and motivational interviewing. Intended for students in the primary care associate program. **FHGE: Non-GE; Transferable: CSU**

PCA 62B BEHAVIORAL MEDICINE II 1.5 Units
Prerequisite: PCA 62A.
1 hour lecture, 1 hour lecture-laboratory. (24 hours total per quarter)
Second of three courses in the behavioral medicine sequence. Focus on the social and behavioral sciences knowledge and skills to detect, assess and diagnose substance abuse, psychiatric and behavioral conditions, sexual health and to deal with difficult situations like giving bad news to the patient. Intended for students in the primary care associate program. **FHGE: Non-GE; Transferable: CSU**

PCA 62C BEHAVIORAL MEDICINE III 1 Unit
Prerequisite: PCA 62B.
.5 hours lecture, .5 hours lecture-laboratory (12 hours total per quarter)
Third of three courses in the behavioral medicine sequence. Focus on the social and behavioral science knowledge and skills to address psycho-social issues in the primary care setting associated with behavior change, dealing with chronic disease, coping with bad news, dementia, delirium, death and loss. Covers strategies for counseling and managing patients across the life span. Intended for students in the primary care associate program. **FHGE: Non-GE; Transferable: CSU**

PCA 290 ENRICHMENT COURSE DIDACTIC PRINCIPLES 1 Unit
Formerly: P C 190
Prerequisite: Enrollment in the Primary Care Associate Program.
1 hour lecture per week. (12 hours total per quarter)
An enrichment course developed to provide additional instruction to achieve competence in didactic course principles employed in the practice of primary care medicine. IIntended for students in the primary care associate program. **FHGE: Non-GE**

PCA 291 ENRICHMENT COURSE: PRECEPTORSHIP PRINCIPLES 4 Units
Formerly: P C 190Y
Prerequisite: Enrollment in Primary Care Associate Program.
20 hours clinic. (240 hours total per quarter)
Provide enrichment to complete preceptorship requirements. It may include self-study, tutoring, additional clinical experience and assignments. Focus training under the supervision of a physician preceptor. Intended for students in the primary care associate program. **FHGE: Non-GE**

PSYCHOLOGY

Business and Social Sciences (650) 949-7322 www.foothill.edu/bss/

PSYC 1 GENERAL PSYCHOLOGY 5 Units
5 hours lecture. (60 hours total per quarter)
An exploration of the major perspectives, concepts, and theories in psychology and the factors that influence human behavior. Topics include: research methodology, biological psychology, perception, sleep and dreaming, learning, cognitive processes, developmental psychology, motivation and emotion, sexuality and gender, stress and health, social psychology, theories of personality, psychological disorders and psychological therapies. **FHGE: Social & Behavioral Sciences; Transferable: UC/CSU**

PSYC 4 INTRODUCTION TO BIOPSYCHOLOGY 4 Units
Prerequisite: PSYC 1.
4 hours lecture. (48 hours total per quarter)

Examines biological aspects of behavior and consciousness, brain structures, functions, and the brain-behavior connection. Mechanism and biological and sensory processes associated with learning, perception, motivation, emotion and speech. Central and peripheral nervous system processes underlying the behavior of humans and animals. **FHGE: Social & Behavioral Sciences; Transferable: UC/CSU**

PSYC 7 STATISTICS FOR THE BEHAVIORAL SCIENCES 5 Units

Prerequisites: PSYC 1 or SOC 1; satisfactory score on the mathematics placement test or MATH 105 or MATH 108.
Advisory: UC will grant transfer credit for a maximum of one course from the following: PSYC 7, SOC 7 or MATH 10.
5 hours lecture. (60 hours total per quarter)
For students majoring in psychology, sociology, and other behavioral sciences. Introduction to the basic statistical techniques and design methodologies used in behavioral sciences. Topics include descriptive statistics; probability and sampling distributions; statistical inference and power; linear correlation and regression; chi-square; t-tests, and ANOVA. Computations will be completed by hand and with the use of statistical software. Emphasis on the interpretation and relevance of statistical findings and the application of statistical concepts to real-world problems in the behavioral and social sciences. **FHGE: Communication & Analytical Thinking; Transferable: UC/CSU**

PSYC 10 RESEARCH METHODS & DESIGNS 5 Units

Prerequisite: PSYC 1, 7, SOC 1, 7 or MATH 10.
Advisory: One of the following: ENGL 1A, 1AH, 1S & 1T or ESLL 26; not open to students with credit in SOC 10.
4 hours lecture, 3 hours laboratory. (84 hours total per quarter)
Survey of the various quantitative and qualitative research methods. Emphasis on the research design, planning, experimental procedures, and the collection, analysis, interpretation, and reporting of data. Laboratory emphasis on group work, data entry and analysis of data with statistical software. **FHGE: Social & Behavioral Sciences; Transferable: UC/CSU**

PSYC 14 CHILD & ADOLESCENT DEVELOPMENT 4 Units

Advisory: College-level reading and writing ability.
4 hours lecture. (48 hours total per quarter)
Survey of human development from conception through adolescence. Emphasis on the biological, cognitive, social, and emotional changes during development. Discussion of historical and contemporary research, and theoretical perspectives pertaining to children and adolescents. **FHGE: Social & Behavioral Sciences; Transferable: UC/CSU**

PSYC 21 PSYCHOLOGY OF WOMEN: SEX & GENDER DIFFERENCES 4 Units

Advisory: Demonstrated proficiency in English by placement into ENGL 1A as determined by score on the English placement test or through an equivalent placement process; not open to students with credit in SOC 21 or WMN 21.
4 hours lecture. (48 hours total per quarter)
Survey of gender issues based upon psychological and sociological theories and research. Examination of sex differences and sex role stereotyping in a global, multi-cultural approach. Appraisal of effects of biology, culture, and society in creating sex and gender differences. Consideration of major theories of gender development. Focus on biology, socialization, mass media, communication, personality, abilities, work, family, sex and violence. **FHGE: Social & Behavioral Sciences; Transferable: UC/CSU**

PSYC 22 PSYCHOLOGY OF PREJUDICE 4 Units

Advisory: PSYC 1.
4 hours lecture. (48 hours total per quarter)
Exploration of the psychological underpinnings of prejudice and discrimination. Investigates fundamental aspects of the mind and society that can lead to prejudice, conditions that can trigger discrimination, and complex psychological patterns that develop among different majority and non-majority groups. Explores ethnic, racial, gender, and sexual prejudice and solutions for how to reduce prejudice among these groups and others. **FHGE: United States Cultures & Communities, Social & Behavioral Sciences; Transferable: UC/CSU**

PSYC 25 INTRODUCTION TO ABNORMAL PSYCHOLOGY 4 Units

Advisory: College-level reading and writing ability.
4 hours lecture. (48 hours total per quarter)
Introduction to the scientific study of psychopathology. Investigation of psychological disorders from various theoretical perspectives such as biological, psychodynamic, behavioral, sociocultural, cognitive, and humanistic approaches. Survey of psychological disorders and their major causes and treatments. **FHGE: Social & Behavioral Sciences; Transferable: UC/CSU**

PSYC 30 SOCIAL PSYCHOLOGY 4 Units

Advisory: College-level reading and writing ability; not open to students with credit in SOC 30.
4 hours lecture. (48 hours total per quarter)
Survey of human behavior in relation to the social environment. Focus on human interaction and the shaping of diverse and commonly-shared attitudes, beliefs and worldviews by society, culture and social groups. Emphasis on how individuals are influenced behaviorally, emotionally, and cognitively. Topics include but not limited to social cognition, aggression, interpersonal attraction, attitudes, social influence, prejudice and discrimination, gender, person perception, and cultural norms.
FHGE: Social & Behavioral Sciences; Transferable: UC/CSU

PSYC 33 INTRODUCTION TO PERSONALITY PSYCHOLOGY 4 Units

Advisory: College-level reading and writing ability.
4 hours lecture. (48 hours total per quarter)
Introduction to the history, theoretical perspectives, research methodologies, assessments, and applications of the field of personality psychology. **FHGE: Social & Behavioral Sciences; Transferable: UC/CSU**

PSYC 40 HUMAN DEVELOPMENT 5 Units

Advisory: One of the following: ENGL 1A, 1AH, 1S & 1T or ESLL 26 or equivalent; PSYC 1 or introductory psychology course.
5 hours lecture. (60 hours total per quarter)
The Psychology of human development includes intellectual, social and personality development through the life span. Comprehensive presentation of the issues, forces, and outcomes that make us who we are. Topics in childhood and adolescence, emphasize child development including all stages from conception, through childhood, adolescence, adult issues, later life and gerontology, cover all life-span stages and important topics. Development is presented in a chronological and sequential order from conception through late life, while also presenting important themes and theories essential to this field of psychology. Provides an extensive amount of information on developmental stages covering theoretical and empirical foundations that enable students to become educated, critical interpreters of developmental information. A blend of basic and applied research, as well as coverage of controversial topics and emergent trends, demonstrating connections between the laboratory and life is presented. **FHGE: Non-GE; Transferable: UC/CSU**

PSYC 49 HUMAN SEXUALITY 4 Units

4 hours lecture. (48 hours total per quarter)
Current scientific analysis of and information on sexual functioning and sexuality. Basic questions regarding sexual behavior, sexual roles, anatomy and physiology of sexual response, social patterns of sexual behavior, sexual adjustment and maladjustment. Includes treatment of sexual dysfunction, sex variance, the reproductive span of contraception-pregnancy-birth, sexual disease. Legal, political and cultural aspects of sexual behavior. **FHGE: Non-GE; Transferable: UC/CSU**

PSYC 50 PSYCHOLOGY OF CRISIS 5 Units

Advisory: PSYC 1.
4 hours lecture, 3 hours laboratory. (84 hours total per quarter)
An Introduction to theory and strategies of crisis intervention, including exploration of ethical and multicultural issues. Models of disaster response and crisis intervention examined. Guidelines and role play of how crisis workers may react to victims of trauma, safety issues, as well as coping with provider burnout. Discussion and demonstration of critical incident debriefing. Observation and role play of appropriate crisis intervention techniques for different field conditions. Students participate in training or working with local crisis management agencies, as part of required field experience. **FHGE: Non-GE; Transferable: CSU**

PSYC 54H HONORS INSTITUTE SEMINAR IN PSYCHOLOGY 1 Unit

Formerly: PSYC 34, 34H
Prerequisite: Honors Institute participant.
Advisory: Not open to students with credit in PSYC 34 or 34H.
1 hour lecture. (12 hours total per quarter)
A seminar in directed readings, discussions and projects in psychology. Specific topics to be determined by the instructor. **FHGE: Non-GE; Transferable: CSU**

PSYC 55 PSYCHOLOGY OF SPORTS 4 Units
4 hours lecture. (48 hours total per quarter)
Current theoretical perspectives in sports psychology, applications of theories and techniques of optimal performance, and experiential exercises related to psychological factors that affect performance in sports, and in life. Topics include: Goal setting, motivation, neuropsychology, physiology, stress vs. relaxation (arousal regulation), commitment, peak potential, focus/concentration, confidence, visualization, and hypnosis. **FHGE: Non-GE; Transferable: UC/CSU**

PSYC 70R INDEPENDENT STUDY IN PSYCHOLOGY 1 Unit
PSYC 71R 2 Units
PSYC 72R 3 Units
PSYC 73R 4 Units
3–12 hours per week. (36–144 hours total per quarter)
Provides an opportunity for the student to expand their studies in Pyschology beyond the classroom by completing a project or an assignment arranged by agreement between the student and instructor. The student is required to contract with the instructor to determine the scope of assignment and the unit value assigned for successful completion. Students may take a maximum of 6 units of Independent Study per department. **FHGE: Non-GE; Transferable: CSU**

RADIOLOGIC TECHNOLOGY

Biological and Health Sciences (650) 949-7538
www.foothill.edu/bio/programs/radtech/

R T 50 ORIENTATION TO RADIATION SCIENCE TECHNOLOGIES 2 Units
Prerequisites: BIOL 40A, 40B and 40C or equivalent; RT 200L; AHS 200 or medical terminology course of 2 units or greater.
Corequisite: R T 53.
2 hours lecture. (24 hours total per quarter)
Overview of Radiologic Technology as a career. Radiographic terminology, positioning for abdomen, vital sign assessment, introduction to x-ray protection and production, radiographic image formation, patient care, basic computer operation and Internet application. Overview of program structure and student services. Intended for students in the radiologic technology program. **FHGE: Non-GE; Transferable: CSU**

R T 51A FUNDAMENTALS OF RADIOLOGIC TECHNOLOGY I 4 Units
Prerequisite: R T 50.
4 hours lecture. (48 hours total per quarter)
Medical and Radiographic terms. Basic positioning and anatomy related to chest, abdomen, upper and lower extremities. Intended for students in the radiologic technology program. **FHGE: Non-GE; Transferable: CSU**

R T 51B FUNDAMENTALS OF RADIOLOGIC TECHNOLOGY II 4 Units
Prerequisite: R T 51A.
4 hours lecture. (48 hours total per quarter)
Continuation of R T 51A; radiographic anatomy, positioning and procedures related to shoulder girdle, hip/pelvis, gastrointestinal tract, urinary system and biliary system. Intended for students in the radiologic technology program. **FHGE: Non-GE; Transferable: CSU**

R T 51C FUNDAMENTALS OF RADIOLOGIC TECHNOLOGY III 4 Units
Prerequisite: R T 51B.
4 hours lecture. (48 hours total per quarter)
Continuation of R T 51B; radiographic anatomy, positioning and terminology, related to the skull, vertebral column, bony thorax, surgical, pediatric and trauma radiology. Intended for students in the radiologic technology program. **FHGE: Non-GE; Transferable: CSU**

R T 52A PRINCIPLES OF RADIOLOGIC TECHNOLOGY I 3 Units
Prerequisites: R T 50; CHEM 25 or CHEM 30A; MATH 220.
3 hours lecture. (36 hours total per quarter)
Introduction to elementary principles of x-ray physics, technique, and radiation protection. Intended for students in the radiologic technology program. **FHGE: Non-GE; Transferable: CSU**

R T 52B PRINCIPLES OF RADIOLOGIC TECHNOLOGY II 3 Units
Prerequisite: R T 52A.
3 hours lecture. (36 hours total per quarter)
Continuation of R T 52A, including physics and technique with the main focus on radiation protection of the patient and the occupational worker. Intended for students in the radiologic technology program. **FHGE: Non-GE; Transferable: CSU**

R T 52C PRINCIPLES OF RADIOLOGIC TECHNOLOGY III 3 Units
Prerequisite: R T 52B.
3 hours lecture. (36 hours total per quarter)
Continuation of R T 52B. Expansion of principles of X-ray physics, technique and protection.Intended for students in the radiologic technology program. **FHGE: Non-GE; Transferable: CSU**

R T 52D DIGITAL IMAGE ACQUISITION & DISPLAY 2.5 Units
Prerequisite: R T 52C.
2.5 hours lecture, .5 hours laboratory. (36 hours total per quarter)
Imparts an understanding of components, principles and operation of digital imaging systems found in diagnostic radiology. Factors that impact image acquisition, display, archiving and retrieval are discussed. Compare/contrast digital and film-based systems. Principles of digital system quality assurance and maintenance. Intended for students in the radiologic technology program. **FHGE: Non-GE; Transferable: CSU**

R T 53 ORIENTATION TO RADIOLOGIC TECHNOLOGY 1 Unit
Corequisite: R T 50.
4 hours clinical laboratory. (48 hours total per quarter)
Orientation to radiation sciences, with emphasis on clinical participation. Intended for students in the radiologic technology program. **FHGE: Non-GE; Transferable: CSU**

R T 53A APPLIED RADIOGRAPHIC TECHNOLOGY I 3 Units
Prerequisite: R T 53.
16 hours clinical laboratory. (192 hours total per quarter)
First of four courses that includes clinical participation and application of basic positioning, patient care, equipment manipulation, radiation protection and image analysis. Emphasis is placed on chest, abdomen and upper & lower extremity radiography. A clinical presentation is also required with the same emphasis. Intended for students in the radiologic technology program. **FHGE: Non-GE; Transferable: CSU**

R T 53AL APPLIED RADIOGRAPHIC TECHNOLOGY LABORATORY I 1 Unit
Prerequisite: R T 50.
3 hours laboratory. (36 hours total per quarter)
First of three courses that includes laboratory participation and application of basic positioning, patient care, equipment manipulation, radiation protection, image analysis and technical radiographic experiments. Emphasis on abdomen, chest, upper and lower extremities as learned in the companion lecture course, R T 51A. Intended for students in the radiologic technology program. **FHGE: Non-GE; Transferable: CSU**

R T 53B APPLIED RADIOGRAPHIC TECHNOLOGY II 3 Units
Prerequisite: R T 53A.
16 hours clinical laboratory. (192 hours total per quarter)
Second of four courses that includes clinical participation and application of basic positioning, patient care, equipment manipulation, radiation protection and image analysis. Emphasis is placed on the biliary tract, upper & lower gastrointestinal system and the urinary system. A clinical presentation is also required with the same emphasis. Intended for students in the radiologic technology program.
FHGE: Non-GE; Transferable: CSU

R T 53BL APPLIED RADIOGRAPHIC TECHNOLOGY LABORATORY II 1 Unit
Prerequisite: R T 53AL.
3 hours laboratory. (36 hours total per quarter)
Second of three courses that includes laboratory participation and application of basic positioning, patient care, equipment manipulation, radiation protection, image analysis and technical radiographic experiments. Emphasis on shoulder girdle, hip/

pelvis, esophagus, stomach, colon and urinary system as learned in the companion lecture course, R T 51B. Intended for students in the radiologic technology program. **FHGE: Non-GE; Transferable: CSU**

R T 53C APPLIED RADIOGRAPHIC TECHNOLOGY III 3 Units
Prerequisite: R T 53B.
16 hours clinical laboratory. (192 hours total per quarter)
Third of four courses that includes clinical participation and application of basic positioning, patient care, equipment manipulation, radiation protection and image analysis. Emphasis is placed on the Cervical, Thoracic and Lumbar Spines, Sacrum & Coccyx and Skull. A clinical presentation is also required with the same emphasis. Intended for students in the radiologic technology program. **FHGE: Non-GE; Transferable: CSU**

R T 53CL APPLIED RADIOGRAPHIC TECHNOLOGY LABORATORY III 1 Unit
Prerequisite: R T 53BL.
3 hours laboratory. (36 hours total per quarter)
Third of three courses that includes laboratory participation and application of basic positioning, patient care, equipment manipulation, radiation protection, image analysis and technical radiographic experiments. Emphasis on vertebral column, sacrum and coccyx, ribs and skull as learned in the companion lecture course, R T 51C. Intended for students in the radiologic technology program. **FHGE: Non-GE; Transferable: CSU**

R T 53D APPLIED RADIOLOGIC TECHNOLOGY IV 5.5 Units
Prerequisite: R T 53C.
27 hours clinical laboratory. (324 hours total per quarter)
Fourth of four courses that includes clinical participation and application of basic positioning, patient care, equipment manipulation, radiation protection and image analysis. Emphasis is placed on pediatric radiography, venipuncture and fluoroscopy. A clinical presentation is also required with the emphasis on pathology.Intended for students in the radiologic technology program. **FHGE: Non-GE; Transferable: CSU**

R T 54A BASIC PATIENT CARE FOR IMAGING TECHNOLOGY 2 Units
Prerequisite: R T 50.
Advisory: Not open to students with credit in R T 50B.
2 hours lecture. (24 hours total per quarter)
Basic concepts of patient care, including consideration for the physical and psychological needs of the patient and family. Routine and emergency patient care procedures and techniques as well as infection control protocols. Intended for students in the radiologic technology program. **FHGE: Non-GE; Transferable: CSU**

R T 54B LAW & ETHICS IN MEDICAL IMAGING 2 Units
Prerequisites: R T 54A; one of the following: ENGL 1A, 1AH, 1S & 1T or ESLL 26.
Advisory: Not open to students with credit in R T 50A.
2 hours lecture. (24 hours total per quarter)
A fundamental background in ethics, historical and philosophical basis of ethics, as well as elements of ethical behavior in regards to clinical practice. Misconduct, malpractice, legal and professional standards and the ASRT scope of practice. Intended for students in the radiologic technology program. **FHGE: Non-GE; Transferable: CSU**

R T 54C RADIOGRAPHIC PATHOLOGY 3 Units
Formerly: R T 51D
Prerequisite: R T 54B.
Advisory: Not open to students with credit in R T 51D.
3 hours lecture. (36 hours total per quarter)
Radiographic Pathology of the respiratory, osseous, fractures, urinary, gastrointestinal, hepatobiliary, central nervous, hemopoietic and endocrine systems, HSG's and associated pathologies.Intended for students in the radiologic technology program. **FHGE: Non-GE; Transferable: CSU**

R T 61B RADIOLOGY RESEARCH PROJECT 1 Unit
Prerequisite: R T 62A.
1 hour lecture. (12 hours total per quarter)
Collaborative research project on a highly specialized area of radiography or other imaging modality. Group presentation and scientific poster display board required. Specific topics to be determined by the instructor. Intended for students in the radiologic technology program. **FHGE: Non-GE; Transferable: CSU**

R T 62A ADVANCED MODALITIES IN IMAGING 3 Units
Prerequisite: R T 52C.
3 hours lecture. (36 hours total per quarter)
Specialized radiographic procedures related to magnetic resonance imaging and computerized tomography. Computer applications related to image capture, display, storage, and distribution. Sectional anatomy of the head, neck, thorax, abdomen, pelvis, vertebral column, and extremities. Intended for students in the radiologic technology program. **FHGE: Non-GE; Transferable: CSU**

R T 62B SPECIAL PROCEDURES & EQUIPMENT 3 Units
Prerequisite: R T 62A.
3 hours lecture. (36 hours total per quarter)
Continuation of R T 62A with emphasis on radiography of the skull, facial bones, mandible, and sinuses. Advanced radiographic procedures with emphasis on angiographic, cerebral, heart and interventional procedures, angiographic equipment, radiographic anatomy and pathology. Intended for students in the radiologic technology program. **FHGE: Non-GE; Transferable: CSU**

R T 62C PROFESSIONAL DEVELOPMENT IN RADIOLOGY 3 Units
Prerequisite: R T 62B.
2 hours lecture, 2 hours lecture-laboratory. (48 hours total per quarter)
Professional development in radiography, continuing education, and advanced modality opportunities. Intended for students in the radiologic technology program. **FHGE: Non-GE; Transferable: CSU**

R T 63 ADVANCED RADIOGRAPHIC PRINCIPLES 3 Units
Prerequisite: R T 62B.
3 hours lecture. (36 hours total per quarter)
Special emphasis on reviewing the Content Specifications for the ARRT Examination in Radiography; radiation protection, equipment operation and quality control, image acquisition and evaluation, imaging procedures, patient care and education. Intended for students in the radiologic technology program. **FHGE: Non-GE; Transferable: CSU**

R T 63A RADIOGRAPHIC CLINICAL PRACTICUM I 6.5 Units
Prerequisite: R T 53D.
32 hours clinical laboratory. (384 hours total per quarter)
First of three courses that includes clinical participation and application of basic positioning, patient care, equipment manipulation, radiation protection and image analysis. Emphasis on utilizing advanced modalities including MRI/CT. Intended for students in the radiologic technology program. **FHGE: Non-GE; Transferable: CSU**

R T 63B RADIOGRAPHIC CLINICAL PRACTICUM II 6.5 Units
Prerequisite: R T 63A.
32 hours clinical laboratory. (384 hours total per quarter)
Second of three courses that includes clinical participation and application of basic positioning, patient care, equipment manipulation, radiation protection and image analysis. Emphasis on advanced radiographic examinations of the skull, mandible, orbits, nasal bones, facial bones, para-nasal sinuses, mastoids and on special procedures. Intended for students in the radiologic technology program. **FHGE: Non-GE; Transferable: CSU**

R T 63C RADIOGRAPHIC CLINICAL PRACTICUM III 6.5 Units
Prerequisite: R T 63B.
32 hours clinical laboratory. (384 hours total per quarter)
Third of three courses that includes clinical participation and application of basic positioning, patient care, equipment manipulation, radiation protection and image analysis. Emphasis on radiographic techniques and positioning in trauma radiology. Intended for students in the radiologic technology program. **FHGE: Non-GE; Transferable: CSU**

R T 64 FLUOROSCOPY 4 Units
Prerequisite: R T 52C or current certification in Radiologic Technology or Radiation Therapy Technology.
3.34 hours lecture, 1.25 hours laboratory. (55.08 hours total per quarter)
Principles of radiation protection and fluoroscopic equipment, application of special equipment, illumination and photometry, anatomy and physiology of the eye and relationship of internal organs. Intended for students in the radiologic technology program. **FHGE: Non-GE; Transferable: CSU**

R T 65 MAMMOGRAPHY 3 Units
Prerequisite: R T 62A or current certification in Radiologic Technology.
2.5 hours lecture, 1.5 hours laboratory. (48 hours total per quarter)
Technical and procedural aspects of mammography including breast anatomy, physiology, positioning, compression, quality assurance techniques, implant imaging and mass localization. Successful completion of this course entitles the student to a Certificate of Completion of a 40 hour course in mammography education. Intended for students in the radiologic technology program. **FHGE: Non-GE; Transferable: CSU**

R T 71 ADVANCED CLINICAL EXPERIENCE: MAGNETIC RESONANCE IMAGING 8 Units
Prerequisites: Current ARRT and CRT Certification as a Radiologic Technology.
40 hours clinical laboratory. (480 hours total per quarter)
A practicum in a magnetic resonance department. Practical experience is implemented to expose the post-graduate radiologic technology student to the principles of MRI with emphasis on mastery of the knowledge, insight, and skills required to perform MRI procedures. **FHGE: Non-GE; Transferable: CSU**

R T 72 VENIPUNCTURE 1.5 Units
Prerequisites: R T 51C or current Certification in Radiologic Technology; current Health Care Provider CPR card.
1 hour lecture, 2 hours laboratory. (36 hours total per quarter)
Principles and practices of intravenous injection. Includes theory, demonstration and application of venipuncture equipment and solutions, puncture techniques, complications, and post-puncture care. Meets state of California qualifications for didactic certification in venipuncture for radiologic technologists. Intended for students in the radiologic technology program and/or currently certified Radiologic Technologists. **FHGE: Non-GE; Transferable: CSU**

R T 74 ADVANCED CLINICAL EXPERIENCE: COMPUTED TOMOGRAPHY 8 Units
Prerequisites: Current ARRT and CRT certification as a Radiologic Technologist.
40 hours clinical laboratory. (480 hours total per quarter)
A practicum in a computed tomography department. Practical experience is implemented to expose the post-graduate radiologic technology student to the principles of CT with emphasis on mastery of the knowledge, insight and skills required to perform CT procedures. **FHGE: Non-GE; Transferable: CSU**

R T 200L RADIOLOGIC TECHNOLOGY AS A CAREER 1 Unit
2 hours lecture-laboratory. (24 hours total per quarter)
Introduction to the radiological sciences and its role in health care. Focus on the use of ionizing radiation in the diagnosis and treatment of disease and on the health professionals responsible for providing this medical specialty. Discussion of requirements for the Radiologic Technology Program. (Six hours hospital observation included). **FHGE: Non-GE**

RESPIRATORY THERAPY

Biological and Health Sciences (650) 949-7538
www.foothill.edu/bio/programs/respther/

RSPT 50A RESPIRATORY THERAPY PROCEDURES 4.5 Units
Prerequisite: Admission to the Respiratory Therapy Program.
Advisory: Eligibility for ESLL 26 or ENGL 1A.
3 hours lecture, 5 hours laboratory (96 hours total per quarter)
Basic hospital and respiratory therapy procedures. Vital signs, compressed gas equipment, oxygen therapy, medical asepsis, bedside pulmonary function testing, disaster and emergency procedures, back safety. Intended for students in the respiratory therapy program. **FHGE: Non-GE; Transferable: CSU**

RSPT 50B INTRODUCTION TO PROCEDURES & HOSPITAL ORIENTATION 6 Units
Prerequisites: RSPT 50A and 54; CPR certification (Health Provider C).
Advisory: RSPT 51A.
3 hours lecture, 6.5 hours laboratory, 4 hours clinic. (162 hours total per quarter)
Introduction to hospital and patient care, administration of hyperinflation therapy, airway pharmacology, bronchial hygiene therapy with chest physiotherapy techniques, introduction to non-invasive ventilation, basic and advanced airway care, infection control procedures of equipment, nutrition assessment. Intended for students in the respiratory therapy program. **FHGE: Non-GE; Transferable: CSU**

RSPT 50C THERAPEUTICS & INTRODUCTION TO MECHANICAL VENTILATION 4.5 Units
Prerequisites: RSPT 50B and 53A.
2 hours lecture, 2 hours laboratory, 10 hours clinic, 1.5 hours lecture-laboratory. (186 hours total per quarter)
Practice of skills in the clinic setting. Topics to be covered include respiratory failure, introduction to invasive and non-invasive mechanical ventilation. Intended for students in the respiratory therapy program. **FHGE: Non-GE; Transferable: CSU**

RSPT 51A INTRODUCTION TO RESPIRATORY ANATOMY & PHYSIOLOGY 2 Units
Prerequisite: AHS 200 or medical terminology course of 2 units or greater.
2 hours lecture. (24 hours total per quarter)
Anatomy of the respiratory system, ventilation, diffusion of pulmonary gases, circulatory system, and oxygen transport.Intended for students in the respiratory therapy program. **FHGE: Non-GE; Transferable: CSU**

RSPT 51B RESPIRATORY PHYSIOLOGY 3 Units
Prerequisite: RSPT 51A or equivalent.
3 hours lecture. (36 hours total per quarter)
Respiratory physiology, including normal and altered lung physiology. Ventilation-perfusion relationships. Control of ventilation, renal, aging, exercise, altitude, and high pressure effects on physiology. Arterial blood gas interpretation and acid-base physiology. Intended for students in the respiratory therapy program. **FHGE: Non-GE; Transferable: CSU**

RSPT 51C PATIENT ASSESSMENT & PULMONARY DISEASE 4.5 Units
Prerequisite: BIOL 41.
4 hours lecture, 1 hour laboratory, .5 hour lecture-laboratory. (66 hours total per quarter)
Physiological approach to the etiology, management, and prognosis of the various respiratory diseases. Utilization of physical examination, chest X-ray and basic clinical laboratory tests in the diagnosis and treatment of pulmonary disease. This course is intended for students accepted and enrolled in the Respiratory Therapy Program. **FHGE: Non-GE; Transferable: CSU**

RSPT 52 APPLIED SCIENCE FOR RESPIRATORY THERAPY 3 Units
Prerequisites: CHEM 25, 30A or equivalent; MATH 220; admission to the Respiratory Therapy Program.
3 hours lecture. (36 hours total per quarter)
Basic mathematics and science principles applicable to Respiratory Therapy. Includes algebra review, metric system, behavior of matter, forces, and acids and bases. Intended for students in the respiratory therapy program. **FHGE: Non-GE; Transferable: CSU**

RSPT 53A INTRODUCTION TO RESPIRATORY THERAPY PHARMACOLOGY 2 Units
Prerequisite: Admission to the Respiratory Therapy Program.
2 hours lecture. (24 hours total per quarter)
An in-depth study of drug groups commonly used in the treatment of respiratory diseases. Intended for students in the respiratory therapy program. **FHGE: Non-GE; Transferable: CSU**

RSPT 53B ADVANCED RESPIRATORY THERAPY PHARMACOLOGY 2 Units
Prerequisite: RSPT 53A.
2 hours lecture. (24 hours total per quarter)
An in-depth study of drug groups commonly encountered in intensive respiratory care. Intended for students in the respiratory therapy program. **FHGE: Non-GE; Transferable: CSU**

RSPT 54 ORIENTATION TO RESPIRATORY CARE 2 Units
Prerequisite: Admission to Respiratory Therapy Program.
2 hours lecture. (24 hours total per quarter)
Orientation to the Respiratory Therapy Program and health care. Current issues in American medical care, professionalism, death, dying and loss, communication skills, cultural diversity, HIPAA, ethics, legal issues, and patient's rights. Intended for students in the respiratory therapy program. **FHGE: Non-GE; Transferable: CSU**

RSPT 55A MEDIATED STUDIES IN RESPIRATORY THERAPY I .5 Unit
Prerequisite: Admission to the Respiratory Therapy Program.
2 hours laboratory. (24 hours total per quarter)
First of seven courses paralleling content taught in courses in the Respiratory Therapy Program. Focus on Oxygen equipment, Anatomy and Physiology, vital assessments and decision making. Develop and strengthen concepts taught in the concurrent lecture and laboratory sessions of the respiratory therapy program. Intended for students in the respiratory therapy program. **FHGE: Non-GE; Transferable: CSU**

RSPT 55B MEDIATED STUDIES IN RESPIRATORY THERAPY II .5 Unit
Prerequisite: Admission to the Respiratory Therapy Program.
2 hours laboratory. (24 hours total per quarter)
Second of seven courses paralleling content taught in courses in the Respiratory Therapy Program. Develop and strengthen concepts taught in the concurrent lecture and laboratory sessions of the respiratory therapy program. Media materials will provide an alternative learning resource for non-traditional students. Intended for students in the respiratory therapy program. **FHGE: Non-GE; Transferable: CSU**

RSPT 55C MEDIATED STUDIES IN RESPIRATORY THERAPY III .5 Unit
Prerequisite: Admission to the Respiratory Therapy Program.
2 hours laboratory. (24 hours total per quarter)
Third of seven courses paralleling content taught in courses in the respiratory therapy program. Focus on Assessments and data evaluation. Develop and strengthen concepts taught in the concurrent lecture and laboratory sessions of the Respiratory Therapy program. Intended for students in the respiratory therapy program. **FHGE: Non-GE; Transferable: CSU**

RSPT 55D MEDIATED STUDIES IN RESPIRATORY THERAPY IV .5 Unit
Prerequisite: Admission to the Respiratory Therapy Program.
2 hours laboratory. (24 hours total per quarter)
Fourth of seven instruction and evaluation in topics paralleling content in courses in the respiratory therapy program. Content to include invasive and non-invasive ventilation strategies and management, arterial blood gases,and innovative approaches to the management of ARDS. Develop and strengthen concepts taught in the concurrent lecture and laboratory sessions of the respiratory therapy program. Intended for students in the respiratory therapy program. **FHGE: Non-GE; Transferable: CSU**

RSPT 55E MEDIATED STUDIES IN RESPIRATORY THERAPY V .5 Unit
Prerequisite: Admission to the Respiratory Therapy Program.
2 hours laboratory. (24 hours total per quarter)
Fifth of seven instruction and evaluation in topics paralleling content taught in courses in the respiratory therapy program. Topics include neonatal and pediatric diseases, ECG and Hemodynamic monitoring. Develop and strengthen concepts taught in the concurrent lecture and laboratory sessions of the respiratory therapy program. Media materials will provide an alternative learning resource for non-traditional students. Intended for students in the respiratory therapy program. **FHGE: Non-GE; Transferable: CSU**

RSPT 55F MEDIATED STUDIES IN RESPIRATORY THERAPY VI .5 Unit
Prerequisite: Admission to the Respiratory Therapy Program.
2 hours laboratory. (24 hours total per quarter)
Sixth of seven media instruction and evaluation in topics paralleling content taught in courses in the respiratory therapy program. Topics covered include: COPD/ Mechanical Ventilation, Head Injury, Acute Congestive Heart Failure,Near Drowning, Neonatal Respiratory Distress Syndrome, Hypothermia with Cardiac Arrest,COPD/ Home Care & Pulmonary Rehabilitation. Intended for students in the respiratory therapy program. **FHGE: Non-GE; Transferable: CSU**

RSPT 55G MEDIATED STUDIES IN RESPIRATORY THERAPY VII .5 Unit
Prerequisite: Admission to the Respiratory Therapy Program.
2 hours laboratory. (24 hours total per quarter)
Seventh of seven media instruction and evaluation in topics paralleling content taught in courses in the respiratory therapy program. Students will take practice exams of the national entry level and registry examinations. Content will also include Advanced PFT and Basic Spirometry. Intended for students in the respiratory therapy program. **FHGE: Non-GE; Transferable: CSU**

RSPT 60A CARDIOLOGY FOR RESPIRATORY THERAPISTS 2 Units
Prerequisite: RSPT 61A.
2 hours lecture. (24 hours total per quarter)
Electrocardiogram and rhythm recognition. Invasive and non-invasive hemodynamic monitoring. Cardiac diagnostic and therapeutic procedures. Fluid balance. Intended for students in the respiratory therapy program. **FHGE: Non-GE; Transferable: CSU**

RSPT 60B ADVANCED CARDIAC LIFE SUPPORT 2 Units
Prerequisites: RSPT 53B and 60A.
2 hours lecture. (24 hours total per quarter)
Preparation for Advanced Cardiac Life Support Certification for healthcare providers who will be directing or participating in the resuscitation of patients. Students will practice skills involved in the treatment of arrest and peri-arrest patients. Intended for students in the respiratory therapy program. **FHGE: Non-GE; Transferable: CSU**

RSPT 60C PULMONARY DIAGNOSTICS 3 Units
Prerequisite: RSPT 51C.
2.5 hours lecture, 2 hours laboratory. (54 hours total per quarter)
Selection, performance, and interpretation of tests used to diagnose cardiopulmonary abnormalities. Intended for students in the respiratory therapy program. **FHGE: Non-GE; Transferable: CSU**

RSPT 61A ADULT MECHANICAL VENTILATION 4 Units
Prerequisites: RSPT 50C and 51C.
3 hours lecture, 3 hours lecture-laboratory. (72 hours total per quarter)
Develops and enhances the concepts and skills essential to meet the needs of patients placed on invasive and non-invasive ventilation. Overview of modes of ventilation, humidification and medication delivery. Includes laboratory exercises of commonly used ventilators and patient-ventilator simulations. For continuing education purposes, new ventilators and state-of-the-art theories on ventilation will be presented based upon current research. Intended for students in the respiratory therapy program. **FHGE: Non-GE; Transferable: CSU**

RSPT 61B PERINATAL RESPIRATORY CARE 3 Units
Prerequisite: RSPT 61A.
2 hours lecture, 3 hours laboratory. (60 hours total per quarter)
In depth look at Perinatal Respiratory Care. Examination and assessment of the neonate. Neonatal Respiratory diseases and disorders including treatment and management. Preparation for the Neonatal Resuscitation Program certification. Intended for students in the respiratory therapy program. **FHGE: Non-GE; Transferable: CSU**

RSPT 61C HOME & REHABILITATIVE RESPIRATORY CARE 2 Units
Prerequisite: RSPT 61B.
2 hours lecture. (24 hours total per quarter)
Introduction to rehabilitative respiratory care. Discussion of respiratory therapy procedures and equipment used in the treatment of home care patients. Intended for students in the Respiratory Therapy Program. **FHGE: Non-GE; Transferable: CSU**

RSPT 61D PEDIATRIC RESPIRATORY CARE 2 Units
Prerequisite: RSPT 61B.
2 hours lecture. (24 hours total per quarter)
In depth look at Pediatric respiratory care. Examination and assessment of the pediatric patient. Pediatric Respiratory diseases and disorders including treatment and management. Preparation for the pediatric advanced life support certification. Intended for students in the respiratory therapy program. **FHGE: Non-GE; Transferable: CSU**

RSPT 62 MANAGEMENT, RESUME & NATIONAL BOARD EXAMINATION 1 Unit
Prerequisite: RSPT 61B.
1 hour lecture. (12 hours total per quarter)
Management and leadership styles. Review of effective communication skills. Current health care economics, job outlook and interviewing skills. Resume, cover letter and thank you letter preparation. Students will be introduced to the NBRC Entry and Registry level detailed content outlines. Licensure and Exam applications and procedure for applying. Students will need to complete a self evaluation paper that lists areas they need to focus on. Students take the National Board for Respiratory Care Mock Entry-Level Examination. Intended for students in the respiratory therapy program. **FHGE: Non-GE; Transferable: CSU**

RSPT 63A ADVANCED PATHOPHYSIOLOGY & PATIENT MANAGEMENT 3 Units
Prerequisite: RSPT 61A or Respiratory Care Practitioner status.
3 hours lecture. (36 hours total per quarter)
The assessment and treatment of patients with Cardiopulmonary Disease. Structured to help build higher order critical thinking and problem solving skills. Through the use of case studies and clinical simulations students will place emphasis on information gathering and decision making for respiratory care patients. Helpful for NBRC Clinical Simulation Examination preparation. Intended for students in the respiratory therapy program. **FHGE: Non-GE; Transferable: CSU**

RSPT 65 COMPUTER PATIENT SIMULATIONS .5 Unit
Prerequisite: RSPT 61A.
2 hours laboratory. (24 hours total per quarter)
Information gathering and decision making in the management of patients with acute and chronic respiratory conditions. Intended for students in the respiratory therapy program. **FHGE: Non-GE; Transferable: CSU**

RSPT 70A CLINICAL ROTATION I 2 Units
Prerequisites: RSPT 50C and 51C.
10 hours clinic. (120 hours total per quarter)
Exposure to hospital departments. Clinical application of respiratory therapy procedures. Interpretation of basic diagnostic data and correlation to applied therapies. Intended for students in the respiratory therapy program. **FHGE: Non-GE; Transferable: CSU**

RSPT 70B CLINICAL ROTATION II 5 Units
Prerequisites: RSPT 61A and 70A.
25 hours clinic. (300 hours total per quarter)
Continuation of RSPT 70A with performance of more advanced respiratory therapy techniques. Interpretation of increasing amounts of clinical data and a correlation to applied therapies. Participation in cardiopulmonary resuscitations. Intended for students in the respiratory therapy program. **FHGE: Non-GE; Transferable: CSU**

RSPT 70C CLINICAL ROTATION III 5 Units
Prerequisites: RSPT 61B and 70B.
25 hours clinic. (300 hours total per quarter)
Continuation of RSPT 70B. Clinical application of theory relating to monitoring and management of neonate, pediatric, and adult intensive care unit patient. Intended for students in the respiratory therapy program. **FHGE: Non-GE; Transferable: CSU**

RSPT 70D CLINICAL ROTATION IV 5 Units
Prerequisite: RSPT 70C.
25 hours clinic. (300 hours total per quarter)
Continuation of RSPT 70C. Further clinical experience with ventilation and special procedures of surgical, medical, neonatal, and pediatric intensive care, offered as options for remediation. Assignment dependent upon demonstrated student needs. Mini-rotations offered to qualified students, depending on interest. Intended for students in the respiratory therapy program. **FHGE: Non-GE; Transferable: CSU**

RSPT 82 ORIENTATION TO INTERVENTIONAL PULMONOLOGY 2 Units
2 hours lecture. (24 hours total per quarter)
Orientation and overview of Interventional Pulmonology as a respiratory care specialty. **FHGE: Non-GE; Transferable: CSU**

RSPT 83 CASE-BASED ANALYSIS & CRITICAL THINKING IN DIAGNOSTIC INTERVENTIONAL PULMONOLOGY 2 Units
2 hours lecture. (24 hours total per quarter)
Case based reasoning and critical thinking in the field of Interventional Pulmonology. Content will include critical diagnostic thinking, evidence-based medicine and quantitative studies in respiratory care. **FHGE: Non-GE; Transferable: CSU**

RSPT 84 FUNDAMENTALS OF PULMONARY DISEASE 3 Units
3 hours lecture. (36 hours total per quarter)
Review of pulmonary anatomy and physiology. Fundamentals of pulmonary diseases and pathology including cancer staging. **FHGE: Non-GE; Transferable: CSU**

RSPT 85 INTERVENTIONAL PULMONOLGY THEORY & APPLICATION 3 Units
3 hours lecture. (36 hours total per quarter)
Provides the general principles of Interventional Pulmonolgy. Disease specific application including diagnostic and therapeutic interventions, techniques and procedures will be introduced. **FHGE: Non-GE; Transferable: CSU**

RSPT 86 INTERVENTIONAL PULMONOLOGY PROCEDURES 3 Units
2 hours lecture, 3 hours laboratory. (60 hours total per quarter)
Basic and advanced interventional pulmonology procedures. Procedures to be covered will include bronchoscopy, thoracoscopy, endoscopy, airway access procedures and novel techniques. **FHGE: Non-GE; Transferable: CSU**

RSPT 87A INTERVENTIONAL PULMONOLOGY CLINICAL INTERNSHIP I 2 Units
10 clinical hours. (120 hours total per quarter)
Clinical application of basic interventional pulmonology procedures. Interpretation of basic diagnostic data and correlation to applied therapies. Procedures will include bronchoscopy for diagnostic and therapeutic interventions such as alveolar lavage. **FHGE: Non-GE; Transferable: CSU**

RSPT 87B INTERVENTIONAL PULMONOLOGY CLINICAL INTERNSHIP II 2 Units
10 hours clinical laboratory. (120 hours total per quarter)
Interpretation of diagnostic data and correlation to applied therapies. In addition to clinical application of procedures covered in RSPT 87A, advanced procedures may include (a) balloon dilation, (b) stent placement, (c) lung volume reduction and (d) foreign body removal. **FHGE: Non-GE; Transferable: CSU**

RSPT 88 INTERVENTIONAL PULMONOLOGY RESEARCH PROJECT 1 Unit
1 hour lecture. (12 hours total per quarter)
Research project on a specialized area of interventional pulmonology. Specific topics to be determined by the instructor. **FHGE: Non-GE; Transferable: CSU**

RSPT 200L INTRODUCTION TO RESPIRATORY THERAPY 1 Unit
Advisory: Students are not required to have been admitted to the Respiratory Therapy Program.
2 hours lecture-laboratory. (24 hours total per quarter)
Introduction to the career of respiratory therapy. Role of the respiratory therapist, areas of specialization in the field, educational requirements and future outlook. Clinical tasks and skills will also be introduced. **FHGE: Non-GE**

SOCIAL SCIENCE

Business and Social Sciences (650) 949-7322 www.foothill.edu/bss/

SOSC 20 CROSS-CULTURAL PERSPECTIVES FOR A MULTICULTURAL SOCIETY 4 Units
4 hours lecture. (48 hours total per quarter)
Analysis of the multi-ethnic forms of cultural domination and its diverse manifestation in society, emphasizing European and Third World cultures. Examination of the values and practices of democratic participation in social institutions in those cultures. Review theories, concepts and research applicable to majority-minority issues.
FHGE: Non-GE; Transferable: UC/CSU

SOSC 70R INDEPENDENT STUDY IN SOCIAL SCIENCE 1 Unit
SOSC 71R 2 Units
SOSC 72R 3 Units
SOSC 73R 4 Units

3–12 hours per week. (36–144 hours total per quarter)
Provides an opportunity for the student to expand their studies in Social Science beyond the classroom by completing a project or an assignment arranged by agreement between the student and instructor. The student is required to contract with the instructor to determine the scope of assignment and the unit value assigned for successful completion. Students may take a maximum of 6 units of Independent Study per department. **FHGE: Non-GE; Transferable: CSU**

SOSC 79 INTRODUCTION TO COMMUNITY SERVICE 1 Unit
3 hours laboratory. (36 hours total per quarter)
Introduction to theories and methods of effective volunteer participation in community service, including assessing community needs, role of the volunteer, relationship with public agencies. **FHGE: Non-GE; Transferable: CSU**

SOSC 275 TUTOR TRAINING METHODS .5 Unit
Formerly: SOSC 75, SOSC 175
Prerequisites: Grade of "A" in courses in which the student will be tutoring; letter of recommendation from Foothill instructor in corresponding course.
Advisory: Not open to students with credit in SOSC 75 or 175.
.5 hours lecture. (6 hours total per quarter)
Introduction to theories and methods of effective tutoring, including role of a tutor, relationship of tutor to students and faculty. **FHGE: Non-GE**

SOCIOLOGY

Business and Social Sciences (650) 949-7322 www.foothill.edu/bss/

SOC 1 INTRODUCTION TO SOCIOLOGY 5 Units
5 hours lecture. (60 hours total per quarter)
Introduction to the field of sociology; the scientific study of human society and the contemporary world, and the interaction of individuals and groups in society. Analysis of major theories, concepts, methods, social institutions, and social processes. Development of a sociological imagination and social context analysis. Society in its social class, racial and gendered dynamics. **FHGE: Social & Behavioral Sciences; Transferable: UC/CSU**

SOC 7 STATISTICS FOR THE BEHAVIORAL SCIENCES 5 Units
Prerequisites: PSYC 1 or SOC 1: satisfactory score on the mathematics placement test or MATH 105 or MATH 108.
Advisory: UC will grant transfer credit for a maximum of one course from the following: PSYC 7, SOC 7 or MATH 10.
5 hours lecture. (60 hours total per quarter)
For students majoring in psychology, sociology, and other behavioral sciences. Introduces students to the basic statistical techniques and design methodologies used in behavioral sciences. Topics include descriptive statistics; probability and sampling distributions; statistical inference and power; linear correlation and regression; chi-square; t-tests, and ANOVA. Computations will be completed by hand and with the use of statistical software. An emphasis will be placed on the interpretation and relevance of statistical findings and the application of statistical concepts to real-world problems in the behavioral and social sciences. **FHGE: Communication & Analytical Thinking; Transferable: UC/CSU**

SOC 8 POPULAR CULTURE 4 Units
4 hours lecture. (48 hours total per quarter)
Theoretical and methodological overview of American popular culture. A critical examination of the socio-historical development and contemporary forms of popular culture in America. The relationship of popular culture to individual, group and mass identity formation. Analysis of popular culture and its racial and class dimensions. **FHGE: United States Cultures & Communities; Transferable: UC/CSU**

SOC 10 RESEARCH METHODS & DESIGNS 5 Units
Prerequisite: PSYC 1, 7, SOC 1, 7 or MATH 10.
Advisory: One of the following: ENGL 1A, 1AH or 1S & 1T; not open to students with credit in PSYC 10.
4 hours lecture, 3 hours laboratory. (84 hours total per quarter)
Survey of the various quantitative and qualitative research methods. Emphasis on the research design, planning, experimental procedures, and the collection, analysis, interpretation, and reporting of data. Laboratory emphasis on group work, data entry, and analysis of data with statistical software. **FHGE: Social & Behavioral Sciences; Transferable: UC/CSU**

SOC 11 INTRODUCTION TO SOCIAL WELFARE 5 Units
5 hours lecture. (60 hours total per quarter)
Sociological perspective of social welfare and the social services system as a field of study and profession. Historical overview of social problems and development of the professional fields. Focus on range of sociological theory to explain development of social services systems, their core concepts, value systems and methods.
FHGE: Social & Behavioral Sciences; Transferable: UC/CSU

SOC 14 SOCIOLOGY OF CRIME 4 Units
4 hours lecture. (48 hours total per quarter)
Examines the social context of crime and deviance. Topics may include theories of crime and deviance; the criminal justice system; white collar, organized, and street crime; social class, race, ethnicity, sex, gender, and crime; and legal implications of crime and deviance. Socioeconomic and multicultural issues emphasized throughout the course. Sociological concepts of deviance and social control. Theories of structural conditions contributing to conformity and non-conformity will be explored.
FHGE: Non-GE; Transferable: UC/CSU

SOC 15 LAW & SOCIETY 4 Units
4 hours lecture. (48 hours total per quarter)
Introduction to the relationship of law, society and the individual. Institutional analysis of factors underlying the creation, maintenance, and change of legal systems. Theories of jurisprudence and practical problems of law enforcement and the administration of justice. **FHGE: Social & Behavioral Sciences; Transferable: UC/CSU**

SOC 19 ALCOHOL & DRUG ABUSE 4 Units
4 hours lecture. (48 hours total per quarter)
Introduction to problems of substance abuse. History and classification of alcohol and drug abuse. Equips human service workers and general public with knowledge about issues involved in alcohol and drug abuse. Intervention and rehabilitation programs as well as public policy paradigms are examined.
FHGE: Social & Behavioral Sciences; Transferable: UC/CSU

SOC 20 MAJOR SOCIAL PROBLEMS 4 Units
4 hours lecture. (48 hours total per quarter)
An identification and analysis of contemporary social problems including (1) the role of power and ideology in the definition of social problems, (2) their causes and consequences, (3) evaluations of proposed solutions, and (4) methods of intervention. Topics will vary. **FHGE: Social & Behavioral Sciences; Transferable: UC/CSU**

SOC 21 PSYCHOLOGY OF WOMEN: SEX & GENDER DIFFERENCES 4 Units
Advisory: Demonstrated proficiency in English by placement into ENGL 1A as determined by score on the English placement test or through an equivalent placement process; not open to students with credit in PSYC 21 or WMN 21.
4 hours lecture. (48 hours total per quarter)
Survey of gender issues based upon psychological and sociological theories and research. Examination of sex differences and sex role stereotyping in a global, multi-cultural approach. Appraisal of effects of biology, culture, and society in creating sex and gender differences. Consideration of major theories of gender development. Focus on biology, socialization, mass media, communication, personality, abilities, work, family, sex, and violence. **FHGE: Social & Behavioral Sciences; Transferable: UC/CSU**

SOC 23 RACE & ETHNIC RELATIONS 4 Units
4 hours lecture. (48 hours total per quarter)
Focus on the meaning of race and ethnicity as it relates to intergroup relations in the USA. Inclusive analysis of concepts, theories, socio-legal effects of the Civil Rights Movement, public policy and its impact on diverse racial and ethnic populations in the USA. Historical and sociological assessment of majority-minority relations with emphasis on the perspectives of African-Americans, Hispanic/Latino-Americans, Asian-Americans and the indigenous Native American tribes. Demographic implications of race and ethnic relations on USA's economic, political and educational institutions. Relationship among race, ethnicity and poverty. **FHGE: United States Cultures & Communities, Social & Behavioral Sciences; Transferable: UC/CSU**

SOC 28 SOCIOLOGY OF GENDER 4 Units
4 hours lecture. (48 hours total per quarter)
Application of sociological theories, concepts and perspectives to an understanding of gender. Focuses on how individuals think and act as gendered beings and how gender becomes an organizing principle in social life. Topics include the social construction of gender, theories of gender socialization, femininities and masculinities, gendered interactions and doing gender, how race, class, nation and sexuality shapes gender, and gender inequality within social institutions, including politics, the economy, family, religion, education and health care. **FHGE: Non-GE; Transferable: UC/CSU**

SOC 30 SOCIAL PSYCHOLOGY 4 Units
Advisory: College-level reading and writing ability; not open to students with credit in PSYC 30.
4 hours lecture. (48 hours total per quarter)
Survey of human behavior in relation to the social environment. Focus on human interaction and the shaping of diverse and commonly-shared attitudes, beliefs and worldviews by society, culture and social groups. Emphasis on how individuals are influenced behaviorally, emotionally, and cognitively. Topics include but not limited to social cognition, aggression, interpersonal attraction, attitudes, social influence, prejudice and discrimination, gender, person perception, and cultural norms.
FHGE: Social & Behavioral Sciences; Transferable: UC/CSU

SOC 40 ASPECTS OF MARRIAGE & FAMILY 4 Units
4 hours lecture. (48 hours total per quarter)
Survey of empirical studies conducted by family sociologists from varied theoretical orientations. Focus on social influences affecting the American expressions of intimate life styles related to relationships, marriage and family systems. Exposure to the methods of social research. **FHGE: Social & Behavioral Sciences; Transferable: UC/CSU**

SOC 54H HONORS INSTITUTE SEMINAR IN SOCIOLOGY 1 Unit
Formerly: SOC 34, 34H
Prerequisite: Honors Institute participant.
Advisory: Not open to students with credit in SOC 34 or 34H.
1 hour lecture. (12 hours total per quarter)
A seminar in directed readings, discussions and projects in Sociology. Specific topics to be determined by the instructor. **FHGE: Non-GE; Transferable: CSU**

SOC 57 CHILD ADVOCACY 4 Units
4 hours lecture. (48 hours total per quarter)
Explores the socio-historical context of child welfare systems. Uses a variety of different theoretical explanations for the existence of child abuse and/or neglect. Examines child welfare and advocacy in its race, class and gender perspectives. Explains relationships between the child, the child welfare system and the larger society. Analyzes the impact of child advocacy policy and various issues in child welfare on children. Explores the influence of child advocacy on children in contemporary society and its impact on their life outcomes. **FHGE: Non-GE; Transferable: CSU**

SOC 70R INDEPENDENT STUDY IN SOCIOLOGY 1 Unit
SOC 71R 2 Units
SOC 72R 3 Units
SOC 73R 4 Units
3–12 hours per week. (36–144 hours total per quarter)
Provides an opportunity for the student to expand their studies in Sociology beyond the classroom by completing a project or an assignment arranged by agreement between the student and instructor. The student is required to contract with the instructor to determine the scope of assignment and the unit value assigned for successful completion. Students may take a maximum of 6 units of Independent Study per department. **FHGE: Non-GE; Transferable: CSU**

SPANISH

Language Arts (650) 949-7250 www.foothill.edu/la/

For information on clearing a foreign language prerequisite, call the Language Arts division office at (650) 949-7250.

SPAN 1 ELEMENTARY SPANISH I 5 Units
Advisory: Student may enroll in SPAN 1 or SPAN 1T, but not both, for credit.
5 hours lecture. (60 hours total per quarter)
Development and practice of elementary speaking, listening, reading and writing skills in everyday language functions, with Spanish as the primary language of instruction. Language laboratory practice to reinforce pronunciation, grammar and syntax. Study of basic geographical, historical and cultural aspects of Spanish-speaking world areas. **FHGE: Non-GE; Transferable: UC/CSU**

SPAN 1S ELEMENTARY SPANISH I 2.5 Units
Advisory: The student must complete SPAN 1S and SPAN 1T to receive transfer credit.
2.5 hours lecture. (30 hours total per quarter)
Development and practice of elementary speaking, listening, reading and writing skills in everyday language functions, with Spanish as the primary language of instruction. Language laboratory practice to reinforce pronunciation, grammar and syntax. Study of basic geographical, historical and cultural aspects of Spanish-speaking world areas. SPAN 1S is the first half of SPAN 1. **FHGE: Non-GE; Transferable: UC/CSU**

SPAN 1T ELEMENTARY SPANISH I 2.5 Units
Advisory: The student must complete SPAN 1S and SPAN 1T to receive transfer credit; student may enroll in SPAN 1 or SPAN 1T, but not both, for credit.
2.5 hours lecture. (30 hours total per quarter)
Development and practice of elementary speaking, listening, reading and writing skills in everyday language functions, with Spanish as the primary language of instruction. Language laboratory practice to reinforce pronunciation, grammar and syntax. Study of basic geographical, historical and cultural aspects of Spanish-speaking world areas. SPAN 1T is the second half of SPAN 1. **FHGE: Non-GE; Transferable: UC/CSU**

SPAN 2 ELEMENTARY SPANISH II 5 Units
Prerequisite: SPAN 1 or equivalent.
5 hours lecture. (60 hours total per quarter)
Further development and practice of elementary speaking, listening, reading and writing skills in everyday language function, with Spanish as the primary language of instruction. Language laboratory practice to reinforce pronunciation, grammar and syntax. Study of basic geographical, historical and cultural aspects of Spanish-speaking world areas. **FHGE: Non-GE; Transferable: UC/CSU**

SPAN 3 ELEMENTARY SPANISH III 5 Units
Prerequisite: SPAN 2 or equivalent.
5 hours lecture. (60 hours total per quarter)
Further development and practice of elementary speaking, listening, reading and writing skills in everyday language functions, with focus on greater structural accuracy and communicative competence, and with Spanish as the language of instruction. Language laboratory practice to reinforce pronunciation, grammar and syntax. Study of basic geographical, historical and cultural aspects of Spanish-speaking world areas. **FHGE: Non-GE; Transferable: UC/CSU**

SPAN 4 INTERMEDIATE SPANISH I 5 Units
Prerequisite: SPAN 3 or equivalent.
5 hours lecture. (60 hours total per quarter)
Introduction to the reading and discussion of texts dealing with the literature, arts, geography, history and culture of the Spanish-speaking world. Review and further development of the grammatical structures of first-year Spanish with emphasis on building communicative competence and expanding vocabulary about familiar topics and idiomatic usage. Emphasis on present indicative and subjunctive. Writing and reading assignments based upon topics discussed in class. **FHGE: Humanities; Transferable: UC/CSU**

SPAN 5 INTERMEDIATE SPANISH II 5 Units
Prerequisite: SPAN 4 or equivalent.
5 hours lecture. (60 hours total per quarter)
Further expansion of the reading and discussion of texts dealing with the literature, arts, geography, history and culture of the Spanish-speaking world. Review and further development of the grammatical structures of first-year Spanish with emphasis on building communicative competence and expanding concrete vocabulary about new topics, and idiomatic usage. Emphasis on past tenses and past subjunctive. Writing and reading assignments based upon topics discussed in class. **FHGE: Humanities; Transferable: UC/CSU**

SPAN 6 INTERMEDIATE SPANISH III 5 Units
Prerequisite: SPAN 5.
5 hours lecture. (60 hours total per quarter)
Extensive reading and discussion of texts dealing with the literature, arts, geography, history and culture of the Spanish-speaking world, with emphasis on literature and art. Practice of advanced grammatical structures, and expansion of abstract vocabulary, and idiomatic usage. Writing and reading assignments based upon topics discussed in class. **FHGE: Humanities; Transferable: UC/CSU**

SPAN 10A SPANISH FOR HERITAGE SPEAKERS 5 Units
Advisory: Student should be a heritage Spanish speaker, fluent in speaking and reading.
5 hours lecture. (60 hours total per quarter)
Reading and writing in Spanish, targeted to Spanish speakers. Readings pertinent to the life and culture of Hispanics in the U.S.; compositions exploring both personal and political issues. Satisfies IGETC Area 6A and CSU GE Area C2. **FHGE: Non-GE; Transferable: UC/CSU**

SPAN 13A INTERMEDIATE CONVERSATION I 4 Units
Prerequisite: SPAN 3.
Advisory: May be taken concurrently with SPAN 4.
4 hours lecture. (48 hours total per quarter)
Review and development of oral and listening communication skills in the targeted functions studied in first-year Spanish with attention to fluency, vocabulary, idiom, and pronunciation. Emphasis on the difference between spoken and literary Spanish as well as the variation in language depending upon the topic, the setting, and the country. Discussion and analysis of cultural and historical issues based on authentic texts, current news broadcasts, and/or films. **FHGE: Humanities; Transferable: UC/CSU**

SPAN 13B INTERMEDIATE CONVERSATION II 4 Units
Prerequisite: SPAN 13A.
Advisory: May be taken concurrently with SPAN 5.
4 hours lecture. (48 hours total per quarter)
Continuation of SPAN 13A. Review and development of oral and listening communication skills in the targeted functions studied in first-year Spanish with attention to fluency, vocabulary, idiom, and pronunciation. Emphasis on the difference between spoken and literary Spanish as well as the variation in language depending upon the topic, the setting, and the country. Discussion and analysis of cultural historical and political issues based on authentic texts, current news broadcasts, and/or films. Develop critical thinking skills by comparing different viewpoints and different values of diverse cultures. **FHGE: Humanities; Transferable: UC/CSU**

SPAN 14A ADVANCED CONVERSATION I 4 Units
Prerequisite: SPAN 13B.
Advisory: May be taken concurrently with SPAN 5.
4 hours lecture. (48 hours total per quarter)
Continuation of SPAN 13B. Gives students practice in oral/aural communication skills in an environment of increasingly challenging language situations. Practice on idioms and vocabulary as different from the usage of formal, written and literary language. Work on differentiating and choosing the culturally appropriate register for a given situation. Discussion of the cultural manifestations and history of the Spanish-speaking world, including that of the Latino population of the U.S. **FHGE: Humanities; Transferable: UC/CSU**

SPAN 14B ADVANCED CONVERSATION II 4 Units
Prerequisite: SPAN 14A.
Advisory: May be taken concurrently with SPAN 6.
4 hours lecture. (48 hours total per quarter)
Continuation of SPAN 14A. Gives students practice in aural/oral communication skills in an environment of increasingly challenging language situations. Evaluation and response to real, current material: politics, literature, art, music, film. Critical analysis of the cultural manifestations and history of the Spanish-speaking world, including the Latino population of the U.S. Evaluation of the cultural values inherent in conversation. Integration of cultural competency into conversation skills: what's appropriate in a given culture (in terms of register, vocabulary and values) and in a given setting within that culture. **FHGE: Humanities; Transferable: UC/CSU**

SPAN 25A ADVANCED COMPOSITION & READING I 4 Units
Prerequisite: SPAN 6.
4 hours lecture. (48 hours total per quarter)
Extensive reading and analysis of original Spanish literary and non-literary sources from Spanish speaking countries and the hispanic communities in the United States such as newspapers, reports, films and music. Intensive discussion and writing based on these readings to promote a critical appreciation of hispanic culture, society and history. Understanding of the use of advanced grammar in writing communication. Instruction in Spanish. **FHGE: Non-GE; Transferable: UC/CSU**

SPAN 25B ADVANCED COMPOSITION & READING II 4 Units
Prerequisite: SPAN 25A.
4 hours lecture. (48 hours total per quarter)
Continuation of SPAN 25A. Extensive reading and analysis of texts with emphasis on literary works such as short stories, essays and poems. Critical analysis of the major political, historical and social issues exposed in these texts. Writing of extended term papers and compositions using advanced grammar. Understanding and appreciating the ambiguities, vagaries and value inherent in the target language. Instruction in Spanish. **FHGE: Non-GE; Transferable: UC/CSU**

SPAN 51 SPANISH FOR HEALTH CARE WORKERS 3 Units
3 hours lecture. (36 hours total per quarter)
An introduction to basic medical terminology in Spanish, including parts of the body, common ailments, taking a patient's medical history and understanding cultural differences related to health. Students gain basic conversational skills useful in a medical setting. **FHGE: Non-GE; Transferable: CSU**

SPECIAL EDUCATION

Business and Social Sciences (650) 949-7322 www.foothill.edu/bss/

SPED 52 POSITIVE AGING 3 Units
2 hours lecture, 3 hours laboratory. (60 hours total per quarter)
Exploration of how aging is viewed in the U.S. and other parts of the world with emphasis on the physiological, psychological and sociological aspects. Differences between successful and unsuccessful aging will be scrutinized, including preparation for retirement and end of life issues. Considerations of aging across the lifespan and how different cultures view aging, death and dying. **FHGE: Non-GE; Transferable: CSU**

SPED 57A TEACHING ADULT LEARNERS 3 Units
3 hours lecture. (36 hours total per quarter)
Effective techniques for teaching adults with chronic conditions. A variety of approaches discussed and contrasted with the teaching approaches used with K-12 students. **FHGE: Non-GE; Transferable: CSU**

SPED 61 INTRODUCTION TO DISABILITIES 4 Units
Advisory: Demonstrated proficiency in English by placement into ENGL 1A as determined by score on the English placement test or through an equivalent placement process; when offered as an online course, the student should be proficient with the use of a computer, Internet and email.
4 hours lecture. (48 hours total per quarter)
Overview of all major categories and characteristics of disabilities. Physical, sensory, developmental and learning disabilities discussed. Cultural/experiential aspects of disabilities from the perspectives of disabled individuals explored through readings and guest speakers. Contrasts disabled with non-disabled culture including cross-cultural perspectives of the disabled experience. Emphasis placed on recognition of strengths and abilities to provide strategies for instruction and accommodations. **FHGE: United States Cultures & Communities, Lifelong Learning; Transferable: CSU**

SPED 62 PSYCHOLOGICAL ASPECTS OF DISABILITY 4 Units
Advisory: Demonstrated proficiency in English by placement into ENGL 1A as determined by score on the English placement test or through an equivalent placement process; familiarity with the internet & word processing.
4 hours lecture. (48 hours total per quarter)
Psychological aspects of disability, including psychosocial, cultural, and physical considerations of disability and illness. Examines the effects of illness and disability on the individual, family, and society as a whole. Focuses on the historical and current perspectives on illness and disability, the interventions and resources available, and future trends in the field. Discussions include a wide range of disabilities. **FHGE: Social & Behavioral Sciences; Transferable: CSU**

SPED 63 LEARNING DISABILITIES 4 Units
Advisory: Demonstrated proficiency in English by placement into ENGL 1A as determined by score on the English placement test or through an equivalent placement process; familiarity with the internet & word processing.
4 hours lecture. (48 hours total per quarter)
Introduction to the field of learning disabilities and related mild disabilities. Focuses on the impact of special education laws: No Child Left Behind Act, Individuals with Disabilities Education Improvement Act of 2004, Americans With Disabilities Act, and Section 504 of the Rehabilitation Act of 1973. Covers provision of services to students with learning disabilities in the K-12 to post-secondary settings. Stresses the importance of early identification, referral, assessment, and interventions to assist students with learning disabilities. Explores best practices for effective instruction for people with learning disabilities. **FHGE: Non-GE; Transferable: CSU**

SPED 64 DISABILITY & THE LAW 4 Units
Advisory: Demonstrated proficiency in English by placement into ENGL 1A as determined by score on the English placement test or through an equivalent placement process; familiarity with the internet.
4 hours lecture. (48 hours total per quarter)
Legal rights of the disabled, beginning with historical roots of the disability movement in the United States. Earliest to current legislation governing access to education, employment, public and private facilities. Legal definitions of disability. Brings student up to the present with federal, state and local legal mandates and explores in detail the Americans With Disabilities Act, Individuals with Disabilities Act and California Special Education Law using case studies and current actions in the court system. Applicability of law in day-to-day work settings. **FHGE: Non-GE; Transferable: CSU**

SPED 65 FUNDAMENTALS OF ATTENTION DEFICIT DISORDERS 4 Units
4 hours lecture. (48 hours total per quarter)
An overview of attention deficit disorders, subtypes, etiology, presenting symptoms, interventions and management, classroom teaching strategies, medical treatment strategies, workplace and educational accommodations, and disability law ramifications. **FHGE: Non-GE; Transferable: CSU**

SPED 80 INTRODUCTION TO COLLEGE & ACCOMMODATIONS 1 Unit
1 hour lecture. (12 hours total per quarter)
Orientation to college for the first time college student. Includes Foothill College academic policies, resources, campus, programs and services; transition concerns from high school to post-secondary for students with disabilities; California system of higher education; educational goals and program planning. Satisfies the college orientation requirement for new students. **FHGE: Non-GE; Transferable: UC/CSU**

THEATRE ARTS

Fine Arts and Communication (650) 949-7262 www.foothill.edu/fa/

THTR 1 INTRODUCTION TO THEATRE 4 Units
Advisory: Not open to students with credit in DRAM 1.
4 hours lecture. (48 hours total per quarter)
Live performance in an electronic age - an overview of the status of live theatre including its historical, cultural and spiritual roots. Focuses on the relationship of theatre to various cultures throughout history, and on the contributions of significant individual artists. Introduces the elements of the production process including playwriting, acting, directing, design, and criticism. Survey different periods, styles and genres of theatre through play reading, discussion, films and viewing and critiquing live theatre.Rrequired attendance of theatre productions. **FHGE: Humanities; Transferable: UC/CSU**

THTR 2A HISTORY OF DRAMATIC LITERATURE– CLASSICAL TO MOLIERE 4 Units
Prerequisite: Demonstrated proficiency in English by placement into ENGL 1A as determined by score on the English placement test or through an equivalent placement process.
Advisory: Not open to students with credit in DRAM 2A or ENGL 42A.
4 hours lecture. (48 hours total per quarter)
The study of the history of theatre from its Origins in the East and West through the 17th Century. The history and development of theatre and drama are studied through reading and analyzing representative masterpieces of dramatic literature from Aeschylus to Moliere in relationship to cultural, political and social conditions of the time. **FHGE: Humanities; Transferable: UC/CSU**

THTR 2B HISTORY OF DRAMATIC LITERATURE– MOLIERE TO MODERN 4 Units
Prerequisite: Demonstrated proficiency in English by placement into ENGL 1A as determined by score on the English placement test or through an equivalent placement process.
Advisory: Not open to students with credit in DRAM 2B or ENGL 42B.
4 hours lecture. (48 hours total per quarter)
The study of the history of theatre from the Restoration through current trends. The history and development of theatre and drama are studied through reading and analyzing representative masterpieces of dramatic literature from the 17th Century to the present day in relationship to the cultural, political and social conditions of the time. **FHGE: Humanities; Transferable: UC/CSU**

THTR 2F HISTORY OF AMERICAN MUSICAL THEATRE 4 Units
Advisory: Not open to students with credit in MUS 2F.
4 hours lecture, 1 hour laboratory. (60 hours total per quarter)
An introductory survey of the history of the American musical theatre genre. Includes roots in British music halls, Viennese operetta and African American jazz through the golden age of the musical and up to the contemporary Broadway stage. Emphasis will be placed on genres and styles, as well as the key composers, lyricists, librettists, directors, producers, designers, choreographers and performers. Examines how the musical mirrors contemporary social and political events. **FHGE: Humanities; Transferable: UC/CSU**

THTR 7 INTRODUCTION TO DIRECTING 4 Units
Prerequisite: THTR 20A.
Advisory: Not open to students with credit in DRAM 7 or 52.
3 hours lecture, 3 hours laboratory. (72 hours total per quarter)
The qualifications of the director; the choice of plays for production; auditions and methods of casting; preparation of the play script; building the rehearsal schedule; fundamentals of composition, movement, stage business and characterization as applied to the directing of plays. **FHGE: Non-GE; Transferable: UC/CSU**

THTR 8 MULTICULTURAL THEATRE ARTS IN MODERN AMERICA 4 Units
Advisory: Not open to students with credit in DRAM 8.
4 hours lecture. (48 hours total per quarter)
A comparative study of the important post-modern American theatre movements from the 1950's to the present day examining the specific cultural traditions of these performances. Focus will be on the performance artists and major influences of African Americans, Asian Americans, Native Americans, European Americans, and Chicano/ Latino Americans and the cultural movements that inspired these performances. **FHGE: United States Cultures & Communities, Humanities; Transferable: UC/CSU**

THTR 12A STAGE & SCREEN 4 Units
3 hours lecture, 3 hours laboratory. (72 hours total per quarter)
An analysis of narrative and plot dissemination through an overview comparison between the popular mediums of live performance and film or video. Ranging from ancient civilizations to the contemporary, source material will be drawn from a broad perspective of culturally diverse works with a specific eye towards comparing the personal and audience impact, the advantages and disadvantages, inherent between the two mediums by analyzing the values and properties of both through shared works of origin. **FHGE: Humanities; Transferable: UC/CSU**

THTR 20A ACTING I 4 Units
3 hours lecture, 2 hours lecture-laboratory. (60 hours total per quarter)
Introduction to the craft of acting, including theory and technique emphasizing body movement, voice production, articulation, characterization principles of motivation, scene analysis, cultural empathy through standard theatre games, exercises, monologues, scenes and the background research thereof. **FHGE: Non-GE; Transferable: UC/CSU**

THTR 20B ACTING II 4 Units
Prerequisite: THTR 20A.
Advisory: Not open to students with credit in DRAM 20B.
3 hours lecture, 2 hours lecture-laboratory. (60 hours total per quarter)
Further development of concepts introduced in THTR 20A, with emphasis to expanding the students' performance potential through probing greater depaths of character analysis and text interpretation. **FHGE: Non-GE; Transferable: UC/CSU**

THTR 20C ACTING III 4 Units
Prerequisite: THTR 20A.
Advisory: THTR 20B or equivalent highly recommended; not open to students with credit in DRAM 20C.
3 hours lecture, 2 hours lecture-laboratory. (60 hours total per quarter)
Further development of concepts introduced in THTR 20A and 20B with focus on the performance of selected scenes from works of specific periods to acquaint students with the breadth of theatre performance genres. **FHGE: Non-GE; Transferable: UC/CSU**

THTR 21A SCENERY & PROPERTY CONSTRUCTION 4 Units
Advisory: Not open to students with credit in DRAM 21A.
1 hour lecture, 6 hours lecture-laboratory. (84 hours total per quarter)
The theory and practice of creating and using scenery and properties for dramatic presentations. Basic vocabulary, processes, tools and materials used in the production of scenery and properties for the stage. Practical application and safe use of basic woodworking tools used for creating scenery and properties for theatre arts productions. **FHGE: Non-GE; Transferable: UC/CSU**

THTR 21B INTERMEDIATE SCENERY & PROPERTY CONSTRUCTION 4 Units
Prerequisite: THTR 21A.
Advisory: Not open to students with credit in DRAM 21B.
1 hour lecture, 6 hours lecture-laboratory. (84 hours total per quarter)
Continuation of THTR 21A. The theory and practice of creating and using scenery and properties for dramatic presentations. Basic vocabulary, processes, tools and materials used in the production of scenery and properties for the stage. Practical application and safe use of basic woodworking tools used for creating scenery and properties for theatre arts productions. Introduction of designing and working safely with alternative materials, basic electrical and lighting functions and sound reinforcement. **FHGE: Non-GE; Transferable: UC/CSU**

THTR 21C ADVANCED SCENERY & PROPERTIES CONSTRUCTION 4 Units
Prerequisite: THTR 21B.
Advisory: Not open to students with credit in DRAM 21C.
1 hour lecture, 6 hours lecture-laboratory. (84 hours total per quarter)
Continuation of THTR 21B. Theory and practice creating and using scenery and properties for department dramatic presentations. Safe use of tools, materials, and construction techniques used in the construction of scenery and properties for the stage. Introduction to the use of metal in the production of scenery and properties for the stage. Basic rigging concepts, tools and practices for the stage. **FHGE: Non-GE; Transferable: UC/CSU**

THTR 25 INTRODUCTION TO FASHION & COSTUME CONSTRUCTION 4 Units
Formerly: THTR 75
Advisory: Not open to students with credit in THTR 75.
2 hours lecture, 4 hours lecture-laboratory. (72 hours total per quarter)
An introduction to sewing techniques, pattern cutting, costume room equipment and the design and fabrication of clothing and costumes for the theatre and stage. **FHGE: Non-GE; Transferable: UC/CSU**

THTR 26 INTRODUCTION TO FASHION HISTORY & COSTUME DESIGN 4 Units
Formerly: THTR 76
Advisory: Not open to students with credit in DRAM 76 or THTR 76.
4 hours lecture. (48 hours total per quarter)
A survey of western historic fashion and costume for women and men from ancient times to the present, including the cultural and political events that shaped each era and it's clothing. An introduction to the design elements: color, line, form texture and silhouette and a brief introduction to the use of graphic techniques in the presentation of fashion and costume designs. Analysis of the artistic styles of each era as they relate to understanding costume detail and stylization. **FHGE: Humanities; Transferable: UC/CSU**

THTR 27 LIGHTING DESIGN & TECHNOLOGY 4 Units
Formerly: THTR 77
Advisory: Not open to students with credit in THTR 77.
3 hours lecture, 3 hours laboratory. (72 hours total per quarter)
A survey of lighting design for the theatre, film and television. An introduction to the basic elements of electrical wiring, lighting instruments, lighting control devices, and lighting special effects. Basic lighting design principles of color, intensity, direction and movement. Use of computer to design simple stage lighting plans. **FHGE: Non-GE; Transferable: CSU; UC pending**

THTR 31 MANAGEMENT FOR THE THEATRE & STAGE 4 Units
Formerly: THTR 71
Advisory: Not open to students with credit in DRAM 71, THTR 71 or 71X.
4 hours lecture. (48 hours total per quarter)
An introduction to the process and techniques of theatre management. Presentations and models of the business and management side of a theatre production focusing specifically on the roles of the general manager, production manager, and stage manager. **FHGE: Non-GE; Transferable: CSU; UC pending**

THTR 32 CAD DRAFTING FOR THE THEATRE, FILM & TELEVISION 4 Units
Formerly: THTR 72B
Advisory: Completion of, or concurrent enrollment in ART 4A advised or previous experience in drawing or mechanical drafting; not open to students with credit in THTR 72B.
3 hours lecture, 3 hours laboratory. (72 hours total per quarter)
Survey of computer drafting techniques for the theatre, film and television. Introduction to the basic elements of graphic expression and techniques used in presenting stage designs for designers and technicians working in the performing arts. Use of computer technology to present ground plans, elevations and working drawings for theatre designs. **FHGE: Non-GE; Transferable: UC/CSU**

THTR 38D STAGE COMBAT 2 Units
Formerly: THTR 58
Advisory: Course includes rigorous physical activity; not open to students with credit in DRAM 58 or THTR 58.
1.5 hours lecture, 1.5 hours laboratory. (36 hours total per quarter)
Introduction to the concepts and practice of choreographed hand-to-hand and small weapons combat for stage and camera using techniques with emphasis on safety concepts and universal industry maneuver standards required for all stage combat circumstances. **FHGE: Non-GE; Transferable: UC/CSU**

THTR 40A BASIC THEATRICAL MAKE-UP 4 Units
Advisory: Not open to students with credit in DRAM 40A.
3 hours lecture, 3 hours laboratory. (72 hours total per quarter)
A practical introduction to the techniques of applying theatrical make-up for the stage. **FHGE: Non-GE; Transferable: UC/CSU**

THTR 40B THEATRICAL MAKE-UP FOR PRODUCTION 4 Units
Prerequisite: THTR 40A.
Advisory: Not open to students with credit in DRAM 40B.
3 hours lecture, 3 hours laboratory. (72 hours total per quarter)
Continuation of work in THTR 40A with emphasis in more advanced techniques and practical application experience for the stage. **FHGE: Non-GE; Transferable: UC/CSU**

THTR 42 INTRODUCTION TO DESIGN 4 Units
Formerly: THTR 42A
Advisory: ART 4A or equivalent; not open to students with credit in DRAM 42C or THTR 42A.
3 hours lecture, 3 hours laboratory. (72 hours total per quarter)
A survey of the theory and practice of theatrical design and construction techniques using traditional and digital tools. Introduces basic concepts applicable to scenery, lighting, sound, costumes, makeup and properties. Coursework includes research and analysis, sketching and drafting, rendering and model making and the use of computer graphics software and equipment to create three-dimensional designs for the performing arts, film, and television. **FHGE: Non-GE; Transferable: CSU; UC pending**

THTR 43A SCRIPT ANALYSIS 4 Units
Advisory: THTR 20A.
4 hours lecture. (48 hours total per quarter)
Presentation of the fundamental building blocks of understanding play scripts through an in-depth methodology of reading and analysis. Exploration of the foundational elements of Modern Realistic theatrical texts from study to analysis of text as intended for production. Groundwork provides the basis by which subsequent exploration of production possibilities, challenges and genres can be developed. **FHGE: Non-GE; Transferable: UC/CSU**

THTR 43C FOUNDATIONS IN CLASSICAL ACTING 6 Units
Prerequisite: THTR 20A.
4 hours lecture, 4 hours lecture-laboratory. (96 hours total per quarter)
Introduction to the specific acting challenges presented by performing classical scripts, pre-18th century. Incorporate skills of language analysis, verbal acumen and physical interpretation including exploration of body awareness, flexibility, alignment, balance, muscle isolation and coordination into performance preparation and execution as they specifically relate to performing classical texts. **FHGE: Non-GE; Transferable: UC/CSU**

THTR 43E IMPROVISATION 4 Units
Prerequisite: THTR 20A.
3 hours lecture, 3 hours laboratory. (72 hours total per quarter)
Presentation of the fundamentals and graduating skills of organic performance without script or text. Practical application of the theories of improvisational basic skills, universally translated to virtually all forms of improvisation, towards performance. **FHGE: Non-GE; Transferable: UC/CSU**

THTR 44A PRODUCTION PROJECTS I 4 Units
Formerly: THTR 44
Advisory: Enrollment subject to audition and instructor assignment; not open to students with credit in THTR 44.
6 hours lecture-laboratory, 3 hours laboratory. (108 hours total per quarter)
An intensive training experience in all areas of theatre, culminating in a practical theatre production consisting of short plays. Areas of study and investigation include acting techniques, voice and diction, oral interpretation, movement and dance, theatre literature and history, stage management and other technologies related to production. Culminates in a full-scale public performance, with students participating in all areas of production. **FHGE: Non-GE; Transferable: UC/CSU**

THTR 44B PRODUCTION PROJECTS II 4 Units
Formerly: THTR 44X
Advisory: Enrollment subject to audition and instructor assignment; not open to students with credit in THTR 44X.
6 hours lecture-laboratory, 3 hours laboratory. (108 hours total per quarter)
Advanced practical work in stage directing, leadership roles, and featured performance work necessary for the full development of a theatrical production. Students take active roles in all creative and technical aspects involved in producing a full-scale public performance which consists of a compilation of short plays. **FHGE: Non-GE; Transferable: CSU; UC pending**

THTR 46A THEATRE DEVELOPMENT WORKSHOP I 2 Units
Formerly: THTR 50
Advisory: Not open to students with credit in THTR 50.
1 hour lecture, 1 hour lecture-laboratory, 2 hours laboratory. (48 hours total per quarter)
This course teaches the full development of an organic, original production from inception to performance. Under the guidance and supervision of the instructor who initiates the process, students will all contribute to produce a full-length production consisting of several student-generated short plays. Beginning students will focus as actors and production support as needed. The quarter culminates with several public performances. **FHGE: Non-GE; Transferable: UC/CSU**

THTR 46B THEATRE DEVELOPMENT WORKSHOP II 2 Units
Formerly: THTR 50B
Advisory: Not open to students with credit in THTR 50B.
1 hour lecture, 1 hour lecture-laboratory, 2 hours laboratory. (48 hours total per quarter)
Delves into the full development of an organic, original production from inception to performance. Students will produce a full-length production consisting of several student-generated short plays. Focus on writing skills and creative contributions to the shows content. Student responsibilities may extend to additional areas of acting and production support. The quarter culminates with several public performances. **FHGE: Non-GE; Transferable: UC/CSU**

THTR 46C THEATRE DEVELOPMENT WORKSHOP III 2 Units
1 hour lecture, 1 hour lecture-laboratory, 2 hours laboratory. (48 hours total per quarter)
Delves into the full development of an organic, original production from inception to performance. Students will produce a full-length production consisting of several student-generated short plays. Focus on design, directing and production coordination of all artistic elements of the show. Student responsibilities may extend to additional areas of acting and other production support. The quarter culminates with several public performances. **FHGE: Non-GE; Transferable: UC/CSU**

THTR 46D THEATRE DEVELOPMENT WORKSHOP IV 2 Units
1 hour lecture, 1 hour lecture-laboratory, 2 hours laboratory. (48 hours total per quarter)
Presentation of the necessary leadership and organizational skills for the full development of an organic, original production from inception to performance. Advanced students will be charged to produce a full-length production consisting of several student-generated short plays. Student responsibilities will extend to the areas of group coordination and organization in writing, acting, directing, lighting design, costume design, scenery and properties design, sound design, stage management and technical responsibilities, make-up design and publicity. The quarter culminates with several public performances. **FHGE: Non-GE; Transferable: UC/CSU**

THTR 47A INTRODUCTION TO MUSICAL THEATRE PRODUCTION 6 Units
Formerly: THTR 47
Advisory: Enrollment subject to audition and instructor assignment; not open to students with credit in THTR 47.
18 hours laboratory. (216 hours total per quarter)
Introduction to the fundamentals of musical theatre performance through the rehearsal and performance of a fully staged musical theatre production. **FHGE: Non-GE; Transferable: UC/CSU**

THTR 47B INTERMEDIATE MUSIC THEATRE PRODUCTION WORKSHOP 6 Units
Formerly: THTR 47X
Advisory: Enrollment subject to audition and instructor assignment; not open to students with credit in THTR 47X.
18 hours laboratory. (216 hours total per quarter)
Develops technical skills required at the intermediate level of musical theatre performance through the rehearsal and performance of a fully staged musical theatre production. **FHGE: Non-GE; Transferable: UC/CSU**

THTR 47C ADVANCED MUSIC THEATRE PRODUCTION WORKSHOP 6 Units
Prerequisite: THTR 47B or by audition and instructor assignment.
18 hours laboratory. (216 hours total per quarter)
Develops technical skills required at the advanced level of musical theatre performance through the rehearsal and performance of a fully staged musical theatre production **FHGE: Non-GE; Transferable: UC/CSU**

THTR 48A VOCAL PRODUCTION & SPEECH 4 Units
3 hours lecture, 3 hours laboratory. (72 hours total per quarter)
An introduction to the fundamentals of vocal production and the application of those principles to speech for performance intent. Topics will include the basics of physiology of sound production, breath support, use of natural resonators, warm-up techniques, diction and text communication, dialect recognitions and employment. These fundamental techniques will be applied to a broad cultural landscape of dramatic literature at basic levels. **FHGE: Non-GE; Transferable: UC/CSU**

THTR 48B SINGING TECHNIQUE FOR MUSICAL THEATRE 4 Units
Advisory: MUS 13A, 13B and 13C.
3 hours lecture, 2 hours lecture-laboratory. (60 hours total per quarter)
Practical introduction to the fundamentals of singing for musical theatre repertoire. Students will explore the principals of healthy vocal production in solo and/or ensemble singing to develop the singing voice through exercises and repertoire from the Standard American Musical Theatre. Songs will be developed with strong emphasis on character development and communication. **FHGE: Non-GE; Transferable: UC/CSU**

THTR 48C MUSICAL THEATRE REPERTOIRE FOR SINGERS 4 Units
Prerequisite: THTR 48B or instructor approval.
Advisory: MUS 13C.
3 hours lecture, 2 hours lecture-laboratory. (60 hours total per quarter)
Vocal techniques and styles as utilized in musical theater. Instruction includes development of singing skills, basic body movement, acting technique, interpretation of Broadway song literature in a staged performance. Students are required to prepare a final project excerpted from a standard works. Attendance at all scheduled performances is required. **FHGE: Non-GE; Transferable: UC/CSU**

THTR 49A PERFORMANCE PRODUCTION I 6 Units
Formerly: THTR 49
Advisory: Enrollment subject to audition and instructor assignment; not open to students with credit in THTR 49.
6 hours lecture-laboratory, 9 hours laboratory. (180 hours total per quarter)
Supervised participation as a performer in scheduled non-musical productions of the Theatre Arts Department with a designated emphasis towards confidence in performing as well as integrative familiarity in the full process of mounting a production for public performance. Culminates in a fully staged theatrical production. **FHGE: Non-GE; Transferable: UC/CSU**

THTR 49B PERFORMANCE PRODUCTION II 6 Units
Formerly: THTR 49X
Advisory: Enrollment subject to audition and instructor assignment; not open to students with credit in THTR 49X.
6 hours lecture-laboratory, 9 hours laboratory. (180 hours total per quarter)
Supervised performance participation in scheduled productions of the theatre arts department with a specific target towards text interpretation and commitment to characterization through live public performance. Culminates in a fully staged theatrical production. **FHGE: Non-GE; Transferable: UC/CSU**

THTR 49C PERFORMANCE PRODUCTION III 6 Units
Formerly: THTR 49Y
Advisory: Enrollment subject to audition and instructor assignment; not open to students with credit in THTR 49Y.
6 hours lecture-laboratory, 9 hours laboratory. (180 hours total per quarter)
Supervised participation as a performer in scheduled non-musical productions of the theatre arts department with a designated emphasis towards advanced vocal acumen and heightened physical embodiment through live public performance. Culminates in a fully staged theatrical production. **FHGE: Non-GE; Transferable: UC/CSU**

THTR 49D PERFORMANCE PRODUCTION IV 6 Units
Advisory: Enrollment subject to audition and instructor assignment.
6 hours lecture-laboratory, 9 hours laboratory. (180 hours total per quarter)
Supervised performance participation in scheduled productions of the theatre arts department with specific inclusion through a rehearsal into live public performance context of augmented, nuanced acting skill premises and enhanced script interpretation of cultural and socio-economic circumstances. Culminates in a fully staged theatrical production. **FHGE: Non-GE; Transferable: UC/CSU**

THTR 56 CHARACTERIZATION 5 Units
Prerequisite: THTR 20A.
Advisory: THTR 38, 43A, 43B, 43C, 43D; concurrent enrollment in THTR 81.
4 hours lecture, 3 hours laboratory. (84 hours total per quarter)
An advanced actor training course intended for students developing encompassing strategies towards pursuing realistic depiction of scripted characters offering extraordinary personality challenges. In-depth personality, environmental, observations and research with multiple premises of foundational acting and movement training towards performance preparation and execution. **FHGE: Non-GE; Transferable: CSU**

THTR 57 ACTOR MARKETING STRATEGIES 2 Units
Formerly : THTR 43G
Advisory: Concurrent enrollment in THTR 81; THTR 43A; not open to students with credit in THTR 43G.
1.5 hours lecture, 1.5 hours laboratory (36 hours total per quarter)
Developing effective marketing strategies for a career in theatre. The actor's process in preparation for theatrical auditions, selection of appropriate audition performance pieces, the presentation of self in various audition settings, and the development of industry standard self-promotion materials. Performance will include at least two prepared monologues, and multiple cold reading and prepared sides with a focus on stage auditioning. **FHGE: Non-GE; Transferable: CSU**

THTR 63A FILM & TELEVISION ACTING WORKSHOP 4 Units
Corequisite: Completion of or concurrent enrollment in THTR 81.
3 hours lecture, 3 hours laboratory. (72 hours total per quarter)
Application of concepts developed in the stage acting classes with the necessary adaptations required for film and television performance. Work with the variety of styles currently used in film and television, including commercial, dramatic, documentary and industrial. Class time will be divided between lecture, workshops and on-camera performance time to learn and experiment with the subject matter. **FHGE: Non-GE; Transferable: CSU**

THTR 70R INDEPENDENT STUDY IN THEATRE ARTS 1 Unit
THTR 71R 2 Units
THTR 72R 3 Units
THTR 73R 4 Units
3–12 hours per week. (36–144 hours total per quarter)
Provides an opportunity for the student to expand their studies in Theatre Arts beyond the classroom by completing a project or an assignment arranged by agreement between the student and instructor. The student is required to contract with the instructor to determine the scope of assignment and the unit value assigned for successful completion. Students may take a maximum of 6 units of Independent Study per department. **FHGE: Non-GE; Transferable: CSU**

THTR 81 CONTEMPORARY ISSUES IN PERFORMANCE SEMINAR 4 Units
4 hours lecture. (48 hours total per quarter)
A seminar in directed readings, discussions, performance analysis and projects encompassing contemporary performance trends, events and issues, and the business of the entertainment industry. Specific topics to be determined by the instructor.
FHGE: Non-GE; Transferable: CSU

THTR 97 ACTORS' ENSEMBLE 1 Unit
THTR 97X 2 Units
THTR 97Y 4 Units
THTR 97Z 6 Units
Prerequisite: Enrollment subject to audition and/or interview
Advisory: Pass/No Pass.
1 hour lecture-laboratory, 2 hour laboratory for each unit of credit. (36–216 hours total per quarter)
A course in performance and/or rehearsal of varied dramatic forms designed for public performance of original, established or touring works. All aspects of theatre may be covered, including acting, directing, playwriting, lighting, costuming, scene design, set construction and make-up for the theatre. Students will prepare for staged productions for public performance in potentially differing spaces. **FHGE: Non-GE; Transferable: UC/CSU**

THTR 99A TECHNICAL THEATRE IN PRODUCTION I 4 Units
Advisory: Students must meet with the instructor during the first week of the quarter to arrange hours and assignments.
2 hours lecture-laboratory, 9 hours laboratory. (132 hours total per quarter)
Students will gain practical experience in the application of production responsibilities in any of the following: stage management, house management, construction, scenery, properties, costume, lighting, sound, and running crews. **FHGE: Non-GE; Transferable: UC/CSU**

THTR 99B TECHNICAL THEATRE IN PRODUCTION II 4 Units
Prerequisite: THTR 99A
Advisory: Students must meet with the instructor during the first week of the quarter to arrange hours and assignments.
2 hours lecture-laboratory, 9 hours laboratory. (132 hours total per quarter)
Students will gain a practical experience in the application of production responsibilities in any of the following theatre technical areas: construction, scenery, properties, costume, lighting, sound, special effects and running crews based on the students level of experience and the demands of the current department productions. Students will assume greater responsibility for the planning and scheduling of work in their assigned area. **FHGE: Non-GE; Transferable: UC/CSU**

THTR 99C TECHNICAL THEATRE IN PRODUCTION III 4 Units
Prerequisite: THTR 99B.
Advisory: Students must meet with the instructor during the first week of the quarter to arrange hours and assignments.
2 hours lecture-laboratory, 9 hours laboratory. (132 hours total per quarter)
Continuation of THTR 99B. Students will gain additional practical experience in the application of production responsibilities in any of the following: construction, scenery, properties, costume, lighting, sound, and running crews. Students will assume greater responsibility for the design and implementation of technical elements for a theatrical production as department heads or group leaders. **FHGE: Non-GE; Transferable: UC/CSU**

THTR 99D TECHNICAL THEATRE IN PRODUCTION IV 4 Units
Prerequisite: THTR 99C.
Advisory: THTR 21A; students must meet with the instructor during the first week of the quarter to arrange hours and assignments.
2 hours lecture-laboratory, 9 hours laboratory. (132 hours total per quarter)
Continuation of THTR 99C. Students will gain practical experience in the application of production techniques and organization in any or all of the following areas: construction, scenery, properties, costume, lighting, sound, and production crews. **FHGE: Non-GE; Transferable: UC/CSU**

THTR 99E TECHNICAL THEATRE MANAGEMENT IN PRODUCTION 6 Units
Advisory: THTR 99A and 21A or 25; lab hours will occur on specific evenings and weekends during the quarter; students must meet with the instructor during the first week of the quarter to arrange hours and assignments.
4 hours lecture-laboratory, 12 hours laboratory. (192 hours total per quarter)
Students will gain practical experience in the application of production management responsibilities in any of the following: stage management, house management, production management, or technical department management. **FHGE: Non-GE; Transferable: UC/CSU**

THTR 99F TECHNICAL THEATRE MANAGEMENT IN PRODUCTION II 6 Units
Prerequisite: THTR 99E.
4 hours lecture-laboratory, 12 hours laboratory. (192 hours total per quarter)
Students will gain practical experience in the application of theatre management responsibilities in any of the following: stage management, house management, production management, or technical department management. Students in this class will be expected to assume responsibility for assembling and organizing the work of several groups or departments in the successful creation of a large theatrical production. **FHGE: Non-GE; Transferable: UC/CSU**

VETERINARY TECHNOLOGY

Biological and Health Sciences (650) 949-7538
www.foothill.edu/bio/programs/vettech/

V T 50A CURRENT TOPICS IN VETERINARY TECHNOLOGY I .5 Unit
Formerly: V T 50
Advisory: Not open to students with credit in V T 50.
1 hour lecture-laboratory. (12 hours total per quarter)
Provides enrichment of the core curriculum of the Veterinary Technology Program. Presenters will include veterinarians, veterinary specialists, veterinary technicians, animal care and management professionals, business professionals, and educators. Lectures, lecture-demonstrations, multimedia presentations, live demonstrations, or hands-on workshops presented once monthly by the instructor or professionals in veterinary medicine, veterinary technology, or other animal health-related fields. Content consists of relevant topics related to concurrent coursework in the veterinary technology program curriculum. Intended for students in the veterinary technology program. **FHGE: Non-GE; Transferable: CSU**

V T 50B CURRENT TOPICS IN VETERINARY TECHNOLOGY II .5 Unit
1 hour lecture-laboratory. (12 hours total per quarter)
Provides enrichment of the core curriculum of the Veterinary Technology Program. Presenters will include veterinarians, veterinary specialists, veterinary technicians, animal care and management professionals, business professionals, and educators. Lectures, lecture-demonstrations, multimedia presentations, live demonstrations, or hands-on workshops presented once monthly by the instructor or professionals in veterinary medicine, veterinary technology, or other animal health-related fields. Content consists of relevant topics related to concurrent coursework. Intended for students in the veterinary technology program. **FHGE: Non-GE; Transferable: CSU**

V T 50C CURRENT TOPICS IN VETERINARY TECHNOLOGY III .5 Unit
1 hour lecture-laboratory. (12 hours total per quarter)
Provides enrichment of the core curriculum of the Veterinary Technology Program. Presenters will include veterinarians, veterinary specialists, veterinary technicians, animal care and management professionals, business professionals, and educators. Lectures, lecture-demonstrations, multimedia presentations, live demonstrations, or hands-on workshops presented once monthly by the instructor or professionals in veterinary medicine, veterinary technology, or other animal health-related fields. Content consists of relevant topics related to concurrent coursework. Intended for students in the veterinary technology program. **FHGE: Non-GE; Transferable: CSU**

V T 50D CURRENT TOPICS IN VETERINARY TECHNOLOGY IV .5 Unit
1 hour lecture-laboratory. (12 hours total per quarter)
Provides enrichment of the core curriculum of the Veterinary Technology Program. Presenters include veterinarians, veterinary specialists, veterinary technicians, animal care and management professionals, business professionals, and educators. Lectures, lecture-demonstrations, multimedia presentations, live demonstrations, or hands-on workshops presented once monthly by the instructor or professionals in veterinary medicine, veterinary technology, or other animal health-related fields. Content consists of relevant topics related to concurrent coursework. Intended for students in the veterinary technology program. **FHGE: Non-GE; Transferable: CSU**

V T 50E CURRENT TOPICS IN VETERINARY TECHNOLOGY V .5 Unit
1 hour lecture-laboratory. (12 hours total per quarter)
Provides enrichment of the core curriculum of the Veterinary Technology Program. Lectures, lecture-demonstrations, multimedia presentations, live demonstrations, or hands-on workshops presented once monthly by the instructor or professionals in veterinary medicine, veterinary technology, or other animal health-related fields. Content consists of relevant topics related to concurrent coursework. Presenters include veterinarians, veterinary specialists, veterinary technicians, animal care and management professionals, business professionals, and educators. Intended for students in the veterinary technology program. **FHGE: Non-GE; Transferable: CSU**

V T 50F CURRENT TOPICS IN VETERINARY TECHNOLOGY VI .5 Unit
1 hour lecture-laboratory. (12 hours total per quarter)
Provides enrichment of the core curriculum of the Veterinary Technology Program. Content consists of relevant topics related to concurrent coursework. Lectures, lecture-demonstrations, multimedia presentations, live demonstrations, or hands-on workshops presented once monthly by the instructor or professionals in veterinary medicine, veterinary technology, or other animal health-related fields. Presenters include veterinarians, veterinary specialists, veterinary technicians, animal care and management professionals, business professionals, and educators. Intended for students in the veterinary technology program. **FHGE: Non-GE; Transferable: CSU**

V T 51 INTRODUCTION TO VETERINARY TECHNOLOGY 1.5 Units
1 hour lecture, 2 hours lecture-laboratory. (36 hours total per quarter)
Orientation to the program requirements and curriculum and a prerequisite for admission to the Veterinary Technology Program. Survey of the role of the veterinary assistant and registered veterinary technician in the workplace. Survey of employment opportunities and areas of specialization. Ethics and professionalism. Laws and regulations governing veterinary technicians. Introduction to basic animal care skills and clinical procedures. **FHGE: Non-GE; Transferable: CSU**

V T 52A VETERINARY ASSISTING I 5 Units
5 hours lecture. (60 hours total per quarter)
First in a two-course series in the theory and practice of veterinary assisting focusing on the knowledge, skills, and attitudes required for competent paraprofessional support to the veterinarian (DVM) and to the registered veterinary technician (RVT). Prepare for an exciting career as a Veterinary Assistant by learning the essential knowledge and hands-on skills. Emphasis is on the practical aspects of front office management, working as part of the veterinary health care team, basic animal care, and fundamentals of patient management under direct supervision. Entirely online and may be taken as a stand-alone class or may be combined with V T 52B, V T 88A & V T 88B to earn a Veterinary Assisting Program Certificate of Completion. **FHGE: Non-GE; Transferable: CSU**

V T 52B VETERINARY ASSISTING II 5 Units
Prerequisite: V T 52A.
5 hours lecture. (60 hours total per quarter)
Second in a two-course series in the theory and practice of veterinary assisting focusing on the knowledge, skills, and attitudes required for competent paraprofessional support to the veterinarian (DVM) and to the registered veterinary technician (RVT). Prepare for an exciting career as a Veterinary Assistant by learning

the essential knowledge and hands-on skills. Emphasis is on the practical aspects of front office management, working as part of the veterinary health care team, basic animal care, and fundamentals of patient management under direct supervision. Entirely on-line and may be taken as a stand-alone class or may be combined with V T 52A, V T 88A & V T 88B to earn a Veterinary Assisting Program Certificate of Completion. **FHGE: Non-GE; Transferable: CSU**

V T 53A MEDICAL TERMINOLOGY 1 Unit
Prerequisite: Admission to the Veterinary Technology Program.
2 hours lecture-laboratory. (24 hours total per quarter)
A guided self-study of medical terminology as a fundamental communication skill. Basic word parts and rules of word construction. A review of common medical terms pertaining to the different body systems, with emphasis on those terms peculiar to veterinary medicine. **FHGE: Non-GE; Transferable: CSU**

V T 53B MEDICAL CALCULATIONS 1 Unit
Prerequisite: Admission to the Veterinary Technology Program.
2 hours lecture-laboratory. (24 hours total per quarter)
Applied mathematics as a fundamental communication and technical skill. Review of calculations involving fractions, decimals, ratios and proportions, unit conversions, and algebraic equations. Clinical medical calculations utilized in preparation and administration of drugs, dosage determinations, intravenous fluid infusion, and prescription dispensing. **FHGE: Non-GE; Transferable: CSU**

V T 53C INTRODUCTION TO LARGE ANIMAL CARE 1 Unit
Prerequisite: Admission to the Veterinary Technology Program.
2 hours lecture-laboratory. (24 hours total per quarter)
Introduction to principles of husbandry and veterinary nursing care of common domestic large animal species. Breed identification; housing and restraint; physical examination; administration of medication and therapeutics; nutrition and feeding; common diseases; common large animal clinical procedures. **FHGE: Non-GE; Transferable: CSU**

V T 53D INTRODUCTION TO DAIRY CATTLE HEALTH MANAGEMENT 2 Units
Advisory: All instruction will take place on the farm at Hidden Villa.
1 hour lecture, 2 hours lecture-laboratory. (36 hours total per quarter)
A series of one-hour lectures, live demonstrations, and hands-on practical experiences. Introduction to the principles of the husbandry and health management of dairy and beef cattle. Breed identification; housing and restraint; nutrition and feeding; common infectious disease; and vaccinations; common internal and external parasite management; common veterinary treatments and food animal drug restrictions; breeding, gestation, and parturition. Intended for students in the veterinary technology program. **FHGE: Non-GE; Transferable: CSU**

V T 53E INTRODUCTION TO SMALL RUMINANT HEALTH MANAGEMENT 2 Units
Advisory: All instruction will take place on the farm at Hidden Villa.
1 hour lecture, 2 hours lecture-laboratory. (36 hours total per quarter)
A series of lectures, live demonstrations, and hands-on sessions. Introduction to the principles of husbandry and health management of sheep and dairy goats. Breed identification; housing and restraint; nutrition and feeding; common infectious disease and vaccinations; common internal and external parasite management; common veterinary medicines and food animal restrictions; breeding, gestation, and parturition. Intended for students in the veterinary technology program. **FHGE: Non-GE; Transferable: CSU**

V T 53F INTRODUCTION TO SWINE HEALTH MANAGEMENT 2 Units
Advisory: All instruction will take place on the farm at Hidden Villa.
1 hour lecture, 2 hour lecture-laboratory. (36 hours total per quarter)
A series of lectures, live demonstrations, and hands-on experiences. Introduction to the principles of husbandry and health management of swine. Breed identification; housing and restraint; nutrition and feeding; common infectious disease and vaccinations; common internal and external parasite management; common veterinary medicines and food animal restrictions; breeding, gestation, and parturition. Intended for students in the veterinary technology program. **FHGE: Non-GE; Transferable: CSU**

V T 54A COMPARATIVE VETERINARY ANATOMY & PHYSIOLOGY FOR THE VETERINARY TECHNICIAN 5 Units
Prerequisite: V T 51 or equivalent.
Advisory: One of the following: ENGL 1A, 1AH, 1S & 1T or ESLL 26 or equivalent; CHEM 30A or equivalent.
4 hours lecture, 1 hour lecture-laboratory, 2 hours laboratory. (84 hours total per quarter)
Comparative veterinary anatomy and physiology for veterinary technicians. Clinically relevant veterinary anatomy and physiology including a discussion of the similarities and differences among the major domestic species. Emphasis is placed on the normal structure and function of the major organ systems as the foundation for understanding pathology and the pathophysiology of disease. Intended for students in the veterinary technology program. **FHGE: Non-GE; Transferable: CSU**

V T 54B COMPARATIVE VETERINARY ANATOMY & PHYSIOLOGY FOR THE VETERINARY TECHNICIAN 5 Units
Prerequisites: V T 54A; V T 51 or equivalent.
Advisory: One of the following: ENGL 1A, 1AH, 1S & 1T or ESLL 26 or equivalent; CHEM 30A or equivalent.
4 hours lecture, 1 hour lecture-laboratory, 2 hours laboratory. (84 hours total per quarter)
Comparative anatomy and physiology for veterinary technicians. Clinically relevant anatomy and physiology of the major domestic animals and includes a discussion of the similarities and differences among the species. Emphasis is placed on the normal structure and function of the major organ systems as the foundation for understanding pathology and pathophysiology of disease. Intended for students in the veterinary technology program. **FHGE: Non-GE; Transferable: CSU**

V T 55 ANIMAL MANAGEMENT & CLINICAL SKILLS I 4 Units
Prerequisite: Admission to the Veterinary Technology Program.
3 hours lecture, 3 hours laboratory. (72 hours total per quarter)
Intended for the pre-clinical training of veterinary technology students and unregistered veterinary assistants. Orientation to the Veterinary Technology Program. Occupational health and safety. Animal handling and restraint. Administration of medication. Assessing dehydration and basic fluid administration. Introduction to anesthetic equipment, procedures and recovery. Principles of aseptic technique, sanitation, disinfection and sterilization. Principles of surgical nursing and instrumentation. Euthanasia, grief and pet loss support. Principles of animal behavior, socialization, basic obedience and common behavior problems. Wound healing, basic wound care and suture material. **FHGE: Non-GE; Transferable: CSU**

V T 56 ANIMAL MANAGEMENT & CLINICAL SKILLS II 4 Units
Prerequisite: Admission to the Veterinary Technology Program.
3 hours lecture, 3 hours laboratory. (72 hours total per quarter)
Intended for the pre-clinical training of veterinary technology students and unregistered veterinary assistants. Survey of basic responsibilities and technical duties of veterinary technicians. Clinical nutrition and feeding of the dog and cat. Reproductive anatomy and physiology of the dog and cat including common reproductive disorders. Instruction and practical experience in the basic principles and techniques of wound healing, bandage and suture material. Basic radiography and electrocardiography. Venipuncture for catheter placement, blood collection, and intravenous administration of fluids and medications. Troubleshooting of intravenous catheter set-ups. Patient examination and assessment. Bandaging and splinting. Hands-on experience performing and assisting with routine clinical diagnostic and therapeutic procedures, including dermatologic and ophthalmologic procedures, blood and urine collection and other routine veterinary clinical procedures.
FHGE: Non-GE; Transferable: CSU

V T 60 VETERINARY OFFICE PRACTICE 2 Units
Prerequisite: Admission to the Veterinary Technology Program.
2 hours lecture. (24 hours total per quarter)
Principles and practice of veterinary office management for veterinary technology students. Client relations, receptionist skills, telephone techniques, interpersonal skills, and personnel management. Generation and maintenance of correspondence, medical records, legal forms, and hospital logs. Basic bookkeeping, accounting, and financial management principles. Marketing and public relations. Professional ethics and professionalism. Use of computers for data entry, patient record management and inventory control. Use of practice management software. State and federal laws as they apply to the veterinary practice. Intended for students in the veterinary technology program. **FHGE: Non-GE; Transferable: CSU**

V T 61 ANIMAL DISEASES 5 Units
Advisory: Completion of general microbiology strongly recommended.
4 hours lecture, 2 hours lecture-laboratory. (72 hours total per quarter)
Advanced study of the common diseases of domestic animals with emphasis on the dog and cat. Practical medical microbiology, clinical immunology. Mechanisms of disease; the host-parasite relationship and adaptive and maladaptive responses of the host. Etiology, pathogenesis, clinical signs and clinical management of selected immunological, viral, bacterial, fungal, and parasitic diseases. Etiology, pathogenesis, clinical signs and clinical management of selected developmental, degenerative, nutritional, metabolic, endocrine, immune-mediated, and neoplastic diseases. Principles of vaccination, disease prevention, public health, client education, and zoonosis. Diagnostic techniques, including gross and microscopic identification of common veterinary pathogens. Intended for students in the veterinary technology program. **FHGE: Non-GE; Transferable: CSU**

V T 70 FUNDAMENTALS OF VETERINARY DIAGNOSTIC IMAGING 4 Units
Prerequisite: Admission to the Veterinary Technology Program.
3 hours lecture, 3 hours laboratory. (72 hours total per quarter)
Introduction to the principles of veterinary radiography and ultrasonography for veterinary technician students, including radiographic and ultrasonographic terminology. Physics of X-ray and ultrasound production and interaction with matter. Occupational safety and radiation protection. Proper use and maintenance of standard and digital x-ray equipment. Radiographic exposure factors, technique chart development and usage, and patient positioning required for production of diagnostic radiographs. Processing of radiographic film. Discussion of equipment materials and special radiographic studies common in veterinary practice. Radiographic exposure troubleshooting and common artifacts. Intended for students in the veterinary technology program. **FHGE: Non-GE; Transferable: CSU**

V T 70R INDEPENDENT STUDY IN 1 Unit
V T 71R VETERINARY TECHNOLOGY 2 Units
V T 72R 3 Units
V T 73R 4 Units
3–12 hours per week. (36–144 hours total per quarter)
Provides an opportunity for the student to expand their studies in Veterinary Technology beyond the classroom by completing a project or an assignment arranged by agreement between the student and instructor. The student is required to contract with the instructor to determine the scope of assignment and the unit value assigned for successful completion. Students may take a maximum of 6 units of Independent Study per department. **FHGE: Non-GE; Transferable: CSU**

V T 72 PRINCIPLES OF VETERINARY DENTISTRY 2 Units
Prerequisite: Admission to the Veterinary Technology Program.
1 hour lecture, 2 hours lecture-laboratory. (36 hours total per quarter)
Basic principles of veterinary dentistry for the veterinary technology student. Includes dental anatomy, physiology, pathophysiology, charting and instrumentation. Techniques of routine dental prophylaxis and dental assisting. Discussion of periodontal disease, modes of therapy and prevention. Introduction to common dental disorders, endodontic technique, simple extractions, and dental radiography. Course includes hands-on laboratory sessions using veterinary dental equipment, models, and live animal patients. Care and use of common instruments and equipment. Intended for students in the veterinary technology program. **FHGE: Non-GE; Transferable: CSU**

V T 75A ANIMAL CARE SKILLS I 1 Unit
Prerequisite: Admission to the Veterinary Technology Program.
3 hours laboratory. (36 hours total per quarter)
Practical application of animal care skills and principles of animal care and management using techniques and knowledge learned in the veterinary technology program. Opportunity to participate in the health care team involved in the care, management and husbandry of program livestock, companion animals and laboratory animals. Emphasis will be on the basic principles and application of clinical facility management, care of resident teaching animals, and routine maintenance duties. Intended for students in the veterinary technology program. **FHGE: Non-GE; Transferable: CSU**

V T 75B ANIMAL CARE SKILLS II 1 Unit
Prerequisite: V T 75A.
3 hours laboratory. (36 hours total per quarter)
Continuation of V T 75A. Practical application of animal care skills and principles of animal care and management using techniques and knowledge learned in the veterinary technology classroom. Opportunity to participate in the health care team involved in the care, management and husbandry of livestock, companion animals and laboratory animals. Emphasis will be on the basic principles and application of clinical facility management, care of resident teaching animals, and routine maintenance duties. Responsibilities will expand to include medical record keeping. Intended for students in the veterinary technology program. **FHGE: Non-GE; Transferable: CSU**

V T 75C ANIMAL CARE SKILLS III 1 Unit
Prerequisite: V T 75B.
3 hours laboratory. (36 hours total per quarter)
Continuation of V T 75B. Practical application of animal care skills and principles of animal care and management using techniques and knowledge learned in the veterinary technology classroom. Opportunity to participate in the health care team involved in the care, management and husbandry of livestock, companion animals and laboratory animals. Responsibilities include medical record keeping, inventory control, and care of clinical equipment. Emphasis will be on the basic principles and application of clinical facility management, care of resident teaching animals, and routine maintenance duties Level of responsibility increases as the student prepares to enter the second year of the program and take over lead nurse responsibilities. Intended for students in the veterinary technology program. **FHGE: Non-GE; Transferable: CSU**

V T 75D ANIMAL CARE SKILLS IV 1 Unit
Prerequisite: V T 75C.
3 hours laboratory. (36 hours total per quarter)
Continuation of VT 75C. Practical application of animal care skills and principles of animal care and management using techniques and knowledge learned in the veterinary technology classroom. Level of responsibility increases to that of a second year student in the veterinary technology program as they take over the lead nurse responsibilities. Opportunity to lead the health care team involved in the care, management and husbandry of livestock, companion animals and laboratory animals. Responsibilities include medical record keeping, inventory control, and care of clinical equipment. Emphasis will be on the more advanced principles and application of clinical facility management, care of resident teaching animals, and routine maintenance duties. Degree of supervision is low with students working independently under indirect supervision of the instructor. Enhanced requirements of reporting and record keeping. Intended for students in the veterinary technology program. **FHGE: Non-GE; Transferable: CSU**

V T 81 CLINICAL PATHOLOGY METHODS 5 Units
Prerequisite: Admission to the Veterinary Technology Program.
4 hours lecture, 3 hours laboratory. (84 hours total per quarter)
Fundamental studies of laboratory techniques and procedures involved in evaluating veterinary clinical samples. Areas of study include hematology, urinalysis, coagulation assessment, blood biochemistry and immunological testing, serology, clinical parasitology, and cytology. The veterinary technician's role in sample collection, sample storage and handling, and performance of analytic procedures will be emphasized. Skills are developed in the use of laboratory equipment, laboratory safety and management, and quality control and quality assurance. Intended for students in the veterinary technology program. **FHGE: Non-GE; Transferable: CSU**

V T 83 PHARMACOLOGY FOR TECHNICIANS 4 Units
Prerequisite: Admission to the Veterinary Technology Program.
4 hours lecture. (48 hours total per quarter)
Introduction to the basic principles of veterinary pharmacology. Preparation and dispensing of medications. Overview of the actions and interactions of the major classes of drugs, with emphasis on common veterinary uses of specific drugs. Intended for students in the veterinary technology program. **FHGE: Non-GE; Transferable: CSU**

V T 84 ANESTHESIOLOGY FOR TECHNICIANS 5 Units
Prerequisites: V T 83 and 91.
3 hours lecture, 6 hours laboratory. (108 hours total per quarter)
Principles and practice of veterinary anesthesia for the veterinary technician. Anatomy and physiology of the respiratory, cardiovascular, and nervous systems relevant to anesthesia. Pharmacology, indications, contraindications and adverse effects of common pre-anesthetic and anesthetic agents. The veterinary technician's role in patient assessment, preparation, induction, monitoring, and maintenance of anesthesia. Anesthesia events, surgical assisting, and post-anesthetic nursing will be performed in the laboratory. Intended for students in the veterinary technology program. **FHGE: Non-GE; Transferable: CSU**

V T 85 VETERINARY EMERGENCY & CRITICAL CARE 4 Units
Prerequisite: Admission to the Veterinary Technology Program.
3 hours lecture, 3 hours laboratory. (72 hours total per quarter)
Theoretical and practical aspects of assisting the veterinarian in the management of medical and traumatic emergencies. Recognition and assessment of cardiovascular shock, respiratory crisis, gastrointestinal emergency, and musculoskeletal trauma. Principles and techniques of fluid therapy and administration of emergency drugs. Application of treatment protocols for shock, cardiopulmonary arrest, gastrointestinal crisis, wounds and fractures, toxicoses, and dystocia. Nutrition of critical care patients. Maintenance of emergency medical equipment and supplies. Intended for students in the veterinary technology program. **FHGE: Non-GE; Transferable: CSU**

V T 86 LABORATORY ANIMAL TECHNOLOGY 4 Units
Prerequisite: Admission to the Veterinary Technology Program.
4 hours lecture. (48 hours total per quarter)
Study of the husbandry, care, management, and nursing care of rabbits, rodents kept as companion animals. Orientation to the humane and ethical use of animals in research and to the animal advocate and nursing roles of the veterinary technician in a biomedical research animal facility. Regulations affecting the use of animals in research are discussed. Proper methods of restraint and handling; husbandry and housing; feeding and nutrition; medical and surgical nursing techniques for the common species of "laboratory animals" (i.e. rodents, rabbits, nonhuman primates, reptiles and amphibians, etc.) Introduction to diagnostic and therapeutic techniques and common diseases of laboratory animals. Appropriate anesthesia, analgesia and euthanasia methods will be discussed. Intended for students in the veterinary technology program. **FHGE: Non-GE; Transferable: CSU**

V T 87A ADVANCED ANIMAL CARE SKILLS I 1 Unit
Prerequisite: Admission to the Veterinary Technology Program.
3 hours laboratory. (36 hours total per quarter)
Practical application of animal care skills and principles of animal care and management, integrating advanced techniques and knowledge gained through classroom instruction. Opportunity to participate in the health care team in a supervisory role with increased organizational responsibility. Emphasis on instruction of first-year students in basic principles of facilities management and maintenance care of resident animals. Intended for students in the veterinary technology program. **FHGE: Non-GE; Transferable: CSU**

V T 87B ADVANCED ANIMAL CARE SKILLS II 1 Unit
Prerequisite: Admission to the Veterinary Technology Program.
3 hours laboratory. (36 hours total per quarter)
Continuation of V T 87A. Continuing instruction of first-year students in basic principles of facilities management and maintenance care of resident animals. Supervisory responsibilities will expand to include the formulation of work schedules, performing diagnostic and therapeutic procedures on resident animals, and performance evaluations of first-year students. The student will be involved in open lab sessions training first-year students in technical procedures. Intended for students in the veterinary technology program. **FHGE: Non-GE; Transferable: CSU**

V T 87C ADVANCED ANIMAL CARE SKILLS III 1 Unit
Prerequisite: Admission to the Veterinary Technology Program.
3 hours laboratory. (36 hours total per quarter)
Continuation of V T 87B. Continuing instruction of first-year students in basic principles of facilities management and maintenance care of resident animals. Supervisory responsibilities include the formulation of work schedules, performing diagnostic and therapeutic procedures on resident animals, performance evaluations of first-year students, and staffing open lab sessions. Facilitate transition of primary animal care responsibility to first-year students. Intended for students in the veterinary technology program. **FHGE: Non-GE; Transferable: CSU**

V T 88A CLINICAL PRECEPTORSHIP I 1.5 Units
Corequisite: V T 52A.
7.5 hours clinic. (90 hours total per quarter)
Formal, structured off-campus clinical experience in licensed veterinary facilities, which serve as a means of instructing the student in practical, hands-on, clinical skills in all aspects of veterinary assisting. The student is under the direct supervision of one or more licensed veterinarians and/or credentialed veterinary technicians. The site of the preceptorship is approved by the veterinary technology program in consultation with the student and the veterinary professionals Opportunity for learning and practical application of the knowledge, skills and attitudes required of a veterinary assistant. Exposure to varied methodologies and practice philosophies in a variety of clinical settings. Emphasis is on the role of the veterinary assistant in the veterinary health care team. **FHGE: Non-GE; Transferable: CSU**

V T 88B CLINICAL PRECEPTORSHIP II 1.5 Units
Corequisite: V T 52B
7.5 hours clinic. (90 hours total per quarter)
Covers a wide scope and increased depth of skills training. Formal, structured off-campus clinical experience in licensed veterinary facilities, which serve as a means of instructing the student in practical, hands-on, clinical skills in all aspects of veterinary assisting. Under the direct supervision of one or more licensed veterinarians and/or credentialed veterinary technicians. The site of the preceptorship is approved by the veterinary technology program in consultation with the student and the veterinary professionals Opportunity for learning and practical application of the knowledge, skills and attitudes required of a veterinary assistant. Exposure to varied methodologies and practice philosophies in a variety of clinical settings. Emphasis is on the role of the veterinary assistant in the veterinary health care team. **FHGE: Non-GE; Transferable: CSU**

V T 89 CLINICAL INTERNSHIP I 3 Units
Prerequisite: Admission to the Veterinary Technology Program.
15 hours laboratory. (180 hours total per quarter)
Off-campus practical clinical work experience in veterinary facilities supervised by licensed veterinarians and veterinary technicians. Integration into a veterinary health care team and exposure to varied methodologies and practice philosophies in a variety of clinical settings. Practical application of knowledge, skills, and attitudes acquired in the first year program course work: clinical application of anatomy and physiology; medical terminology and medical math; chemistry and microbiology; interpersonal skills and office practices. Supervised hands-on training in basic medical and surgical nursing. Opportunity to practice and attain entry level competency in essential clinical skills. Intended for students in the veterinary technology program. **FHGE: Non-GE; Transferable: CSU**

V T 91 CLINICAL INTERNSHIP II 3 Units
Prerequisite: Admission to the Veterinary Technology Program.
15 hours laboratory. (180 hours total per quarter)
Off-campus practical clinical work experience in veterinary facilities supervised by licensed veterinarians and veterinary technicians. Students begin to follow directions from doctors and staff with increasing independence and exhibit good judgment and critical thinking skills. Practical application of knowledge, skills, and attitudes acquired in the concurrent second year program course work: patient assessment skills, animal restraint, administration of medication and sample collection; assisting in radiology, clinical pathology, anesthesiology and common clinical procedures. Intended for students in the veterinary technology program. **FHGE: Non-GE; Transferable: CSU**

V T 92 CLINICAL INTERNSHIP III 3 Units
Prerequisite: Admission to the Veterinary Technology Program.
15 hours laboratory. (180 hours total per quarter)
Off-campus practical clinical work experience in veterinary facilities supervised by licensed veterinarians and veterinary technicians. Students must assume more responsibility; and act independently with more confidence and proficiency; applying principles of critical thinking to clinical practice and troubleshooting with confidence and good judgment. Practical application of knowledge, skills, and attitudes acquired in the concurrent second year program course work: Assumes primary responsibility for radiology, clinical pathology, anesthesiology, medical and surgical nursing and common clinical procedures. Intended for students in the veterinary technology program. **FHGE: Non-GE; Transferable: CSU**

V T 93 CLINICAL INTERNSHIP IV 4 Units
Prerequisite: Admission to the Veterinary Technology Program.
20 hours laboratory. (240 hours total per quarter)
Off-campus practical clinical work experiences in veterinary facilities supervised by licensed veterinarians and veterinary technicians. Student assumes primary responsibility for training, mentoring, and supervising new unregistered veterinary assistants and veterinary technicians. High-level practical application of knowledge, skills, and attitudes acquired in the concurrent second year program course work. In addition to competently performing all essential clinical skills and duties delegated to the veterinary technician; the student will begin to take responsibility for client education, development of patient care plans, providing nursing care to critical care and emergency patients, performing advanced sampling techniques, conducting special diagnostic studies and performing more complex therapeutics. Intended for students in the veterinary technology program. **FHGE: Non-GE; Transferable: CSU**

V T 95 VETERINARY TECHNICIAN PROFICIENCY 2 Units
Prerequisite: Admission to the Veterinary Technology Program.
Corequisite: V T 95L.
2 hours lecture. (24 hours total per quarter)
Review of pertinent subject matter in preparation for the California State Veterinary Technician Examination and the Veterinary Technician National Examination. Guided review and discussion of exam application process. Intended for students in the veterinary technology program. **FHGE: Non-GE; Transferable: CSU**

V T 95L VETERINARY TECHNICIAN PROFICIENCY LABORATORY 1 Unit
Prerequisite: Admission to the Veterinary Technology Program.
Corequisite: V T 95.
3 hours laboratory. (36 hours total per quarter)
Provides opportunity for practicing essential clinical skills and demonstrating the technical proficiency required of the graduate veterinary technician. Emphasis is on skill development and hands-on experience in all required areas. Practical training in the American Veterinary Medical Association Committee on Veterinary Technician Education and Activities List of Essential Skills Expected of Graduate Veterinary Technicians using a set of standard criteria as a guideline for the accomplishment of performance objectives. Intended for students in the veterinary technology program. **FHGE: Non-GE; Transferable: CSU**

VIDEO ARTS

Fine Arts and Communication (650) 949-7262 www.foothill.edu/fa/

VART 1 INTRODUCTION TO FILM STUDIES 4 Units
Advisory: Not open to students with credit in F TV 1 or MDIA 1.
4 hours lecture, 1 hour laboratory. (60 hours total per quarter)
A survey of the language, technology, theory and aesthetics of the moving image as an art form. Emphasizes an introduction to the critical analysis of the film and video. Includes weekly readings, film viewing, and discussion. **FHGE: Non-GE; Transferable: UC/CSU**

VART 2A HISTORY OF FILM 1895–1945 4 Units
Advisory: Not open to students with credit in MDIA 2A or F TV 2A.
4 hours lecture, 1 hour laboratory. (60 hours total per quarter)
Survey of the development of motion pictures from beginning to the l940s. Emphasis on understanding evolution of international filmmaking. **FHGE: Non-GE; Transferable: UC/CSU**

VART 4 SCRIPTWRITING FOR VISUAL MEDIA 4 Units
3 hours lecture, 2 hours lecture-laboratory. (60 hours total per quarter)
An introductory course in scriptwriting for film and video which covers the basic skills needed in scripting for the media. Emphasis will be on the development of visual sensitivity, the examination of sample scripts and experience in progressing from concept to finished script. The role of the script in media production and the appropriate formats for fiction and non-fiction scripts will also be examined. **FHGE: Non-GE; Transferable: CSU**

VART 31 DIGITAL VIDEO EDITING II 4 Units
Formerly: VART 85
Prerequisite: MDIA 30.
Advisory: Must demonstrate basic computer proficiency; not open to students with credit in F TV 85, MDIA 31 or VART 85.
3 hours lecture, 2.5 hours lecture-laboratory. (66 hours total per quarter)
Continuation of VART 30. Further exploration of technical and aesthetic considerations in film and video editing. Addresses advanced topics in digital post-production using AVID Media Composer and/or Final Cut Pro software. Software topics include sync, audio mixing, color correction, and compositing. **FHGE: Non-GE; Transferable: UC/CSU**

VART 50 CAREERS IN THE VISUAL ARTS 2 Units
Advisory: Not open to students with credit in GID 60 or GRDS 50.
2 hours lecture. (24 hours total per quarter)
Exploring the field of visual arts including fine arts, design, graphic design, photography, video arts, new media, and theatre arts. Survey of transfer schools, art studios, company art departments, advertising agencies and job opportunities for creative services professionals. **FHGE: Non-GE; Transferable: CSU**

WOMEN'S STUDIES

Business and Social Sciences (650) 949-7322 www.foothill.edu/bss/

WMN 5 INTRODUCTION TO WOMEN'S STUDIES 4 Units
Advisory: Demonstrated proficiency in English by placement into ENGL 1A as determined by score on the English placement test or through an equivalent placement process.
4 hours lecture. (48 hours total per quarter)
Examination and development of the goals, major documents, history, achievements, and evolution of the current women's movement in light of the impact and contributions of women, in comparison to those of men, of various cultural and ethnic heritage. Includes appraisal of the effects of multiculturalism and the women's movement on politics, jobs, education, science, family structure, and the arts. **FHGE: United States Cultures & Communities, Social & Behavioral Sciences; Transferable: UC/CSU**

WMN 11 WOMEN IN GLOBAL PERSPECTIVE 4 Units
4 hours lecture. (48 hours total per quarter)
Examination and analysis of the historical roles of women globally and the impact and influence of these historical developments on modern society internationally and domestically. **FHGE: Non-GE; Transferable: UC/CSU**

WMN 15 A HISTORY OF WOMEN IN ART 4.5 Units
Advisory: Not open to students with credit in ART 2E.
4 hours lecture, 1.5 hours laboratory. (66 hours total per quarter)
A chronological, thematic, and cross-cultural examination of art works and gender issues concerning women artists from the early Middle-Ages to the 21st century. Includes the influences on art produced by women of such issues as race, gender, socio-economic and political conditions, increasing urbanization, and conceptions of nature, etc. **FHGE: Humanities; Transferable: UC/CSU**

WMN 21 PSYCHOLOGY OF WOMEN: SEX & GENDER DIFFERENCES 4 Units
Advisory: Demonstrated proficiency in English by placement into ENGL 1A as determined by score on the English placement test or through an equivalent placement process; not open to students with credit in PSYC 21 or SOC 21.
4 hours lecture. (48 hours total per quarter)
Survey of gender issues based upon psychological and sociological theories and research. Examination of sex differences and sex role stereotyping in a global, multi-cultural approach. Appraisal of effects of biology, culture, and society in creating sex and gender differences. Consideration of major theories of gender development. Focus on biology, socialization, mass media, communication, personality, abilities, work, family, sex, and violence. **FHGE: Social & Behavioral Sciences; Transferable: UC/CSU**

WMN 70R INDEPENDENT STUDY IN WOMEN'S STUDIES 1 Unit
WMN 71R 2 Units
WMN 72R 3 Units
WMN 73R 4 Units
3–12 hours per week. (36–144 hours total per quarter)
Provides an opportunity for the student to expand their studies in the Women's Studies discipline beyond the classroom by completing a project or an assignment arranged by agreement between the student and instructor. The student is required to contract with the instructor to determine the scope of assignment and the unit value assigned for successful completion. Students may take a maximum of 6 units of Independent Study per department. **FHGE: Non-GE; Transferable: CSU**

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Foothill-De Anza Community College District

Board of Trustees

Foothill College Administration

Faculty & Administrators

Emeritus Faculty

Classified Staff

Faculty & Staff

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Foothill College in Los Altos Hills, and De Anza College in Cupertino, are part of the Foothill-De Anza Community College District. The district is governed by a five-member board of trustees elected to staggered four-year terms by voters within the district. A student trustee from each college serves as representative to the board. Student trustees are elected annually by the associated students group of each college.

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Dean, Student Affairs & Activities
Patricia Hyland, M.A.

Director, Business & Education Partnerships
Vacant

Director, Extended Opportunity Program & Services (EOPS) & Community Programs
Vacant

Director, Facilities & Special Projects
Brenda Davis-Visas, B.S., C.I.D., L.E.E.D., A.P.

Director, Financial Aid
Kevin Harral, M.A.

Director, Foothill Bookstore
Romeo Paule, B.S.

Director, Krause Center for Innovation (KCI)
Gay Krause, M.A.

Director, Marketing & Public Relations
Andrea Hanstein, M.A.

Director, Strategy & Marketing, Krause Center for Innovation (KCI)
Liane Freeman, M.A.

Faculty & Administrators

Agyare, Micaela—(2012)
Librarian
B.A., Scripps College; M.A., University of Arizona

Anderson, Jeffrey—(2013)
Mathematics
B.S., University of California, Santa Barbara; M.A., Ph.D., University of California, Davis

Anderson, Mark K. (1989)
Division Dean, Fine Arts & Communication
B.S., South Oregon State University; M.A., University of Denver

Armstrong, Kathleen—(2002)
Chemistry
B.S., San Diego State University; M.S., Ph.D., University of California, San Diego

Arreola-Trigonis, Anabel—(2006)
Counseling
B.A., M.A., San Jose State University

Austin, Kathleen Ramos—(1990)
Director, Diagnostic Medical Sonography Program
ARDMS, AART, CRT, San Jose Hospital, San Jose; B.S., University of Phoenix

Baker, Judith—(2006)
Dean, Foothill Global Access
B.A., College of William & Mary; M.S.W., Virginia Commonwealth University; Ph.D., University of Texas at Austin

Balducci, Laureen—(2006)
Division Dean, Counseling, Admissions, Records & Special Projects
B.A., Alfred University; M.S., State University of New York

Barkley, Elizabeth—(1984)
Music
A.A., Riverside Community College; B.A., M.A., University of California, Riverside; Ph.D., University of California, Berkeley

Batham, Stephen—(2012)
History
A.A., College of the Canyons; B.A., M.A., California State University, Northridge

Beers, George—(1981)
Dean, International Programs
B.S., M.S., Indiana University

Bergmann, Janis—(1998)
Theatre Arts
B.A., University of California, Los Angeles; M.A., San Jose State University

Bertani, Laurie—(2001)
Counseling
B.A., Sonoma State University; M.A., San Jose State University

Bissell, Jeffrey—(2006)
Kinesiology & Athletics/ Aquatics Coach
B.A., M.A., California State University, Chico

Brown, Carolyn—(1996)
Graphic & Interactive Design
B.S., University of Pennsylvania; M.A., San Francisco State University

Cammin, Falk Renate—(1989)
Humanities, English for Second Language Learners
M.A., The School for International Training; M.A., San Francisco State University; Ph.D., Stanford University

Campbell, Rachelle—(2010)
Radiologic Technology Program
A.A., Santa Rosa Junior College; B.S., M.S., California State University, Northridge

Carey, Milissa—(2010)
Music
B.A., San Francisco Conservatory of Music; M.A., University of Southern California

Cascarano, Frank—(2004)
Physics
B.S., University of California, Davis; M.S., University of California, San Diego

Cembellin, Zachary—(2012)
Mathematics
B.S., California State University, Chico; M.S., California State University, East Bay

Ciment, Hilary—(2001)
Art
B.F.A., Cooper Union; M.F.A., University of Iowa

Coffin, Elvira—(1994)
Spanish
B.A, M.A., Monterey Institute of International Studies

Connell, Samuel—(2006)
Anthropology
B.A., University of Pennsylvania; M.S., Ph.D., University of California, Los Angeles

Cormia, Robert—(2001)
Computer Information Systems
B.S., California State University, Hayward

Craig, Jody—(1999)
Kinesiology & Athletics, Women's Basketball Coach
B.S., California Polytechnic State University, San Luis Obispo; M.A., Saint Mary's College

Crespo-Martin, Patricia—(2001)
Spanish
B.A., Universidad de Salamanca; M.A., Florida State University

Daley, Richard—(1993)
Chemistry
B.S., California State University, Hayward; Ph.D., University of California, Los Angeles

Dauer, Lesley—(2000)
English
B.A., Middlebury College; M.F.A., University of Massachusetts, Amherst; Ed.M., Harvard University

Davies, Paul—(1992)
Music
B.A., San Diego State University; M.A., Ph.D., University of California, San Diego

Davison, Dolores—(2000)
History, Women's Studies
B.A., University of California, Davis; M.A., University of Oregon

Day, Bernadette (Bernie) (2001)
Articulation Officer
B.A., University of California, Berkeley; M.S., San Diego State University

Delgado, Leticia—(2001)
Counseling
B.S., M.A., San Jose State University

Delos Santos, Sarah—(2008)
Mathematics
B.S., University of California, Davis; M.S., California State University, East Bay

Denver Heinrichs, Cathleen—(2000)
Counseling
B.A., California State University, Chico; M.A., California Polytechnic State University, San Luis Obispo

Drake, Lisa—(2010)
Accounting
B.A., San Francisco State University

Duncan, Kathleen—(1993)
Biology
B.S., M.S., San Jose State University

Edwards, Amelia—(2010)
Biology
B.S., California Polytechnic State University, San Luis Obispo; M.S., Ph.D., University of California, San Diego

Edwards, Kelly—(2007)
Kinesiology & Athletics, Football Coach
B.S., San Jose State University; M.A., National University

Emanuel, LeeAnn—(2010)
Counseling
B.A., University of California, Santa Cruz; M.A., San Jose State University

Erickson, Karen—(2000)
Biology
B.S., San Francisco State University; M.S., University of California, Davis

Escoto, Isaac A. (2008)
Counseling
B.A., University of California, Davis; M.A., San Jose State University

Eshman, Lisa (2014)
Director, Veterinary Technology Program
B.S., Stanford University; D.V.M., Tufts University School of Veterinary Medicine

Evans, Brian—(2002)
Economics
B.A., University of California, San Diego; M.A., University of Hawaii

Feig, Konnilyn—(1989)
Business, History, Political Science
B.S., B.A., M.A., University of Montana; Ph.D., University of Washington; M.B.A., Golden Gate University

Fernandez, Hilda—(2011)
English
B.A., M.A., University of California, Santa Cruz

Finnegan, Jordana—(2005)
English
B.A., M.A., Ph.D., University of Oregon

Flannery, Owen—(2007)
Kinesiology & Athletics, Women's Soccer Coach
B.S., San Jose State University; M.A., John F. Kennedy University

Fong, Valerie—(2005)
English
B.A., University of California, Santa Cruz; M.A. California State University, Hayward

Fox, John—(2010)
Sociology
A.A., Cabrillo College; B.A., University of California, Santa Cruz; Ph.D., University of Massachusetts, Amherst

Fraknoi, Andrew—(1992)
Astronomy
B.A., Harvard University; M.A., University of California, Berkeley

Francisco, Marnie—(1991)
Mathematics
B.S., M.S., University of Oregon

Freeman, Liane—(2012)
Director, Strategy & Marketing, Krause Center for Innovation
B.A., M.A., San Jose State University

Galoyan, Naziko—(2005)
Dean, Enrollment Services
A.A, Foothill College; B.A., San Francisco State University; M.A., San Jose State University

Gibbs, Patricia—(1999)
Sociology
B.A., University of British Columbia, Canada; M.A., University of Alberta, Canada; M.A., Ph.D., University of Hawaii at Manoa

Girardelli, Dawnalynn—(2013)
Dean, FHDA Education Center & Middlefield Campus
B.A, M.A., California State University, East Bay

Gong, III, Sing (Bubba)—(1989)
Kinesiology & Athletics
B.A., M.A., Stanford University

Gough, Thomas—(2004)
Theatre Arts
B.A., Santa Clara University; M.F.A., University of California, Davis

Gray, Nicole—(1996)
Mathematics
A.B., Dartmouth College; M.S., University of Illinois

Haight, Elaine E. (1990)
Computer Information Systems
B.A., University of California, Berkeley; M.S., Stanford University

Ha, Katherine Manchester—(2013)
Language Arts Supplemental Learning
B.A., University of Mississippi; M.A., Western Governors University

Hale, Melanie—(1990)
Director, Psychological Services & Personal Counseling
B.A., City College of New York; M.S., Columbia University

Hanning, Brenda—(2009)
Director, Respiratory Therapy Program
A.A., Foothill College; B.S., California State University, Fresno

Hansen, Theresa (Tess) (1991)
English, Composition, Literature
B.A., Santa Clara University; M.A., Stanford University; M.A., University of Iowa

Harral, Kevin—(2007)
Director, Financial Aid
B.S., University of California, Davis; M.A., San Francisco State University

Hartwell, Robert—(2004)
Music
B.A., Sonoma State University; M.A., San Francisco State University; Ed.D., Columbia University

Hayes, Diane—(1987)
Health
B.S., M.S., San Jose State University

Heiser, Meredith—(1991)
Political Science
B.A., Stanford University; Diploma, Freie Univesitaet of Berlin, Germany; M.A., Boston University; Ph.D., Johns Hopkins University

Herman, Allison—(2013)
English
B.A, University of California, Berkeley; M.A., San Francisco State University

Herman, Ronald—(1997)
Photography
B.F.A., University of Cincinnati; M.F.A., University of Notre Dame

Holcroft, Carolyn—(2002)
Biology
B.S.N., Ph.D., University of Kansas

Holland, Mary—(2010)
Chemistry
B.A., Anderson University; Ph.D., Indiana University

Horowitz, Kenneth L. (1977)
Dental Programs, Health
D.M.D., Tufts University

Hueg, Kurt—(1995)
Division Dean, Business & Social Sciences
B.A., University of California, Los Angeles; M.B.A., Santa Clara University

Huerta, Susana—(2005)
English
B.A., University of California, Berkeley; M.A., University of California, Santa Cruz

Huseman, David William—(2012)
Director, Emergency Medical Technician/Paramedic Program
A.A., Diablo Valley College

Hyland, Patricia—(2007)
Dean, Students Affairs & Activities
B.S., M.A., San Jose State University

Jardali, Najwa—(1991)
English for Second Language Learners
B.A., University of California, Santa Barbara; M.A., San Francisco State University

Jinnah, Fatima—(2007)
Counseling
B.A., University of California, Berkeley; M.S., San Francisco State University

Johnson, Brenda—(1991)
Counseling
B.A., California State University, Sacramento; M.A., San Jose State University

Jones, Kay—(2006)
Librarian
B.A., University of California, Davis; M.S., San Jose State University

Jordahl, Kate—(1997)
Photography
B.A., University of Delaware; M.F.A., Ohio University

Josselyn, Carol—(1987)
Communication Studies, English
B.A., Occidental College; M.A., Southern Illinois University; Ph.D., University of Washington

Kerbey, Nicole—(2012)
Child Development
B.A., M.A., San Jose State University

Key, S. Jenene—(1994)
Radiologic Technology
B.S., M.S., University of Alabama

Kitajima, Lorraine N. (1985)
Director, Health Services
B.S., San Jose State University; M.S., University of California, San Francisco

Knobel, Marc—(2000)
Mathematics
A.A., De Anza College; B.A., M.S., San Jose State University

Krause, Linda Gay—(1998)
Director, Krause Center for Innovation (KCI)
B.A., Pennsylvania State University; M.A., University of Virginia

Kuehnl, Eric—(2012)
Music Technology
B.A., Oberlin Conservatory of Music; M.F.A., California Institute of the Arts

Lam, Phuong My—(2000)
Mathematics
B.S., Santa Clara University; M.S., California State University, Hayward

LaManque, Andrew—(2002)
Associate Vice President, Instruction
B.S., SUNY Geneseo; M.S., Ph.D., SUNY Albany

Lane, Kimberly—(2002)
Counseling
B.A., Kent State University; M.S.S.A., Case Western Reserve University

Lang, Gary—(1988)
Kinesiology & Athletics
B.S., California State University, Sacramento; M.S., University of Arizona

Lankford, Scott—(1989)
English
B.A., Williams College; M.A., Ph.D., Stanford University

Larson, Londa—(1995)
Chemistry
B.S., California State University, Hayward; Ph.D., University of California, Los Angeles

Lee, Andrew—(2005)
Counseling
B.A., University of California, Berkeley; M.A., San Jose State University

Lee, Debbie—(2007)
Mathematics
B.A., M.A., San Francisco State University

Lee, Keith—(1996)
Photography
B.A., University of California, Los Angeles; M.F.A., School of the Art Institute of Chicago

Lenkeit Meezan, Karen Allison—(2000)
Geographic Information Systems, Geography
B.S., Stanford University; M.Phil., University of Cambridge

Levine, Ronald—(2003)
Police Chief
District Police

Lew, Debra—(2001)
Counseling
B.A., University of California, Los Angeles; M.S., California State University, Los Angeles

Lewis, Brian—(2001)
English
B.A., University of California, Santa Barbara; M.A., San Francisco State University

Lin, Eta—(2007)
Psychology
B.A., M.A., Ph.D., University of California, Santa Barbara

Liner, Thomas (2000)
Kinesiology & Athletics, Men's Soccer Coach
B.A., California State University, Chico

Loceff, Michael—(1984)
Computer Information Systems
B.S., University of Michigan; M.S., Stanford University

Lopez, Joanne—(1996)
Biology
B.A., Ph.D., University of California, Santa Cruz

MacDougall, Maureen—(1999)
Veterinary Technology
B.S., Manhattan College; M.S., Pennsylvania State University; D.V.M., Purdue University

Macias, Dixie—(1990)
Kinesiology & Athletics, Men's Tennis Coach
B.S., San Jose State University; M.A., Stanford University

Mac Neil, Donald—(2008)
Kinesiology & Athletics
B.A., M.A., San Francisco State University

Manske, Kent—(1990)
Art, Graphic & Interactive Design
B.F.A., University of Wisconsin, Eau Claire; M.F.A., School of the Art Institute of Chicago

Marasco, David—(2004)
Physics
B.A., B.S., University of California, San Diego; M.S., Ph.D., Northwestern University

Martinez, Ricardo A. (1994)
Mathematics
B.S., California State University, Chico; M.S., California State University, Hayward

Maurer, Kathryn—(2011)
Anthropology
B.A., American College of Greece, Athens; M.A., Ph.D., University of California, Los Angeles

McLeod, Bruce—(2006)
Theatre Arts
B.A., Western Washington University

Melia, Martin—(2001)
Biology
B.A., University of California, Berkeley; M.A., San Francisco State University

Menendez, Natalia A. (1991)
English, Composition, Literature
B.A., M.A., University of California, Berkeley

Messina, Kimberlee—(2011)
Vice President, Instruction & Institutional Research
B.A., M.A., California State University, Sacramento; Ed.D., University of California, Davis

Miller, Florance—(2012)
Counselor, Adaptive Learning
B.A., M.A., San Francisco State University; M.A., Antioch University; Ed.D., Mills College

Mills, Richard—(2012)
English
B.A., University of California, Berkeley; M.A., San Francisco State University

Miner, Judy C. (1988)
President
B.A., M.A., Lone Mountain College; Ed.D., University of San Francisco

Miyasaki, Cara—(1991)
Director, Dental Assisting Program
A.S., Foothill College; B.S., M.S., University of California, San Francisco

Morasci, Richard—(1996)
English for Second Language Learners
B.A., University of California, Berkeley; M.A., San Francisco State University

Morriss, Patrick—(2001)
Mathematics
B.A., North Dakota State University; M.S., San Jose State University

Mudge, Rachel—(2004)
Mathematics
B.A., Scripps College; M.S., Santa Clara University

Mummert, John—(2001)
Vice President, Workforce Development & Institutional Advancement
B.A., Pennsylvania State University; M.A., University of New Mexico

Murphy, William—(2002)
Computer Networking
B.S., M.S., University of California, Berkeley; J.D., Santa Clara University

Nava, José—(1998)
Accounting, Business
B.A., University of California, Los Angeles; M.A., University of California, Berkeley

Nava, Tobias—(2005)
Counseling
B.A., M.A., San Jose State University

Ni, Preston—(1991)
Communication Studies
B.S., M.S.B.A., San Francisco State University

Nikolchev, Betsy— (2012)
Executive Director, Family Engagement Institute
B.A., University of California, Berkeley

Ong, Teresa—(2007)
Dean, Disabled Student Services & Veterans Programs
B.A., National University of Singapore; M.A., New York University; M.A., University of San Francisco

Onugha, Erica—(2008)
English
B.A., University of California, Berkeley; M.A., University of California, Los Angeles

O'Loughlin, Rita A. (1989)
Kinesiology & Athletics
A.A., Orange Coast College; B.A., California State University, Chico; M.S., California State University, Hayward

Parikh, Sarah—(2011)
Engineering/Physics
B.S., University of Texas, Austin; M.S., Ph.D., Stanford University

Park Lee, Young Hee—(2008)
Mathematics
B.S., Kyungnam University, Korea; M.S., Ph.D., Korea Advanced Institute of Science & Technology

Patyk, Jay—(2000)
Economics
B.A., M.A., San Jose State University

Pennington, Simon—(2006)
Art History
B.A., San Jose State University; M.A., University of East Anglia, Norwich, England

Perino, Kathryn—(1994)
Mathematics
B.S., California Polytechnic State University, San Luis Obispo; M.S., Eastern Washington University

Ponce, Carmen Meza—(2012)
Director, Stretch to Kindergarten & Early Learning Programs
B.A., Instituto Superior Pedagogico Nacional de Educacion Inicial, Peru

Pratt, Keith—(1998)
English for Second Language Learners
B.A., California State University, Hayward; M.A., San Jose State University; M.A., San Francisco State University

Rakow, Ikuko—(2001)
Japanese
B.A., M.A., Tokyo University of Foreign Studies; Ph.D., University of California, Santa Barbara

Ragey, Joseph—(1988)
Art, Graphic & Interactive Design, Theatre Arts,
B.F.A., Memphis State University; M.F.A., San Francisco State University; M.A., San Jose State University

Rao, Sandhya—(2011)
Chemistry
B.S., University of California, Los Angeles; AM, Harvard University; M.A., University of San Francisco

Reed, Eric—(2013)
PSME Supplemental Learning Instructor, LRC Director
B.A, University of California, Berkeley; M.A., California State University, East Bay

Ripp, Kathryn—(2004)
Kinesiology & Athletics, Women's Volleyball Coach
B.A., University of Pacific; M.A., Saint Mary's College

Rivera-Montanez, Julio—(2001)
Spanish
B.A., University of Puerto Rico; M.A., Brown University

Robbins, Doren—(2001)
English, Creative Writing
B.A., The Union Institute, Cincinnati; M.F.A., University of Iowa

Ruble, Andrew—(2008)
Art, Ceramics
B.F.A., Kansas City Art Institute; M.F.A., Louisiana State University

Sauter, David—(2000)
Environmental Horticulture & Design
B.S.L.A., Iowa State University; M.A., University of Iowa

Sawka, John—(1988)
Mathematics
B.S., Harvey Mudd College; M.S., M.Phil., Ph.D., Yale University

Schultheis, Lisa—(2002)
Biology
B.S., University of Arizona; Ph.D., University of California, Berkeley

Schultz, Gillian—(2007)
Biology
B.A., University of Rochester; M.S., Ph.D., University of California, Riverside

Serna, Leticia—(2001)
Counseling
B.S., San Jose State University; M.S., California State University, Hayward

Seyedin, Sara—(1998)
Accounting
B.A., National University of Iran; M.P.A., University of Colorado; M.B.A., San Jose State University; Ph.D., University of Northern Colorado

Shewfelt, Barbara—(1989)
Kinesiology & Athletics
M.F.A., New York University; M.S., Stanford University

Silverman, Loretta—(2000)
Mathematics
B.A., University of California, San Diego; M.S., San Jose State University

Sinclair, Jennifer—(2010)
Mathematics
B.A., M.A., San Francisco State University

Slater, Bernata—(1992)
Vice President, Finance & Administrative Services
B.A, M.B.A, San Jose State University

Small, Daphne—(2001)
Director, Student Activities
B.A., University of California, Santa Barbara; M.A., San Jose State University

Solvason, Nanette—(2012)
Division Dean, Biological & Health Sciences
B.S., M.S., Ph.D., University of Alabama, Birmingham

Spragge, Phyllis—(1998)
Director, Dental Hygiene
A.S., College of the Redwoods; A.S., Foothill College; A.S., Cañada College; B.A., St. Mary's College; M.A., San Jose State University

Stanley, Brian H. (1980)
Mathematics, Engineering
B.Sc., University of Birmingham, England; M.S., University of Kansas; M.S., Santa Clara University

Starer, Paul—(1999)
Division Dean, Language Arts
B.A., University of California, Santa Cruz; M.A., San Francisco State University

Stefonik, Benjamin—(2010)
Psychology
B.A., University of Wisconsin, Eau Claire; M.A., San Francisco State University

Su, Angela—(2010)
Pharmacy Technology
B.S., Purdue University

Svenson, Daniel K. (1995)
Director, Environmental Horticulture & Design Program
B.S., Oregon State University; M.L.A., California Polytechnic University, Pomona; M.B.A., Sonoma State University

Svetich, Kella—(2005)
English
B.A., M.A., University of Nevada, Reno; Ph.D., University of California, Davis

Swett, Denise—(2007)
Vice President, Student Services
B.A., M.P.A, San Jose State University; Ed.D., University of San Francisco

Tam, Victor—(2007)
Interim Division Dean, Physical Sciences, Mathematics & Engineering
B.S., University of California, Berkeley; M.S., Ph.D., University of California, San Diego

Tambling, Bruce—(2007)
Music Technology
B.A., Charter Oak State College

Tapia, Brian—(2006)
Philosophy
B.A., M.A., San Diego State University

Thomas, Jeanne—(2007)
Child Development
B.A., San Jose State University; M.A., Pacific Oaks College

Thomas, Mary—(2001)
Librarian
B.A., University of California, Davis; M.L.S., University of California, Los Angeles

Townes, Shawn—(2000)
Communication Studies
B.A., M.A., San Francisco State University; Ph.D., Ohio University

Treanor, Shirley—(1988)
Health
A.A., Prince Georg's College; B.S., Maryland University College Park; Advanced Respiratory Therapy Certificate, University of Chicago; M.S., San Francisco State University; Ed.D., University of San Francisco

Tripp Caldwell, Kristin—(2001)
Video Arts
B.F.A, University of North Texas; M.F.A., School of Visual Arts, New York

Urrutia, Rebecca—(2000)
Disabled Student Services
B.S., San Jose State University; M.A., University of San Francisco

Uyeda, Diane—(2004)
English for Second Language Learners
B.A., Occidental College, Los Angeles; M.A., University of Washington

Velasco, Lauren Popell—(2000)
Communication Studies, Forensics
B.A., Bates College; M.A., Stanford University

Villanueva, Voltaire—(2007)
Counseling
B.A., M.A., San Francisco State University; M.A., University of San Francisco

Violett, Glenn—(2006)
Business
B.S., M.B.A., Golden Gate University

Visas, Brenda—(2008)
Director, Facilities & Special Projects
B.S., San Jose State University

Voyce, Warren—(2007)
Athletic Trainer, Kinesiology & Athletics
B.S., M.S., California State University, East Bay

Wang, Xiujuan—(1991)
Physics, Engineering
B.S., Zhejiang University, Peoples Republic of China; M.S., University of Toledo

Wheeler, Bonny—(2000)
Director, Radiologic Technology Program
B.A., M.A., San Jose State University

White, Samuel—(2013)
English
B.A., University of Phoenix; M.A., Notre Dame de Namur University

Wilkes, Pamela—(2005)
Librarian
B.A., University of California, Santa Cruz; M.L.I.S. University of California, Berkeley

Will, Marguerite (Mimi) (1976)
Computer Information Systems
B.A., M.A., San Francisco State University; M.A., San Jose State University

Williams, Sarah A.—(2013)
Mathematics
B.A., Pomona College; PhD., University of California, Davis

Wolterbeek, Kim S. (1989)
English
B.A., M.A., University of the Pacific, Stockton

Wong, Russell—(2006)
Learning Disability Specialist
B.A., University of San Francisco; M.A., Santa Clara University

Wong, Stephanie—(2012)
Psychology
B.A., University of California, Santa Cruz; M.A., George Mason University

Woolcock, Joseph—(1987)
Political Science
B.A., Boston College; M.A., Ph.D., Stanford University

Wu, Tilly Liu—(2000)
Counseling
B.S., M.A., San Jose State University

Yamamoto, Judy—(2008)
Dental Radiology
B.A., M.S., San Francisco State University; B.S., University of California, San Francisco

Ziegenhorn, William—(2004)
History
B.A., University of California, Davis; M.A., San Jose State University

Zwack, Teresa—(2010)
Mathematics
B.A., University of California, Santa Cruz; M.A., California State University, East Bay

Emeritus Faculty

Adams, Katherine (1988)
Counseling
A.A., Foothill College; B.S., College of Notre Dame; M.A., Santa Clara University; Ed.D., University of San Francisco

Adams, Lily (1987)
Counseling
B.A., University of the East; M.Ed., Ph.D., Loyola University

Alfsen, Karen (1985)
English for Second Language Learners
B.A., M.A., California State, Hayward; M.A., San Francisco State University

Anderson, Dorothy A. (1961)
Business
B.S., University of Nebraska; M. A., Stanford University

Arca, Rosemary (1991)
Reading, Composition, Academic Skills
B.A., M.A., Santa Clara University; M.A., San Francisco State University

Atchison, James A. (1964)
Psychology
B.A., Saint Mary's College; M.A., New Mexico Highlands University; C.G. Institute, Zurich, Switzerland

Barnett, Elyse (1992)
Anthropology
B.A., Brandeis; Ph.D., Stanford University

Becchine, Virginia E. (1976)
Director, Respiratory Therapy
A.S., Foothill College; B.A., Montclair State University; M.A., Santa Clara University

Bell, Mary D. (1992)
French
B.A., University of California, Los Angeles; M.A., Tulane University

Berry, John (1985)
Computer Information Systems
B.A., University of California, Santa Cruz; M.A., Colorado State University

Berthiaume, R. Dennis (Denny) (1970)
English
B.A., M.A., San Diego State University

Bonneau, B. Leon (1968)
Astronomy
B.A., San Jose State University; M.A., California State University, Northridge; M.Ed., San Francisco State University

Broadwin, John (1990)
Librarian
B.A., Stanford University; M.L.S., University of California, Los Angeles

Broussard, Charles C. (1967)
Counseling
B.A., Louisiana State University; M.A., San Francisco State University

Bruguera, Jorge (1972)
Reference Librarian
B.A., University of Pittsburgh; M.L.S. Carnegie Institute of Technology

Bryan, William J. (1965)
Music
B.S., St. Louis Institute of Music; M.S.Ed., University of Southern California

Carr, Janice (1989)
Mathematics
A.B., Colby College; A.M.T., Harvard University

Carter, Celeste V. (1996)
Biology
B.S., University of California, Berkeley; M.S., Harvard; Ph.D., Pennsylvania State School of Medicine

Cashmore, Beatrix (1993)
Counselor, Adaptive Learning
A.B., University of California, Santa Cruz; M.S., San Francisco State University

Cellilo, Gerard (1989)
Counseling
A.A.S., Borough of Manhattan Community College; B.S., M.A., Bradley University; Ed.D., University of San Francisco

Chavez, Robert A. (1970)
Counseling, Middlefield Campus
B.A., M.A., University of New Mexico

Chivington, Thomas H. (1966)
Physical Education, Tennis
A.A., Ventura College; B.S., Wyoming University; M.A., Washington State University

Chung, Lilia (1974)
English as a Second Language
A.A., Holy Ghost College; B.Ph., M.A., University of Santo Tomas; Ph.D., Syracuse University

Clark, Nancy Howe (1977)
Director, Children's Programs
B.A., M.A., Stanford University

Cohen, Vivian (1987)
Counseling
B.A., M.Ed., Boston University

Cole, Jerry R. (1967)
Men's Basketball, Physical Education
B.A., M.A., University of Denver; Ed.D., Colorado State College

Connor, Ann Wilkinson (1965)
Associate Dean, Instruction; Off-Campus Programs, Interchange
B.A., M.A., San Francisco State University

Conom, Tom (1982)
Manager, College Police & Safety Services

Cotter, Stanley (1964)
Mathematics
B.A., University of California, Berkeley; M.A., University of Illinois

Critchfield, Frederick (1960)
Director, Economic Development, Grants, Apprenticeship Programs
B.S., Utah State University; M.A., Stanford University

Cross, Truman B. (1970)
History
B.A., Portland State College; M.A., George Washington University; Ph.D., Indiana University

De Luna, Yaya (1971)
History, Sociology
B.A., M.A., San Jose State University; Ph.D., University of Southern California

De Palma, Barton (1962)
Art, Film
B.F.A., M.F.A., University of Pennsylvania

Dillon, William M. (1992)
Director, Aviation Program
B.S., Cheney State University; M.S., California State University, Hayward; A.T.P. C.S.I.I.

Di Nucci, Linda (1991)
Reach Program
A.A., West Valley College; B.A., M.A., M.S., San Jose State University; R.N., Western Pennsylvania Hospital School of Nursing

Dominguez, Arno (1990)
Physical Education
B.A., San Jose State University; M.A., St. Mary's College

Dong, Raymond P. (1976)
Electronics
B.S., Tri-State University; M.A., Michigan State University

Dorsey, Donald (1973)
Dean, Student Affairs & Activities
B.A., Prairie View A & M College; M.A., San Jose State University

Dowling, W. Lescher (1967)
Photography
B.A., University of California, Santa Barbara; M.A., San Diego State University

Ettinger, Stanley L. (1966)
Graphic Design
B.F.A., Pratt Institute; M.A., New York University

Fairchild, James R. (1966)
Football, Physical Education
B.A., M.A., College of the Pacific

Farber, John (1981)
Electronics, Personal Computer Service, Computer Software Training
A.A., West Valley College; B.A., San Jose State University

Feeter, J. William (1975)
Animal Health Technology
B.S., D.V.M., Kansas State University

Felix, Raul (1973)
Work Experience Coordinator, Cooperative Education
B.A., M.A., San Jose State University

Fetler, James M. (1964)
English
B.A., San Francisco State University; M.A., University of California, Berkeley

Fish, Ruth Anne (1959)
Mathematics
B.S., M.S., University of Arizona

Fisher, Carl J. (1964)
Accounting, Business
B.A., M.B.A., Stanford University

Flowers, April (1988)
English, English for Second Language Learners
B.A., Auburn University; M.A., San Francisco State University

Fong, Bernadine Chuck (1970)
President
B.A., M.A., Ph.D., Stanford University

Ford, John Rene (1967)
Drama, Speech
A.A., Santa Ana College; B.A., U.C. Santa Barbara; M.A., San Jose State University

Gallo, Joseph D. (1963)
English
A.A., Fullerton Junior College; B.A., M.A., San Jose State University; D.Arts., University of Pacific

Gatlin, Susan (1996)
Division Dean, Physical Education
B.A., Humbolt State University; M.S., South Oregon State College

Gause, Mary Jane Powell (1977)
Computer Applications
B.A., University of Washington; M.A., University of California, Berkeley

Gause, Richard A. (1964)
Art
B.A., M.A., University of California, Berkeley

George, Carol (1987)
Counseling
B.S., Ohio State University; M.A., Austin Peay State University

Gonzales, Richard R. (1972)
Counseling
B.A., San Jose State University; M.A., California Polytechnic State University, San Luis Obispo

Gonzalez, Ismael (1987)
Director, EOPS-CARE
A.A., West Valley College; B.A., California State University Hayward; M.A., University of San Francisco

Gravenhorst, Kurt (1985)
English
B.S., M.A., University of Nevada, Reno; M.A., California State University, Dominguez Hills

Gregorio, Gertrude (1980)
Division Dean, Adaptive Learning & Disability Services
B.A., University of the Philippines; M.A., University of San Francisco

Grenbeaux, Jean M. (1965)
English, Education
B.A., San Jose State University; M.A., Stanford University

Gutter, Malcolm D. (1962)
Economics
B.A., City College of New York; M.A., University of California, Berkeley

Hack, Sharon (1989)
Travel Careers
B.A., Brigham Young University

Handa, Judith H. (1973)
Dean, Instruction & Student Affairs
B.A., M.S., University of Hawaii

Harkin, Arthur P. (1963)
Biology
A.A., Compton College; B.A., University of California, Berkeley; M.S., University of Utah

Hasling, John (1966)
Speech, Broadcasting
B.A., M.A., Sacramento State University

Hawkins, Mark F. (1965)
English, Humanities
B.A., Ph.D., University of California, Berkeley, M.A., San Francisco State University

Hawkins, Mary K. (2000)
Transition to Work
B.A. University of the Pacific; M.S., San Francisco State University

Hawley, Gene M. (1967)
Physical Education
A.A., Everett Junior College; B.A., M.A., San Francisco State University

Heinz, Duane (1970)
Chemistry
A.A., Hartnell College; A.B., Sacramento State University; Ph.D., University of California, Davis

Hendrickson, Maribeth (1974)
Philosophy
B.A., M.A., San Jose State University; Ph.D., Stanford University; J.D., University of California, Hastings College of the Law

Henning, Richard L. (1967)
Dean, Community Services, Development & Public Relations
A.A., Taft College, B.A., M.A., San Jose State University; Ed.D., University of Southern California

Heslet, Marylou M. (1990)
Counseling
B.A., M.S., California State University, Hayward; M.L.A., Stanford University

Holler, Gordon W. (1968)
Art
B.A., University of Nebraska; M.A., University of California, Berkeley

Hurd, Warren (1998)
Dean, Faculty & Staff
B.S., Wayne State University; M.S., De Paul University; Ed.D., Northern Illinois University

Hutchinson, Clarence G. (1966)
Counseling
B.A., M.S., University of Southern California

Jaschob, Charles (1967)
Art, Computer Graphics
B.F.A., Pratt Institute; M.A., Teachers College, Columbia University

Johnson, Charles (1998)
Computer Information Systems
B.A., M.A., California State University, Fullerton

Kane, David H. (1968)
Business, Office Technology, Computer Information Systems
B.B.A., Woodbury University; B.A., California State University, Los Angeles; M.A., Teachers College, Columbia University

Kieffer Gillette, Karen (1989)
Librarian
B.A., University of Oregon, Eugene; M.L.S., San Jose State University

Ketels, Henry E. (1967)
Physical Education, Track
B.S., M.S., University of Southern California

Khejjou, Ali (1993)
English for Second Language Learners
B.A., English University Mohammed V; M.A., San Francisco State University

Kingson, Robert C. (1965)
English
B.A., M.A., University of California, Los Angeles; Ph.D., University of California, Berkeley

Klee, John B. (1961)
French, Spanish
B.A., M.A., University of Southern California

Knopf, Karl—(1977)
Kinesiology & Athletics
B.A., San Diego State University; M.A., San Jose State University; Ed.D., Nova University

Kohs, Gerald D. (1965)
English
B.A., Eastern Michigan University; M.A., University of Michigan

Konigsberg, Charles W. (1973)
Ornamental Horticulture
B.S., M.A., California Polytechnic State University, San Luis Obispo

Lane, Linda (1985)
English, Reading
B.A., M.S., California State University, Hayward

Lawlor, Steven C. (1972)
Business, Computer Information Systems, Data Processing, Database Management
B.S., San Jose State University; M.B.A., Santa Clara University

Lee, Davida C. Vance (1975)
Counseling
B.S., M.A., Ph.D., San Jose State University

Lindauer, Charles (1997)
Mathematics
B.S.E.E., City College of New York; M.S.E.E., City University of New York; Ph.D., Virginia Polytechnic Institute

Long, Bernard F. (1965)
Physics
A.A., Memorial University College, St., John's Newfoundland; B.S., M.S., Dalhousie University, Halifax, Nova Scotia; M.S., Fordham University

Lowe, Irel D. (1967)
Associate Dean, Administrative Services
B.S., M.Ed., University of Idaho; Ed.D., Brigham Young University

Lum, Linda—(1977)
Art
B.A., Marycrest College; M.A., University of Iowa

Lynn, Sandy (1989)
Mathematics
B.A., M.A., University of Oregon

Macadangdang, Fortunato (1973)
Counseling, EOPS
B.A., Brigham Young University; M.S.W., San Jose State University

Maltzman, Charlene (1986)
Adaptive Learning, STEP Program Coordinator
B.A., San Francisco State University; M.A., Santa Clara University; Ed.D., University of San Francisco

Mankin, Linda R. (1964)
Music
B.S., New York University; M.A., Stanford University

Manley, John L. (Jay) (1980)
Drama, Theater Conservatory
B.A., M.A., San Francisco State University; Ph.D., University of California, Berkeley

Manoogian, Norman V. (1965)
Physical Education
B.A., M.A., Stanford University

Marvin, Denos P. (1965)
Speech
B.A., Mexico City College; M.A., Teachers College, Columbia University

Mauch, James T. (1964)
Division Dean, Language Arts
B.A., University of the Americas, Mexico; M.A., University of California, Berkeley

Maus, Walter S. (1958)
Business
B.A., San Jose State University; M.A., Stanford University

McCarty, Lois (1967)
Sociology, Psychology
B.A., M.S., San Jose State University

McCulla, Ernest (Joe) (1978)
Philosophy
B.A., M.A., Loyola University

McDonald, Marilyn M. (1984)
Librarian, Archivist
B.A., M.A., Stanford University; M.L.S., San Jose State University; M.B.A., Golden Gate University

McHargue, Mike (1977)
Counseling, Honors Institute, Staff Development
B.A., Occidental College; M.A., California State University, Northridge; Ph.D., Stanford University

McLanathan, Mary C. (1959)
Division Dean, Biological & Health Sciences

McNeill, Nayan (1961)
English
A.A., Santa Ana College; B.A., M.A., Ph.D., U.C. Berkeley

Menager-Beeley, Rosemarie (1991)
Psychology
B.A., University of California,, Berkeley; M.S., California State University, Los Angeles; Ed.D., University of Southern California

Mendrinos, Roxanne (1991)
Librarian, Library Technology
B.A., Dickinson University; M.L.S., Simmons Graduate School, Boston; Ph.D., Boston College

Michalski, Ann T. (1986)
Computer Technology & Information Systems
B.A., Hunter College; M.A., San Jose State University

Miller, Charles J. (1969)
Mathematics
B.S., Iowa State University; M.A., University of South Dakota

Miller, Lawrence S. (1979)
Respiratory Therapy
A.A., Santa Monica College; B.A., M.A., California State University, Long Beach; R.R.T., University of California, Los Angeles Medical Center

Mishel, Joyce (1975)
Travel Careers
B.A., Cornell University; M.A., New York University

Moffat, Glenn P. (1964)
Biology
B.A., Science Education, B.S., Biology, Western Washington University; M.S., University of Utah; M.A., San Jose State University

Morris, Victor (1967)
Music
B.M., M.M., Manhattan School of Music

Mortarotti, John L. (1963)
Division Dean, Fine Arts
B.M., University of the Pacific; M.A., University of Washington

Moss, Lloyd K. (1966)
Chemistry
B.S., University of California, Los Angeles; Ph.D., Stanford University

Mraz, Doyne J. (1967)
Drama
A.A., Sacramento City College; B.A., M.A., University of the Pacific; Ph.D., University of Southern California and Stanford University

Murray, Peter (2005)
Division Dean, Physical Sciences, Mathematics & Engineering
B.S., M.S., Clarkson University

Myers, Roseann (1996)
Vice President, Student Development & Instruction
B.A., Hampton University; M.A., Rowan University, Glassboro

Norton, Nile (1981)
Music
B.A., Coe College; M.A., D.M.A., Stanford University; Dipl., Hochschule für Musik, Vienna

Oburn, Ronald K. (1975)
Kinesiology & Athletics
B.S., M.A., California State Polytechnic University

Olsen, Marky (1968)
Counseling
A.A., Colorado Women's College; B.A., Colorado State College; M.A., San Jose State University; M.A., Santa Clara University

Orrell, Eloise J. (1984)
Interim Vice President, Instruction & Institutional Research
B.S., University of San Francisco; M.S., Midwestern State University

Osterdock, Leonis (2002)
Director, Pharmacy Technology Program
B.S., University of the Pacific

O'Donnell, Clarence R. (1967)
Counseling
B.S., M.A., California State Polytechnic University

O'Neal, Verley A. (1989)
Computers & Information Systems
B.S., Princeton University

Park, King T. (1965)
Chemistry, Computer Information Systems
B.A., M.A., Rice University

Parks, Jack D. (1968)
Football, Physical Education, Track
A.A., Riverside College; B.A., M.A., University of California, Los Angeles

Patterson, Marion (1986)
Photography
B.A., Stanford University; M.A., San Francisco State University

Patterson, William R. (1971)
Vice President, Institutional Research & Instruction
B.S., California State Polytechnic University; M.A., Santa Clara University; Ed.D., University of Southern California

Pauling, Kay (1987)
Biology
B.A., Ph.D., University of California, Riverside

Pavic, Mary Ann (1975)
Division Dean, Biological & Health Sciences
A.A., Sacramento City College; B.A., M.A., San Jose State University

Pelzel, Robert E. (1980)
Broadcasting, Radio
B.A., University of California, Berkeley

Perren, Marjorie F. (1966)
Business, Office Technology, Computer Information Systems
B.S., University of Nebraska; M.A., San Jose State University

Peter, Karl M. (1992)
Director, Veterinary Technology Program
B.A., Fresno Pacific University; D.V.M., University of California, Davis

Pierce, Robert C. (1971)
History
B.A., M.A., San Jose State University; Ph.D., University of Wisconsin, Madison

Ploke, Irving (1990)
Physical Education
A.A., De Anza College; B.A., M.A., San Jose State University

Pon, Donald (1971)
Chemistry, Computer Information Systems
B.S., M.S., Stanford University

Quinn, James J. (1970)
English
B.A., M.A., San Jose State University

Reid, Roberta Anne (1990)
Art History
B.A., California State University, Humboldt; M.A., University of California, Santa Barbara; Ph.D., Stanford University

Rosenthal, Miriam P. (1970)
Dental Assisting
A.A., Foothill College; B.S., University of San Francisco

Roth, Irvin M. (1959)
History
B.A., Occidental College; M.A., Stanford University

Rotty, Elaine (1981)
Physical Education, Intercollegiate Women's Golf
B.S., Winona State; M.S., Arizona State University

Rouse, Lawrence D. (1975)
Psychology
B.A., M.A., San Jose State University; Ph.D., Pacific Graduate School of Psychology

Rude, D. Allen (1966)
Health
B.S., M.S., Southern Illinois University

Ruelas, Enrique (1978)
Accounting, Business
B.A., San Francisco State University; M.A., San Jose State University

Ryan, Lucia Ann (1990)
Counseling, International Students
B.A., St. Lawrence University; M.A., Santa Clara University

Scattini, Gene (1985)
Physical Education, Men's Golf Coach
B.A., San Jose State University; M.A., University of Nevada, Reno

Scheiding, Herman G. (1967)
Journalism
B.A., M.A., University of Denver

Schobert-Jones, G. Judith (1966)
German
B.A., M.A., University of Utah

Schrier, Nancy G. (1969)
English
B.A., Smith College; M.A., Stanford University

Schumacher, Barbara A. (1965)
Physical Education
B.S., Douglass College, Rutgers University; M.A., University of California, Berkeley; M.A., Santa Clara University

Scott, Walter (1998)
Library Coordinator
B.A., California State University, Fresno; M.L.S., Queens College, City University of New York

Seelbach, Eugene (1975)
Mathematics
B.A., Blackburn College; M.A., Ph.D., University of Wyoming

Seger, Carolyn B. (1975)
Counseling
B.S., M.S., San Jose State University; L.V.N.

Shaner, Bryan (1978)
Counseling
B.A., Raymond College; M.S., San Jose State University

Sherrill, Richard R. (1959)
Mathematics, Physics
B.S., University of California, Berkeley; M.A., San Jose State University

Shipnuck, Murray E. (1958)
Curriculum and College Articulation
B.A., U.C., Berkeley; M.A., Ed.D., Stanford University

Silveria, William (1986)
Computer Information Systems
B.S., University of California, Berkeley; M.S., Ph.D., University of Hawaii

Sommerfield, Richard R. (1968)
Physics
B.S., M.S., University of Arizona

Spicer, Mona (1979)
Dental Hygiene
B.A., M.A., San Francisco State University

Stevenson, Janis (1975)
Music
B.A., M.A., San Jose State University

Stietzel, Eric R. (1970)
Computer Information Systems, Mathematics, Philosophy
B.A., M.A.T., Yale University

Strand, Tomas F. (1969)
Mathematics, Engineering
B.S.E.E., Massachusetts Institute of Technology; M.S.E.E., Stanford University

Summa, Terry (1973)
Music
B.A., San Francisco State University; M.A., Holy Names

Sutherland, Richard (1967)
Librarian
B.A., Michigan State University; M.S., University of Michigan; M.L.S., University of California, Berkeley

Swenson, Bruce P. (1967)
Dean, Instruction & Educational Resources
B.S., Stanford University; M.S., University of Wisconsin; Ph.D., University of California, Berkeley

Taffae, Eleanor (1979)
Psychological Services
B.A., Hunter College; M.A., Ph.D., University of Connecticut

Taketa, Victoria (1988)
Counseling
B.A., M.A., San Jose State University

Talboy, Alan R. (1967)
Baseball, Physical Education
B.A., M.A., Stanford University

Telfer, Richard W. (1966)
Mathematics
B.A., San Jose State University

Thompson, Robert J. (1959)
Business, Data Processing
B.A., California State University, Chico; M.A., Ed.D., Stanford University

Thompson, William (1974)
Business, Marketing
A.A., University of Minnesota; B.S., San Diego State University; M.B.A., Golden Gate University

Thunen, Charlotte (1986)
Librarian
B.S., University of California, Davis; M.L.S., University of Hawaii

Tinsley, William E. (1964)
Philosophy
A.A., Chaffey College; B.A., San Jose State University; M.S., University of Oregon

Torres, Rudy (1969)
Psychology
A.A., Foothill College; B.A., M.A., San Jose State University; Graduate Intern, University of California, Berkeley

Tuell, James (1981)
CTIS, Data Communication
B.A., San Jose State University; M.S., Golden Gate University

Urabe, Sandra (1980)
Counseling
B.A., University of California, Santa Cruz; M.S. California State University, Hayward

Urband, Richard (1974)
Respiratory Therapy
A.A., Foothill College; B.A., University of California, Berkeley

Verbarg, Lydia L. (1962)
Health Counselor
B.A., University of California; M.P.H., University of California School of Public Health; M.D., New York Medical College

Wagner, William S. (1959)
Political Science
B.A., University of California, Santa Barbara; M.A., Columbia University

Walker, Lee R. (1959)
Mathematics
B.S., B.A., M.S., University of Southern California

Walker, William O. (1964)
Creative Writing, English
B.A., Bard College, New York; M.A., University of Connecticut

Watkins, Sandra (1998)
Computer Science
B.A., Western Illinois University; M.S., Iona College

Watson, Carol (1978)
Adaptive Learning
M.S., Hofstra University

Watts, June (1967)
Acquisitions Librarian
B.A., University of Arizona; B.A., Holy Names College, Spokane; M.A., University of Denver

Wirth, Jean (1987)
Counseling, Articulation, Curriculum Officer
A.A., A.B., University of California, Berkeley; M.A., Ph.D., Ohio State University

Wong, Rita (1991)
English for Second Language Learners
B.A., San Francisco State University; M.A., University of Michigan

ZuHoene, Otto (1959)
German
Abitur Artland Gymnasium; D Jur, University of Heidelberg

Classified Staff

Abad, Sofia
Program Coordinator II
Occupational Training Institute

Aced, Shawna
Academic Services Techician
Instruction & Institutional Research

Aguilar, Paul
Technology Services Assistant
Audio Visual Technical Center

Ali, Shainaaz
Custodian I
Operations

Almasi, Michael
Computer Lab Instructional Coordinator
Middlefield Campus

Almendarez, Susan
Enrollment Services Specialist
Admissions & Records

Amit, Roland
Admissions & Records Supervisor
Admissions & Records

Angel, Remigio
Custodian II
Operations

Atkins, John
Laboratory Technician
Biology

Bahadur, Kerry
Financial Aid Outreach Assistant
Financial Aid

Baliguat, Victor
Workstation Support Technician II
Educational Technology Services

Banks, Mike
Workstation & Systems Support Technician
Educational Technology Services

Barnes, Skip
Sales Coordinator, Senior
Professional & Workforce Development

Barreto Jr., Luis
Instructional Computer Lab
Administrator, Senior
Physical Sciences, Mathematics & Engineering

Benavides, Enedina
Custodian
Operations

Bowers, Shelly
Admissions & Records Assistant
Admissions & Records

Brown, Barbara
Administrative Assistant I
International Programs

Brown, Julie
Administrative Assistant II
Disability Resource Center

Capristo, Francisca
Custodian
Operations

Capristo, Miguel
Custodian I
Operations

Casey, Mia
Web & Print Communication Coordinator
(Interim)
Marketing & Communications

Cervantes, Anthony
Enrollment Services Specialist
Admissions & Records

Chang, Chien Kai
Assessment Specialist
Counseling

Chavez, Antoinette
Outreach Assistant
Student Affairs & Activities

Chedid, Kamal
System Support Technician, Senior,
Educational Technology Services

Chen, Ruyu
Division Administrative Assistant
Physical Sciences, Mathematics & Engineering

Chenoweth, Maureen
Program Coordinator I
Transfer Center

Cohn, Diana
Supervisor, Office Services
Finance & Administrative Services

Collings, Lee
College Web Coordinator Senior
Marketing & Communications

Cratty, Lark
Program Supervisor
International Programs

Cross, Stanley
Police Sergeant
District Police & Safety Services

Cruz, Ricardo Madera
Custodian I
Operations

Cuevas, Jose
Custodian I
Operations

Davis, Brenda
Computer Lab Instructional Coordinator
Disabled Student Services

Davoren, Patricia
Secretary
Student Activities

Delacruz, Teresa
Administrative Assistant I
Instruction & Institutional Research

Deshpande, Mrinmaie
Admissions & Records Assistant
Admissions & Records

Dhillon, Sarvjit
Community Services Officer
District Police & Safety Services

Diefenbach, Michael
Instructional Facilities Coordinator
Biological & Health Sciences

di Gregorio, Becki
Division Administrative Assistant
Business & Social Sciences

Dobbins, Margo
Disability Access & Compliance Supervisor
Disability Resource Center

Dorcak, John
Police Officer
District Police & Safety Services

DuBois, John
Executive Assistant
Student Services

Duong, Tung Thi
Financial Aid Assistant
Financial Aid

Ellis, David
Program Coordinator, Senior
Apprenticeship & Internship Programs

Elwell, Susanne
Administrative Assistant, Senior
Faculty Association

Engels, Kirsi
Library Technician, Senior
Library

Estrada Bonilla, Mariel
Assessment Specialist
Counseling

Franco, Stephanie
Graduation & Evaluations Coordinator
Counseling

Frankeberger, William
Executive Assistant
Student Affairs & Activities

Gallagher, Gigi
Human Resources Technician II
Finance & Administrative Services

Garcia, Robert J.
Program Coordinator I
Pass the Torch Program

Gawlick, Craig
Instructional Services Coordinator
Instruction & Institutional Research

Gorman, Gary
Custodian I
Operations

Guzman, Alfred
Administrative Assistant I
Middlefield Campus

Hamilton, Agnes
Custodian
Operations

Hand, Art
Library Technician, Senior
Library

Harris, (Aeh-'sah) Asha
Furniture, Fixtures & Equipment Coordinator
Finance & Administrative Services

Hassan, Shahram
Financial Aid Assistant
Financial Aid

Hawley, Diane
Bookstore Courseware Coordinator
Bookstore

Henderson, April
EOPS Coordinator
Extended Opportunity Program & Services

Hernandez, Tomas
Apprentice I—Plumber
Operations

Hinds, Susanne
Library Technician, Senior
Library

Hodges, Pamela
Library Technician, Senior
Library

Hollins, Wilbert
Instructional Associate
Fine Arts & Communication

Hunter, Elizabeth
Division Administrative Assistant
Kinesiology & Athletics

Ishikawa, Akemi
Administrative Assistant II
Foothill Global Access

Johnson, Christine
Financial Aid Assistant
Financial Aid

Johnson, Eric
Radio Station Coordinator
Fine Arts & Communication

Jung, Henry
Admissions & Records Supervisor
Admissions & Records

Kitagawa, Anthony
Ceramics Technician
Fine Arts & Communication

Knepp, Richard
Photography Laboratory Technician
Fine Arts & Communication

Kuo, Elaine
College Researcher
Institutional Research & Planning

Landes, Norm
Instructional Associate
Language Arts

Largent, Allison
Administrative Assistant II
International Programs

Levine, Arthur
Administrative Assistant Senior
International Programs

Liang, Jenny
PSME Lab Instructional Coordinator
Physical Sciences, Math & Engineering

Luu, Lily
EOPS Program Specialist
Extended Opportunities Programs & Services

Mangiameli, Christine
Division Administrative Assistant
Biological & Health Sciences

Mathis, Ouida
Admissions & Records Assistant
Admissions & Records

Mauss, Joseph
Police Dispatcher
District Safety & Security

McCarron, Jean C.
Administrative Assistant II
Celebrity Forum

McCarthy, Maureen
Division Administrative Assistant
Language Arts

McKellar, Charlie
Program Coordinator II
Middlefield Campus

McLeod, Norman
Custodian II
Operations

Meacham, Dokesha
Enrollment Services Specialist
Admissions & Records

Meade, Jeff
Police Officer
District Police & Safety Services

Miller, Darrnell
Custodian III
Buildings & Grounds

Mines, Sherri
Administrative Assistant Senior
International Programs

Moore, Christina
Theatre & Fine Arts Assistant
Fine Arts & Communication

Muntean, Nicolae
Printing Services Coordinator
Finance & Administrative Services

Nelson, Leif
Police Officer
District Safety & Security

Noone, Leslye
Division Administrative Assistant
Counseling & Student Services

Nuñez, Corinne
Curriculum Coordinator
Instruction & Institutional Research

Olsen, Scott
Workstation & Systems Support Technician II
Educational Technology Services

Ortiz, Erin Clifford
Student Activities Specialist
Student Affairs & Activities

Ouliaei, Nastaran
Technology Training Specialist
Foothill Global Access

Paragas, Bernie
Workstation Support Technician II
Educational Technology Services

Parisi, Gina
Office Coordinator
Student Affairs & Activities

Paulino, Patricia
Secretary
Health Services

Perez, Denise
Academic Scheduling Coordinator
Instruction & Institutional Research

Pham, Hao
Admissions & Records Coordinator
Middlefield Campus

Quesada, Ernestine
Police Dispatcher
District Police & Safety Services

Quiros, Amelia
Bookstore Shipping & Receiving Assistant
Bookstore

Ramos, Mario
Computer Lab Instructor
Physical Sciences, Mathematics & Engineering

Rea, Mimi
Student Success Specialist
Equal Opportunity Program

Respicio, Manuel
Police Officer
District Police & Safety Services

Riggins, Julie
Instructional Associate
Media Center

Riley, William
Police Officer
District Police & Safety Services

Robinson, Linda
Instructional Associate
Media Center

Rocha, Francisco
Police Officer
District Police & Safety Services

Rodrigues, Carlos
Custodian
Buildings & Grounds

Rodriguez, Faustino
Custodian
Buildings & Grounds

Rodriguez, Jorge
EOPS Specialist, Senior
Extended Opportunity Programs & Services

Rosenthal, Eric
Admissions & Records Assistant
Admissions & Records

Ruffinelli, Alvaro
Laboratory Technician
Fine Arts & Communication

Ruiz, Cipriano
Custodian I
Operations

Satana, Pedro
Custodian
Operations

Schukraft, Michelle
Athletic Trainer
Kinesiology & Athletics

Shepard, Thomas
Assessment Center Supervisor
Counseling

Sias, Roberto
Bookstore Courseware Coordinator
Bookstore

Smith, Christine
Coordinator
District Police & Safety Services

Smith, Karen
Library Technician, Senior
Library

Solorio, Matt
Police Officer
District Police & Safety Services

Solorzano, Jesus
Grounds Gardener I
Operations

Tapia, Ariel
Gardener
Operations

Teijeiro, Michael
Facilities & Equipment Coordinator
Kinesiology & Athletics

Thomas, Deborah
Custodian I
Operations

Thomas, Lori
Publicity & Publications Coordinator
Marketing & Communications

Thornton, Kay
Theatre & Fine Arts Facilities Coordinator
Fine Arts & Communication

Tran, David
Workstation Support Technician II
Educational Technology Services

Tran, Diana
Financial Aid Assistant
Financial Aid

Tran, Long
Workstation Support Technician II
Educational Technology Services

Tran, Phuong
Program Coordinator II
Apprenticeship & Internship Programs

Traynor, Susan
Campus Facilities & Rental Coordinator
Finance & Administrative Services

Vandercook, John
Technology Services Supervisor
Educational Technology Services

Vela, Israel
Custodian
Operations

Villarreal, Carlos
Administrative Assistant II
Family Engagement Institute

Vines, Michael
Gardener
Operations

Vorghin, T
Biology/Biotechnology Lab Technician
Biological & Health Sciences

Walker, William
Counseling Service Specialist
Counseling & Student Services

Wall, Peter
Graphic Design Technician
Marketing & Communications

West, Kerry
Administrative Assistant I
Biological & Health Sciences

Wheat, Casie
Executive Assistant
President's Office

White, Chris
Program Coordinator II
Marketing & Communications

Wolf, Donna
Administrative Assistant II
Workforce Development

Wu, Anna
Laboratory Technician
Physical Sciences, Mathematics & Engineering

Xu, Wen
Accounting Assistant
Bookstore

Xuereb, Carmela
Veterans Resources Specialist
Veterans Services

Yamada, Suzanne
Evaluation Specialist
Counseling & Student Services

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Andrea Hanstein	*Director, Marketing & Public Relations*
Mia Casey	*Interim Web & Print Design Coordinator*
Lee Collings	*Web Coordinator*
Lori Thomas	*Publicity & Publications Coordinator*
Peter Wall	*Graphic Designer*
Chris White	*Marketing Coordinator*
Shawna Aced	*Academic Services Technician*
Bernie Day	*Articulation/ Curriculum Officer, Instruction & Institutional Research*
Isaac Escoto	*Co-Chairman, College Curriculum Committee; Counselor*
Kimberlee Messina	*Co-Chairwoman, College Curriculum Committee; Vice President, Instruction & Institutional Research*
Andrew LaManque	*Associate Vice President, Instruction*
Corinne Nuñez	*Curriculum Coordinator, Instruction & Institutional Research*
Denise Perez	*Academic Scheduling Coordinator, Educational Resources & Instruction*

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Campus Information

Parking Regulations

Directions to Foothill College Main Campus

Directions to Foothill College Middlefield Campus

Accessible Elevators

Accessible Parking

Shuttle Service

Deaf & Hearing-Impaired Access

Campus Information

Parking Regulations

The Foothill-De Anza District Police Department supervises on-campus parking and traffic. The following rules and regulations apply to all students, staff and public. You can find a complete list of college parking and traffic regulations in the Admissions & Records Office and District Police Department, (Room 2013).

- The speed limit in campus parking areas and access ways is 5 miles per hour. The speed limit of 20 miles per hour is posted on all roadways and is strictly enforced.
- Except in areas with 30-minute parking meters, all vehicles must display a valid parking permit to park on campus. Failure to display a permit will result in a citation.
- A parking permit is required from 7 a.m. to 10 p.m. seven days a week at the Foothill College Main Campus. This requirement is enforced.
- Overnight parking is prohibited.
- Parking permits are not required at Middlefield Campus.
- Day-use parking permits are $3 and are valid for the date of purchase only. Purchase from permit dispensers in all student parking lots. Purchase quarterly or annual permits from the Admissions & Records Office.
- All vehicles must properly display a valid parking permit. Students are authorized to park in marked stalls in student lots only. Students may not park in stalls marked for disabled, staff, vendors, official vehicles or park in roadways, dirt areas or along parking lot curbing. People with disabilities are required to display state-issued identification on their vehicles or, in the event of temporary disabilities, obtain permits from the Disability Resource Center, Room 5801; or call **(650) 949-7017**.
- Staff parking permits are required for all staff spaces. Staff permits are issued by the District Police Department.
- Special permits will be issued only by the District Police Department. The permit must be displayed on the dashboard or hang on the interior mirror so it can be read from the outside. Special permits are valid only when used within the areas and dates designated on the permit.
- Motor vehicles, bicycles and skateboards are not permitted on the interior portion of campus.
- All vehicles remaining for more than 20 minutes in areas posted for 20-minute maximum will be cited.
- Parking or loitering on campus after 11 p.m. and/or after special activities is prohibited.
- Alcoholic beverages are prohibited on campus.

Area & Middlefield Campus Maps

FOOTHILL COLLEGE
Main Campus
12345 El Monte Road
Los Altos Hills, CA
94022-4599
(650) 949-7777
(650) 949-7375 (fax)

FOOTHILL COLLEGE
Middlefield Campus
4000 Middlefield Road
Palo Alto, CA 94303-4739
(650) 949-6950
(650) 949-6979 (fax)

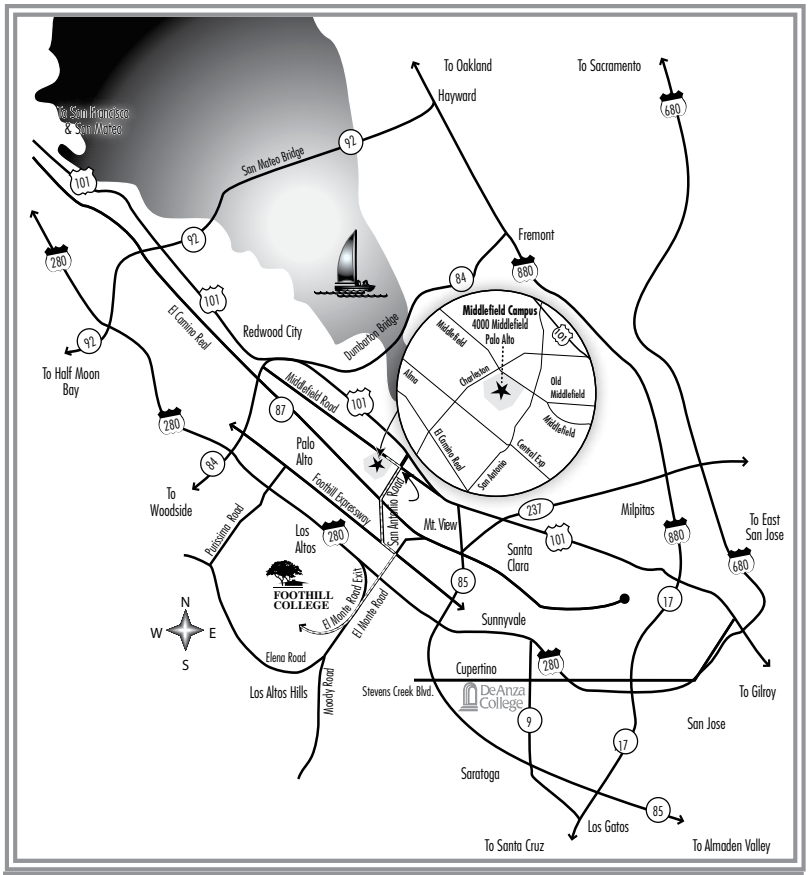
Directions to Foothill College Main Campus

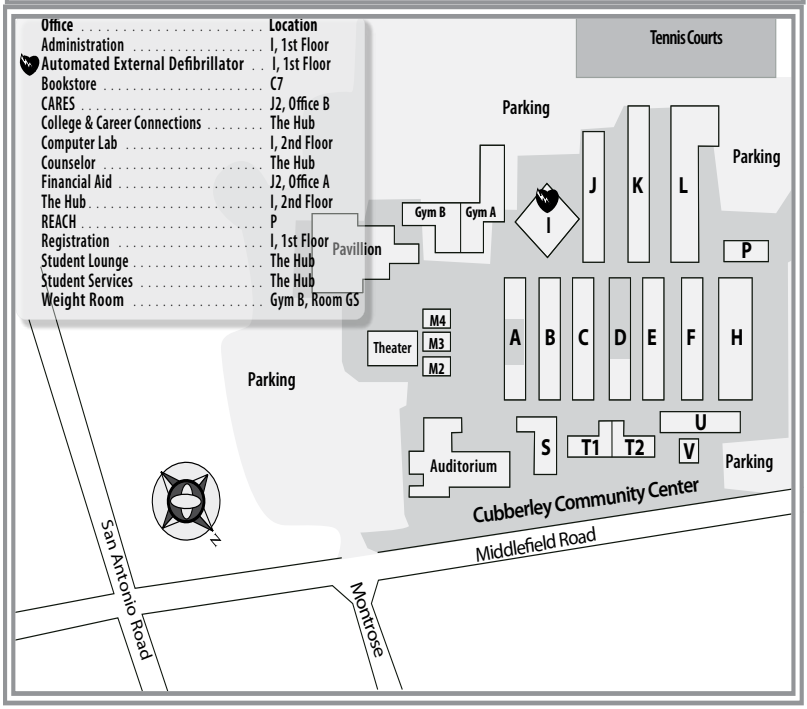
Foothill College is located in Los Altos Hills, 10 minutes south of Stanford University and 20 minutes north of San Jose. From Interstate 280, exit El Monte Road and travel west. Visitors must purchase a required campus parking permit for $3. Quarterly and annual permits can be purchased in the Admissions Office. Public bus routes #40 and #52 serve the college approximately every 30 minutes.

Directions to Foothill College Middlefield Campus

The Foothill College Middlefield Campus, 4000 Middlefield Road, is located on Middlefield Road between Charleston and San Antonio roads in Palo Alto.

To travel from the Main Campus to the Middlefield Campus: Drive east on El Monte Road. Turn left on Foothill Expressway. Turn right on San Antonio Road. Turn left on Middlefield Road. Parking at Middlefield Campus is free. The trip is five miles.





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Admissions & Records Office	8101
Altos Room	2019
Anthropology Lab	3103
Appreciation Hall	1501
Apprenticeship Program	1948
Articulation	1960
ASFC Design Center	2017
ASFC Smart Shop/OwlCard	2016
Associated Students of Foothill College (ASFC)	2011
Association of Classified Employees	5403
Biological & Health Sciences Division	5211
Bookstore	2301
Business & Social Sciences Division	3007
Campus Center Building	2000–2100
Chancellor's Office	5950
Classified Senate	1932
Computer Access Center	5710
Cooperative Work Experience Program	1945
Counseling Division	8301
Dance Studio	2504
Dental Clinic	5312
Dining Room	2201
Disability Resource Center	5801
Entrepreneur Center	4015
Environmental Horticulture & Design	8602
EOPS Computer Lab	8204
EOPS Tutoring	8205
Evening College	1908
Extended Opportunity Program & Services (EOPS) Office	8202
Facilities Rental	2713
Faculty Association	D140
Financial Aid	8103
Fine Arts & Communication Division	1701
Fitness Center	2506
Foothill Global Access	5960B
Forum	5001
Health Services	2126
Hearthside Lounge	2313
Honors Institute	1960
IDEA Lab	1211
International Programs	1940
International Students Office	1934
KFJC-FM Radio Station	6202
Kinesiology & Athletics Division	2710
Krause Center for Innovation	4001
Language Arts Division	6406
Large Gym	2601
Library	3600
Life Sciences Building	8500–8700
Lohman Theatre	8002
Marketing & Communications	1950
Matriculation	8301
Media Center	5941
Middle College	2152
Observatory	4001
Occupational Training Institute (OTI)	5004–5005
Older Adult Program & VAMC	5801
Outreach & Retention Office	8102
Pass the Torch	5999
Physical Sciences & Engineering Center	4400–4800
Physical Sciences, Mathematics & Engineering Division	4118
Placement Testing	8213
Police	2103
President's Office	1904
PSME Center	4213
Psychological Services & Personal Counseling	2120
Quick Copy	4052
Robert C. Smithwick Theatre	1001
Small Gym	2501
Student Accounts	2006
Student Activities	2009
Student Affairs	2002
Student Services Building	8100–8300
Student Success Center	8102
Teaching & Learning Center	5912
Temporary Village	5901–5999
Theatre Box Office	8007
Toyon Room	2020
Transfer Center	8329
Transition to Work	5801
Veterans Resource Center	2014
Veterinary Technology	8507
Wellness Center	2506

Parking

All vehicles must display a parking permit at all times including weekends. Failure to display a permit will result in a citation. Day-use permits are $3 at dispensers located in all student parking lots. Quarterly and annual permits can be purchased at the Admissions Office (Room 8101).

Campus parking lot numbers relate to campus building, classroom and office numbers. For the most convenient parking spot, park in the lot that corresponds to the classroom or office you're visiting. For example: Your class meets in Room 4101. Park in Lot 4. Your appointment is in Building 8301. Park in Lot 8.

Accessible Elevators

Located at Krause Center for Innovation, Library, Pool Deck, Campus Center, Student Services Building, Life Sciences Building and Physical Sciences & Engineering Center.

Accessible Parking

Located in Lots 1, 2–A, 3–A, 4, 4–B, 5, 8 and all transit stations. You must display the DMV-issued placard. To obtain a temporary disability on-campus permit, call **(650) 949-7017.**

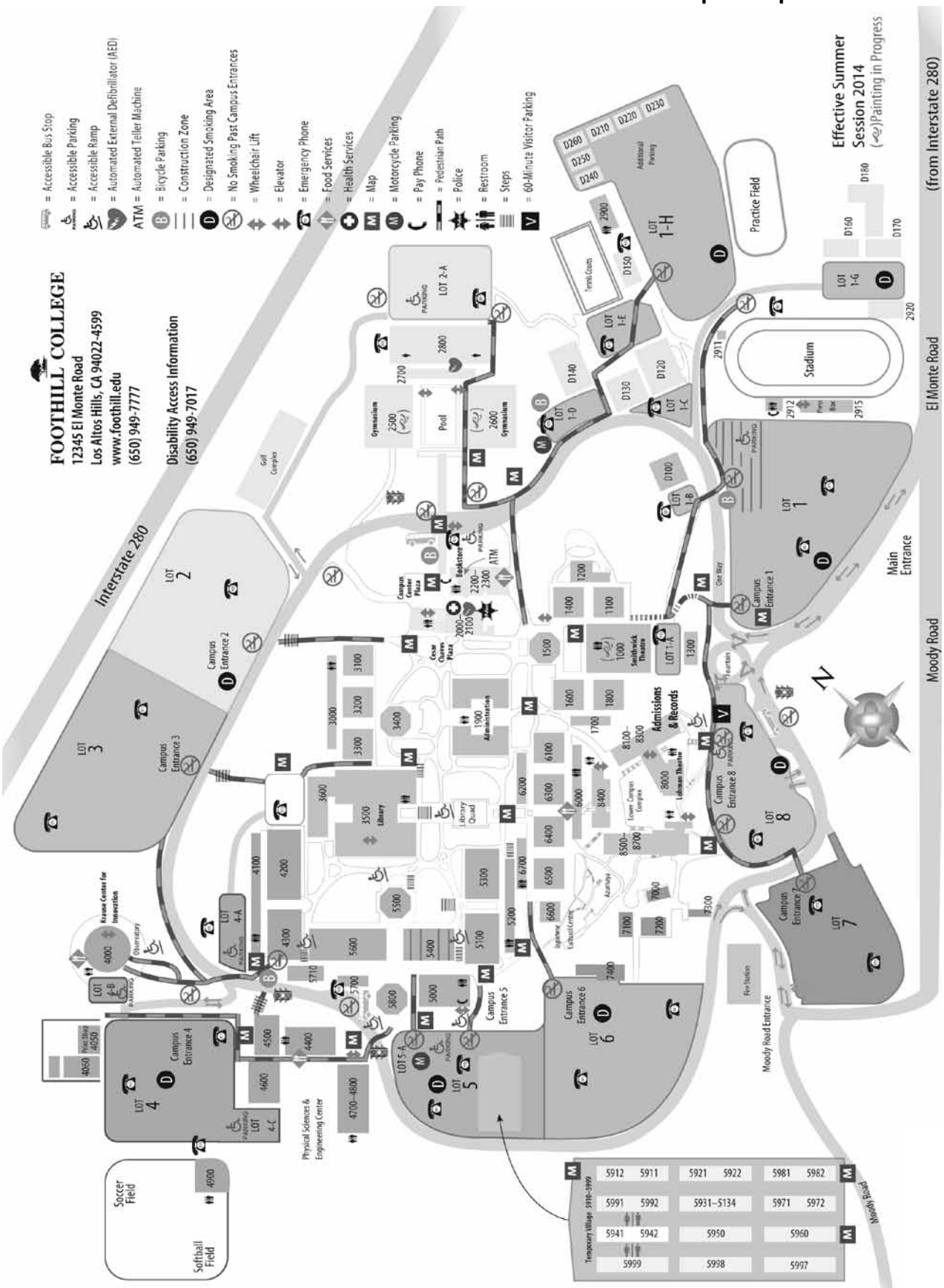
Shuttle Service

To all points on campus is available for students with physical disabilities. For operating hours, call **(650) 949-7017.**

Deaf & Hearing-Impaired Access

E-mail DavisBrenda@foothill.edu. For more access information, visit the Disability Resource Center (Room 5801); access **www.foothill.edu/al**; or call **(650) 949-7017**.

To accommodate construction and renovation projects, some offices and services may be relocated on campus.


FOOTHILL COLLEGE
12345 El Monte Road
Los Altos Hills, CA 94022-4599
www.foothill.edu
(650) 949-7777
Disability Access Information
(650) 949-7017
= Accessible Bus Stop
= Accessible Parking
= Accessible Ramp
= Automated External Defibrillator (AED)
ATM = Automated Teller Machine
= Bicycle Parking
= Construction Zone
= Designated Smoking Area
= No Smoking Past Campus Entrances
= Wheelchair Lift
= Elevator
= Emergency Phone
= Food Services
= Health Services
= Map
= Motorcycle Parking
= Pay Phone
= Pedestrian Path
= Police
= Restroom
= Steps
= 60-Minute Visitor Parking
Effective Summer Session 2014
(≠) Painting in Progress
Interstate 280
(from Interstate 280)
El Monte Road
Moody Road
Main Entrance
Moody Road Entrance
Practice Field
Stadium
Tennis Courts
Golf Complex
Soccer Field
Softball Field
Physical Sciences & Engineering Center
Admissions & Records
Bookstore
ATM
Pool
Gymnasium
Library
Library Quad
Lohman Theatre
Smithwick Theatre
Cesar Chavez Plaza
Campus Center Plaza
Lower Campus
Fire Station
Temporary Village 5910–5999
5912 5911 5921 5922 5981 5982
5991 5992 5931–5134 5971 5972
5941 5942 5950 5960
5999 5998 5997
LOT 1 LOT 1-A LOT 1-B LOT 1-C LOT 1-E LOT 1-G LOT 1-H LOT 1-I LOT 2 LOT 2-A LOT 3 LOT 4 LOT 4-A LOT 4-B LOT 4-C LOT 5 LOT 5-A LOT 6 LOT 7 LOT 8
Campus Entrance 1
Campus Entrance 2
Campus Entrance 3
Campus Entrance 4
Campus Entrance 5
Campus Entrance 6
Campus Entrance 7
Campus Entrance 8
Additional Parking
Kraxberger Center for Innovation
Observatory
Police Station
Parking
Pay Phone
Restroom
Emergency Phone
Food Services
Health Services
Map
Motorcycle Parking
Pedestrian Path
Police
Steps
Wheelchair Lift
Elevator
Construction Zone
Bicycle Parking
Automated Teller Machine
Automated External Defibrillator (AED)
Accessible Bus Stop
Accessible Parking
Accessible Ramp
Designated Smoking Area
No Smoking Past Campus Entrances
60-Minute Visitor Parking