



# Course Listings

Course Numbering System

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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. Students 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 may be added throughout the year. For more information, access the online catalog at [foothill.edu](http://foothill.edu).

A degree-applicable credit course is a course that has been designated as appropriate to Foothill College degrees, which has been recommended by the College Curriculum Committee and approved by the district governing board as a collegiate course meeting the needs of students.

- Courses numbered 1–49 are typically approved for transfer to the University of California (UC).\*
- Courses numbered 1–99 are typically transferable to the California State University (CSU).\*
- Courses numbered 100 and above are typically not transferable.\*
- Courses numbered 200–299 are non-degree-applicable and include prerequisites for required courses that lead to the associate degree.
- Courses numbered 300–399 are upper division courses for the Foothill baccalaureate degree program.\*\*
- Courses numbered 400–499 are non-credit, 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.

\* There are some exceptions to this rule; therefore, students should consult with a counselor and/or access [ASSIST.org](http://ASSIST.org) to verify course transferability.

\*\*Prior to the 2016-17 academic year, courses numbered 300-399 were workshop, review and other courses offered to meet special collegiate needs of a community nature.

## ACCOUNTING

Business and Social Sciences  
foothill.edu/accounting/

**ACTG 1A FINANCIAL ACCOUNTING I 5 Units**  
**Advisory:** Eligibility for MATH 220 and ENGL 110 or ESLL 125 & 249.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**

**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 125 & 249; not open to students with credit in ACTG 1B.

**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**

**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 1BH HONORS FINANCIAL ACCOUNTING II 5 Units**

**Prerequisites:** ACTG 1A; Honors Institute participant.

**Advisory:** Eligibility for MATH 220 and ENGL 110 or ESLL 125 & 249; not open to students with credit in ACTG 1B, 51A, 51B, or 51C.

**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**

**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. As an honors course, it is a full hands-on course with advanced teaching methods focusing on extensive research of selected accounting theory or applying accounting techniques in preparing analytical papers and analyses related to selected accounting problems. Distinguishing features include: deep focus on research, analysis, application, strong communication and critical thinking.

**FHGE: Non-GE Transferable: UC/CSU**

**ACTG 1C MANAGERIAL ACCOUNTING 5 Units**  
**Prerequisite:** ACTG 1B or 1BH.

**Advisory:** MATH 10 or high school algebra; not open to students with credit in ACTG 1CH.

**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**

**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 1CH HONORS MANAGERIAL ACCOUNTING 5 Units**

**Prerequisites:** ACTG 1B or 1BH; Honors Institute participant.

**Advisory:** MATH 10 or high school algebra; not open to students with credit in ACTG 1C or 66.

**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**

**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. As an honors course, it is a full hands-on course with advanced teaching methods focusing on extensive research of selected accounting theory or applying accounting techniques in preparing analytical papers and analyses related to selected managerial accounting problems. Distinguishing features include: deep focus on research, analysis, application, strong communication and critical thinking.

**FHGE: Non-GE Transferable: UC/CSU**

**ACTG 51A INTERMEDIATE ACCOUNTING I 5 Units**

**Prerequisite:** ACTG 1B or 1BH.

**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**

**5 hours lecture. (60 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 5 Units**

**Prerequisite:** ACTG 1B or 1BH.

**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**

**5 hours lecture. (60 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 5 Units**

**Prerequisite:** ACTG 1B or 1BH.

**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**

**5 hours lecture. (60 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 125 & 249.

**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**

**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 or 1BH.**Advisory:** ACTG 51A, MATH 220 and ESLL 125 & 249.**Grade Type:** Letter Grade, the student may select Pass/No Pass**Not Repeatable.****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 125 & 249.**Grade Type:** Letter Grade, the student may select Pass/No Pass**Not Repeatable.****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 125 & 249.**Grade Type:** Letter Grade, the student may select Pass/No Pass**Not Repeatable.****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 125 & 249.**Grade Type:** Letter Grade, the student may select Pass/No Pass**Not Repeatable.****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****Corequisite:** Completion of or concurrent enrollment in ACTG 1A or 60.**Advisory:** Not open to students with credit in CIS 64A.**Grade Type:** Letter Grade, the student may select Pass/No Pass**Not Repeatable.****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****Corequisite:** Completion of or concurrent enrollment in ACTG 1B or 1BH.**Advisory:** Not open to students with credit in CIS 64B.**Grade Type:** Letter Grade, the student may select Pass/No Pass**Not Repeatable.****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 125 & 249.**Grade Type:** Letter Grade, the student may select Pass/No Pass**Not Repeatable.****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 1CH, or equivalent experience.**Advisory:** Eligibility for MATH 220 and ESLL 125 & 249.**Grade Type:** Letter Grade, the student may select Pass/No Pass**Not Repeatable.****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 125 & 249.**Grade Type:** Letter Grade, the student may select Pass/No Pass**Not Repeatable.****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 5 Units****Prerequisite:** ACTG 67.**Advisory:** Eligibility for MATH 220 and ESLL 125 & 249.**Grade Type:** Letter Grade, the student may select Pass/No Pass**Not Repeatable.****5 hours lecture. (60 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 5 Units****Prerequisite:** ACTG 67.**Advisory:** Eligibility for MATH 220 and ESLL 125 & 249.**Grade Type:** Letter Grade, the student may select Pass/No Pass**Not Repeatable.****5 hours lecture. (60 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 125 & 249.**Grade Type:** Letter Grade, the student may select Pass/No Pass**Not Repeatable.****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**

**Grade Type: Letter Grade, the student may select Pass/No Pass Not Repeatable.**

**3-12 hours laboratory 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 or 1BH.**

**Advisory: Eligibility for MATH 220 and ESLL 125 & 249.**

**Grade Type: Letter Grade, the student may select Pass/No Pass Not Repeatable.**

**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 125 & 249.**

**Grade Type: Letter Grade, the student may select Pass/No Pass Not Repeatable.**

**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: COMMUNITY BASED

**Student Resource and Support Programs**

**(650) 949-7017 foothill.edu/drc/**

**ALCB 201 BEGINNING LIP READING .5 Units**

**Non-degree applicable credit course.**

**Grade Type: Letter Grade, the student may select Pass/No Pass Not Repeatable.**

**1.5 hours 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 Units**

**Non-degree applicable credit course.**

**Grade Type: Letter Grade, the student may select Pass/No Pass Not Repeatable.**

**1.5 hours 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 Units**

**Non-degree applicable credit course.**

**Prerequisites: ALCB 201, 202 or equivalent skills.**

**Grade Type: Letter Grade, the student may select Pass/No Pass Not Repeatable.**

**1.5 hours laboratory. (18 hours total per quarter)**

Advanced instruction in lip reading techniques for the hearing impaired adult.

**FHGE: Non-GE**

**ALCB 223 CAREER RESOURCES 2 Units**

**Non-degree applicable credit course.**

**Grade Type: Letter Grade, the student may select Pass/No Pass Not Repeatable.**

**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 online job postings, internet, telephones, corporate events, casual labor, job fairs and career library. Intended for students with disabilities.

**FHGE: Non-GE**

**ALCB 400A LIP-READING: SIMPLE CONSONANT SOUNDS 0 Units**

**Non-degree applicable non-credit course.**

**Advisory: Students are advised to set aside a short period of time each day to allow practice either in a mirror or with another individual.**

**Grade Type: Non-credit course that receives no grade**

**Unlimited Repeatability.**

**24 hours total.**

Designed for adults with acquired, congenital or progressive hearing impairment and those who have difficulty processing receptively speech in adverse listening situations. Includes the most visible basic consonant sounds of the English language and how production of these basic speech sounds appears on the lips and face of various speakers. Descriptions of mechanics of the ear, sound and hearing testing will be presented. Large area assistive listening devices will be described (e.g., T-coil, FM, infrared, personal captioning devices). Practical experience in lip-reading both in and out of class.

**FHGE: Non-GE**

**ALCB 400B LIP-READING: VOWELS 0 Units**

**Non-degree applicable non-credit course.**

**Grade Type: Non-credit course that receives no grade**

**Unlimited Repeatability.**

**24 hours total.**

Designed for adults with acquired, congenital or progressive hearing impairment and/or difficulty processing speech in adverse listening conditions. Includes the most visible vowel sounds of English language and contrasting the appearance of production of different vowel sounds by the oral and facial structures of the speaker. Aspects of hearing and the auditory range of vowels will be discussed. Small area assistive listening devices will be introduced along with special features of hearing aids (e.g., restaurant programs, t-coils, music programs). Practical experience in lip-reading both in and out of class.

**FHGE: Non-GE**

**ALCB 400C LIP-READING: BACK CONSONANTS & BLENDS 0 Units**

**Non-degree applicable non-credit course.**  
**Grade Type: Non-credit course that receives no grade**  
**Unlimited Repeatability.**  
**24 hours total.**

Designed for adults with acquired, congenital or progressive hearing impairment or who have difficulty hearing in adverse listening conditions. Includes the least visible consonant sounds and blends of consonant sounds in the English language and contrasting the appearance of production of different consonant sounds by the oral structures, including cues from behind the lips, teeth and face of the speaker. Aspects of hearing and the auditory range of vowel, consonants and music will be discussed. Assistive listening devices for television, adaptive telephones and assistive devices for hard of hearing, such as special alarms and emergency procedures, technology for going to the movies will be discussed along with special features of hearing aids (e.g., variable digital settings, restaurant programs, t-coils, music programs). Practical experience in lip-reading and using adaptive equipment both in and out of class. Speech reading difficult-to-see vowels, consonants and blends.  
**FHGE: Non-GE**

**ALCB 400D SPEECH READING CHALLENGE 0 Units**

**Non-degree applicable non-credit course.**  
**Grade Type: Non-credit course that receives no grade**  
**Unlimited Repeatability.**  
**24 hours total.**

For adults who have been practicing lip-reading/speechreading techniques and want to maintain performance levels through highly challenging practice sessions that use the variety of skills needed for ease of communication barriers caused by hearing loss. Improve ability to lip-read in real time and complex conversational situations.  
**FHGE: Non-GE**

**ALCB 400E LITERARY LIP-READING 0 Units**

**Non-degree applicable non-credit course.**  
**Advisory: Students are advised to set aside short dedicated periods of time each day for lip-reading practice with others or in-mirror practice.**  
**Grade Type: Non-credit course that receives no grade**  
**Unlimited Repeatability.**  
**24 hours total.**

Advanced instruction in lip-reading techniques for the hard of hearing adult. Practice in lip-reading/speechreading using group discussion of readings presented in class by a variety of speech models. Emphasis on speechreading language samples that vary in length from one word to one paragraph with or without context, sometimes presented partially aloud, sometimes in complete silence. Additional focus on utilization of extensive contextual cues and use of short- and long-term memory to help with speech understanding, as well as focus on homophone review and visibility of articulation of speech sounds, visible discrimination of speech sounds. Lip-reading materials will consist of the reading of books, short stories or articles written in contemporary American English read together in class, suggested by students and selected by the instructor or by a vote of the students.  
**FHGE: Non-GE**

**ALCB 406Y WORLD NEWS DISCUSSION 0 Units**

**Non-degree applicable non-credit course.**  
**Grade Type: Non-credit course that receives no grade**  
**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**

**Non-degree applicable non-credit course.**  
**Grade Type: Non-credit course that receives no grade**  
**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**

**Non-degree applicable non-credit course.**  
**Grade Type: Non-credit course that receives no grade**  
**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**

**Non-degree applicable non-credit course.**  
**Grade Type: Non-credit course that receives no grade**  
**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**

**Non-degree applicable non-credit course.**  
**Grade Type: Non-credit course that receives no grade**  
**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**

**Non-degree applicable non-credit course.**  
**Grade Type: Letter Grade, the student may select Pass/No Pass**  
**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**

**Non-degree applicable non-credit course.**  
**Grade Type: Non-credit course that receives no grade**  
**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**

**Non-degree applicable non-credit course.**  
**Grade Type: Non-credit course that receives no grade**  
**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**

**Non-degree applicable non-credit course.**  
**Grade Type: Non-credit course that receives no grade**  
**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**

Non-degree applicable non-credit course.  
**Grade Type:** Non-credit course that receives no grade  
**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**

Non-degree applicable non-credit course.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**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**

Non-degree applicable non-credit course.  
**Grade Type:** Non-credit course that receives no grade  
**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**

Non-degree applicable non-credit course.  
**Grade Type:** Non-credit course that receives no grade  
**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**

Non-degree applicable non-credit course.  
**Grade Type:** Non-credit course that receives no grade  
**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: COMPUTER ACCESS CENTER**

Student Resource and Support Programs  
 (650) 949-7017 foothill.edu/drc/

**ALCA 201 COMPUTER ACCESS EVALUATION 1 Unit**

Non-degree applicable credit course.  
**Advisory:** Not open to students with credit in ALCA 101.  
**Grade Type:** Pass/No Pass Only  
**Not Repeatable.**

**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: LEARNING DISABILITY**

Student Resource and Support Programs  
 (650) 949-7017 foothill.edu/drc/

**ALLD 206 PARAGRAPH REMEDIATION 2 Units**

Non-degree applicable credit course.  
**Corequisites:** ENGL 110 and 209.

**Grade Type:** Pass/No Pass Only

**Not Repeatable.**

**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.

**FHGE: Non-GE**

**ALLD 210 UNDERSTANDING LEARNING DIFFERENCES 3 Units**

Non-degree applicable credit course.

**Advisory:** Not open to students with credit in ALLD 601.

**Grade Type:** Pass/No Pass Only

**Not Repeatable.**

**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 402 ACADEMIC SKILLS 0 Units**

Non-degree applicable basic skills course.

**Grade Type:** Non-credit course that receives no grade

**Unlimited Repeatability.**

**24 hours total.**

An open-entry, open-exit course for students with disabilities who seek academic support in general. Instruction and review of: time management, self-advocacy, short and long term planning, note-taking and study skills, organization, test preparation, reduction of test anxiety, utilization of assistive technology.

**FHGE: Non-GE**

**ADAPTIVE LEARNING: TRANSITION TO WORK**

Student Resource and Support Programs  
 (650) 949-7017 foothill.edu/ttw/

**ALTW 201 BASIC ENGLISH FOR THE DISABLED STUDENT 2 Units**

Non-degree applicable credit course.

**Advisory:** Not open to students with credit in ALTW 105.

**Grade Type:** Letter Grade, the student may select Pass/No Pass

**Not Repeatable.**

**2 hours lecture. (24 hours total per quarter)**

This basic English class emphasis is grammar, sentence and paragraph structure with practical applications related to business, public and/or non-profit settings.

**FHGE: Non-GE**

**ALTW 202 BASIC MATH SKILLS FOR STUDENTS WITH DISABILITIES 2 Units**

Non-degree applicable credit course.

**Grade Type:** Letter Grade, the student may select Pass/No Pass

**Not Repeatable.**

**2 hours lecture. (24 hours total per quarter)**

Emphasis on functional math concepts that include skill building for money handling exchanges, budget planning for independent living, comparison shopping strategies and other related practical math applications.

**FHGE: Non-GE**

**ALTW 203 LEARNING STYLES & STRATEGIES FOR STUDENTS WITH DISABILITIES 2 Units**  
Non-degree applicable credit course.  
Grade Type: Letter Grade, the student may select Pass/No Pass Not Repeatable.  
2 hours lecture. (24 hours total per quarter)  
This course enables students to explore and identify their learning styles, values, personality traits and develop a personal profile that helps them with their vocational choices.  
FHGE: Non-GE

**ALTW 204 COMMUNICATION SKILLS IN THE WORKPLACE 2 Units**  
Non-degree applicable credit course.  
Grade Type: Letter Grade, the student may select Pass/No Pass Not Repeatable.  
2 hours lecture. (24 hours total per quarter)  
Focuses on proper communication skills in written business formats, verbal presentations, and appropriate body language styles in order for students to be able to communicate effectively in competitive employment settings.  
FHGE: Non-GE

**ALTW 205 OFFICE SKILLS FOR THE DISABLED STUDENT 3 Units**  
Non-degree applicable credit course.  
Grade Type: Letter Grade, the student may select Pass/No Pass Not Repeatable.  
3 hours lecture. (36 hours total per quarter)  
Practical office skills needed for successful employment in an entry level position in office, retail, warehouse and garden settings. Focuses on business filing systems, records management, mail handling, shipping and receiving processes. Internal and external customer service skills will be emphasized in addition to career information via speakers and field trips.  
FHGE: Non-GE

**ALTW 206 BEGINNING WORD PROCESSING 3 Units**  
Non-degree applicable credit course.  
Advisory: Not open to students with credit in ALTW 112.  
Grade Type: Letter Grade, the student may select Pass/No Pass Not Repeatable.  
3 hours lecture. (36 hours total per quarter)  
Introduction to the word processing computer application, Microsoft Office Suites and Google Chrome. Beginning level word processing to be used in private, nonprofit and government work environments.  
FHGE: Non-GE

**ALTW 207 RESOURCES IN THE COMMUNITY FOR STUDENTS WITH DISABILITIES 2 Units**  
Non-degree applicable credit course.  
Grade Type: Letter Grade, the student may select Pass/No Pass Not Repeatable.  
2 hours lecture. (24 hours total per quarter)  
Overview of community and campus resources for students with disabilities.  
FHGE: Non-GE

**ALTW 208 JOB TRAINING/INTERNSHIP FOR THE DISABLED STUDENT 1.5 Units**  
Non-degree applicable credit course.  
Grade Type: Letter Grade, the student may select Pass/No Pass Not Repeatable.  
4.5 hours laboratory. (54 hours total per quarter)  
Practical skills needed for successful employment. Emphasis on on-the-job training experiences, to learn workplace standards. Preparation for work-readiness through hands-on work duties on and off campus settings. Discussion and evaluation of work performance.  
FHGE: Non-GE

**ALTW 209 SOCIAL SKILLS 2 Units**  
Non-degree applicable credit course.  
Grade Type: Letter Grade, the student may select Pass/No Pass Not Repeatable.  
2 hours lecture. (24 hours total per quarter)  
Focuses on the etiquette of appropriate interaction in the general public, educational settings, community involvement and employment arenas. Emphasis on building self-esteem and socialization skills in order to increase confidence in personal and social interactions.  
FHGE: Non-GE

**ALTW 211 INTRODUCTION TO EXCEL 3 Units**  
Non-degree applicable credit course.  
Grade Type: Letter Grade, the student may select Pass/No Pass Not Repeatable.  
3 hours lecture. (36 hours total per quarter)  
Introduction to spreadsheet computer application. Beginning level of spreadsheet database tool, emphasis on spreadsheets, charts and tables.  
FHGE: Non-GE

**ALTW 212 JOB SEARCH SKILLS: THE RESUME 2 Units**  
Non-degree applicable credit course.  
Grade Type: Letter Grade, the student may select Pass/No Pass Not Repeatable.  
2 hours lecture. (24 hours total per quarter)  
Focuses on successful resume writing techniques including the creation and completion of a resume. In addition, understanding on-line electronic processes for submission of resume, hidden job market, and types of resumes. Development of a Master application will be developed that will be used in the job search processes.  
FHGE: Non-GE

**ALTW 213 WORK ATTITUDES & BEHAVIOR ON THE JOB 2 Units**  
Non-degree applicable credit course.  
Grade Type: Letter Grade, the student may select Pass/No Pass Not Repeatable.  
2 hours lecture. (24 hours total per quarter)  
Will assist the student to develop appropriate work behavior and attitudes. Learn conflict management and pro-active problem solving skills in an entry level job environment.  
FHGE: Non-GE

**ALTW 214 JOB SEARCH SKILLS: INTERVIEW PREPARATION 2 Units**  
Non-degree applicable credit course.  
Grade Type: Letter Grade, the student may select Pass/No Pass Not Repeatable.  
2 hours lecture. (24 hours total per quarter)  
Focuses on interviewing techniques and the special problems faced by people with disabilities when seeking employment. Interview preparation, mock interviews, behavioral interviewing techniques will be explored through lectures and role-play and feedback. Constructive feedback will be given to students in order to enhance their interviewing techniques.  
FHGE: Non-GE

**ALTW 216 DISABILITY & THE LAW 3 Units**  
Non-degree applicable credit course.  
Grade Type: Letter Grade, the student may select Pass/No Pass Not Repeatable.  
3 hours lecture. (36 hours total per quarter)  
Understanding basic citizens' rights and responsibilities. Emphasis on the Americans with Disabilities Act (ADA), Rehabilitation Act of 1973, IDEA, and other laws related to people with disabilities. Understand the meaning of accommodation and apply to work and school settings.  
FHGE: Non-GE



**ALTW 217 INTERMEDIATE COMPUTER APPLICATIONS 3 Units**

Non-degree applicable credit course.

Grade Type: Letter Grade, the student may select Pass/No Pass

Not Repeatable.

3 hours lecture. (36 hours total per quarter)

Course will combine Microsoft Word, Microsoft Excel and Microsoft PowerPoint to produce intermediate documents to be used in academic, non-profit, government and or business environment.

FHGE: Non-GE

**ALTW 218 CURRENT EVENTS FOR THE DISABLED STUDENT 2 Units**

Non-degree applicable credit course.

Grade Type: Letter Grade, the student may select Pass/No Pass

Not Repeatable.

2 hours lecture. (24 hours total per quarter)

Exploration of global, national and community topics through a variety of media sources. Discussion on the pro's and con's of different news media formats and perspectives.

FHGE: Non-GE

**ALTW 219 USING THE INTERNET 2 Units**

Non-degree applicable credit course.

Grade Type: Letter Grade, the student may select Pass/No Pass

Not Repeatable.

2 hours lecture. (24 hours total per quarter)

This is a hands-on introduction to the use of internet tools such as Google Docs, Cloud applications, Apps, Internet research, and social media applications.

FHGE: Non-GE

**ALTW 223 INDEPENDENT LIVING SKILLS: FINANCIAL LITERACY 4 Units**

Non-degree applicable credit course.

Grade Type: Letter Grade, the student may select Pass/No Pass

Not Repeatable.

4 hours lecture. (48 hours total per quarter)

Basic banking and personal saving concepts with emphasis placed upon establishing credit and responsible credit card use, personal budgeting, connecting employment choices to financial outcomes, and making responsible financial choices. Intended for students with disabilities enrolled in the Transition to Work Program.

FHGE: Non-GE

**ALTW 229 HEALTHY RELATIONSHIPS 3 Units**

Non-degree applicable credit course.

Grade Type: Letter Grade, the student may select Pass/No Pass

Not Repeatable.

3 hours lecture. (36 hours total per quarter)

Development of understanding of personal boundaries and making positive choices in relationships. Emphasis placed upon increasing self-esteem, developing appropriate personal rules for intimate, personal, professional and general relationships, and recognizing and effectively handling personal safety issues. Provides students with disabilities tools to effectively communicate and make good relationship choices. Intended for students with disabilities enrolled in the Transition to Work program.

FHGE: Non-GE

**ALTW 230 INTRODUCTION TO VOCATIONAL MICRO-BUSINESS 3 Units**

Non-degree applicable credit course.

Grade Type: Letter Grade Only

May be taken three times for credit.

3 hours lecture. (36 hours total per quarter)

Introduction to functions of micro-businesses for entrepreneurs with disabilities. Creating, managing and profiting from a micro-business. Finding and seeking funding sources including grants, micro loans and private sources. Establishing and implementing a marketing plan. Basic day-to-day accounting and book-keeping for a micro-business. Challenges and opportunities for entrepreneurs with disabilities.

FHGE: Non-GE

**ALTW 231 INTRODUCTION TO PRESENTATION SKILLS 3 Units**

Non-degree applicable credit course.

Grade Type: Letter Grade Only

May be taken three times for credit.

3 hours lecture. (36 hours total per quarter)

Introduction to appropriate skills and behaviors necessary for making successful presentations, for students with disabilities. Students will learn how to create and present a project or a speech.

FHGE: Non-GE

**ALTW 232 SOCIAL MEDIA & DIGITAL CITIZENSHIP 3 Units**

Non-degree applicable credit course.

Grade Type: Letter Grade Only

May be taken three times for credit.

3 hours lecture. (36 hours total per quarter)

Students will learn how to appropriately utilize information technology in order to engage in online social interaction. This course will give students basic instruction regarding how to use different social media and communication applications (e.g., set up profiles, interact with others, learn the capabilities of each application, etc.). In addition, students will learn the norms of appropriate, responsible behavior in regard to the use of the applications. This course will teach students specific skills for maintaining appropriate behavior and being safe while using the internet and social media applications, such as Facebook, Instagram, Twitter, Reddit, Snapchat, YouTube, LinkedIn, and email.

FHGE: Non-GE

**ALTW 430 VOCATIONAL MICRO-BUSINESS PRACTICUM 0 Units**

Non-degree applicable non-credit course.

Prerequisite: ALTW 230.

Grade Type: Non-credit course that receives no grade

Unlimited Repeatability.

48 hours total.

Hands-on practice of running a micro-business, including implementation of sales techniques, effective customer services, communication and professional behavior. Training and instruction in simple accounting and use of spreadsheets to organize day-to-day financial data, such as cash flow. Manage and operate a micro-business.

FHGE: Non-GE

**ALTW 431 PUBLIC TRANSIT SKILLS 0 Units**

Non-degree applicable non-credit course.

Grade Type: Non-credit course that receives no grade

Unlimited Repeatability.

72 hours total.

Introduction and practice of essential travel skills, such as reading bus/train schedules and maps, paying fares, boarding and exiting public transit, making transfers between the same or different modes of public transportation. Students will learn how to make judgments in various travel disruptions, use appropriate social and communication skills.

FHGE: Non-GE

## ALLIED HEALTH SCIENCES

Biological and Health Sciences  
(650) 949-7249 foothill.edu/biology/

### AHS 50A INTRODUCTION TO ALLIED HEALTH PROGRAMS 1.5 Units

**Prerequisites:** ENGL 1A, 1AH, or 1S & 1T; MATH 105.  
**Advisory:** Not open to students with credit in AHS 50.  
**Grade Type:** Letter Grade Only  
**Not Repeatable.**

**1.5 hours 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; enrollment is limited to students accepted in the program.

**FHGE: Non-GE Transferable: CSU**

### AHS 50B INTERPROFESSIONAL PATIENT COMPETENCIES .5 Units

**Grade Type:** Letter Grade Only  
**Not Repeatable.**  
**6 hours total.**

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 health care settings and understanding the skills and scope of practice of other health care professionals. Enrollment is limited to students accepted in an Allied Health Program.

**FHGE: Non-GE Transferable: CSU**

### AHS 50C INTERPROFESSIONAL COMPETENCIES FOR COLLABORATIVE PRACTICE .5 Units

**Grade Type:** Letter Grade Only  
**Not Repeatable.**  
**6 hours total.**

This is the third of three courses focusing on interprofessional education (IPE). This course will include an overview on the health care team, professional communication issues in health care settings and values and ethics for interprofessional practice. Enrollment is limited to students accepted in an Allied Health Program.

**FHGE: Non-GE Transferable: CSU**

### AHS 51 HEALTH CAREERS EXPLORATION 1.5 Units

**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**

**1.5 hours lecture. (18 hours total per quarter)**

This course focuses on assessment and career research in the development of a health care career plan. Careers include, but are not limited to: EMT, Paramedic/Fire Science, Nursing, Pharmacology Technology, Dental Hygiene, Dental Assisting, Respiratory Therapy and Radiologic Technology. Emphasis is on interest, personality testing, values clarification, career information, research skills, individual skills assessment, decision making, communication, teamwork, inter-professional education and goal setting specifically in the health care field. The course also covers health care job trends, education and licensure requirements.

**FHGE: Non-GE Transferable: CSU**

### AHS 52 MEDICAL TERMINOLOGY 3 Units

**Grade Type:** Letter Grade Only  
**Not Repeatable.**

**3 hours lecture. (36 hours total per quarter)**

Introduction to medical terminology as used in the health professions. Provides opportunities for practical application of medical terminology and further development of skills in analyzing components of medical terms and building a medical vocabulary applicable to specialties of medicine. Course content includes anatomical and physiological terminology; basic structure, prefixes, suffixes; combining forms; abbreviations, clinical procedures, laboratory and diagnostic tests related to each body system.

**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.

**Grade Type:** Letter Grade Only  
**Not Repeatable.**

**1 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 60A CARDIOLOGY FOR ALLIED HEALTH 2 Units

**Formerly: RSPT 60A**

**Advisory:** Not open to students with credit in RSPT 60A.

**Grade Type:** Letter Grade Only  
**Not Repeatable.**

**2 hours lecture. (24 hours total per quarter)**

Electrocardiogram and rhythm recognition. Invasive and non-invasive hemodynamic monitoring; cardiac diagnostic and therapeutic procedures; and fluid balance.

**FHGE: Non-GE Transferable: CSU**

### AHS 60C ADVANCED CARDIAC LIFE SUPPORT 2 Units

**Formerly: RSPT 60B**

**Advisory:** Not open to students with credit in RSPT 60B.

**Grade Type:** Letter Grade Only  
**Not Repeatable.**

**2 hours lecture. (24 hours total per quarter)**

Preparation for Advanced Cardiac Life Support Certification for health care providers who will be directing or participating in the management of cardiopulmonary arrest or other cardiovascular emergencies. Students will practice skills through active participation in simulated cases in order to enhance skills associated with diagnosis and treatment of cardiopulmonary arrest, acute arrhythmia, stroke, and acute coronary syndromes (ACS).

**FHGE: Non-GE Transferable: CSU**

### AHS 60D PEDIATRIC ADVANCED LIFE SUPPORT (AHA PALS) 2 Units

**Advisory:** Students must successfully pass the written exam, and successfully perform the skills to earn PALS certification.

**Grade Type:** Letter Grade Only  
**Not Repeatable.**

**2 hours lecture. (24 hours total per quarter)**

The American Heart Association Pediatric Advanced Life Support (PALS) course is based on science evidence from the 2015 AHA Guidelines for CPR and ECC. The goal of the PALS course is to aid the pediatric healthcare provider in developing the knowledge and skills necessary to efficiently and effectively manage critically ill infants and children, resulting in improved outcomes. Skills taught include recognition and treatment of infants and children at risk for cardiopulmonary arrest; the systematic approach to pediatric assessment; effective respiratory management; defibrillation and synchronized cardioversion; intraosseous access and fluid bolus administration; and effective resuscitation team dynamics.

**FHGE: Non-GE Transferable: CSU**

**AHS 60E**     **AHA FIRST AID/CPR FOR THE  
NON-HEALTHCARE PROVIDER**     **1 Unit**

**Grade Type: Letter Grade Only**  
**Unlimited Repeatability.**

**1 hour lecture, 1 hour laboratory. (24 hours total per quarter)**

Designed primarily for the workplace first aid provider, this course follows current medical and educational guidelines and meets federal and state OSHA regulatory requirements for training employees in adult CPR and first aid. Designed for those with an occupational requirement to be trained in first aid and who may be expected to provide care until professional help arrives, as well as any individual who wishes to be trained in what to do in the event of an emergency until professional help arrives. Not intended to be used as a prerequisite for individuals entering the EMT program.

**FHGE: Non-GE**     **Transferable: CSU**

**AHS 60F**     **PREHOSPITAL TRAUMA  
LIFE SUPPORT (PHTLS)**     **2 Units**

**Grade Type: Letter Grade Only**  
**Not Repeatable.**

**2 hours lecture. (24 hours total per quarter)**

Prehospital Trauma Life Support (PHTLS) is recognized around the world as the leading continuing education program for prehospital emergency trauma care. PHTLS courses improve the quality of trauma care in your area and decrease mortality. The program is based on a prehospital trauma care philosophy, stressing the treatment of the multi-system trauma patient as a unique entity with specific needs. This may require an approach to the trauma patient that varies from traditional treatment modalities. PHTLS promotes critical thinking as the foundation for providing quality care for the trauma patient. This course is scenario-based, with lectures and interactive skills station components to enhance knowledge and further develop the critical thinking skills required to effectively treat trauma patients in the field.

**FHGE: Non-GE**     **Transferable: CSU**

**ANTH 1HL**     **HONORS PHYSICAL  
ANTHROPOLOGY LABORATORY**     **1 Unit**

**Prerequisite: Honors Institute participant.**

**Corequisite: Completion of or concurrent enrollment in ANTH 1H.**

**Advisory: Not open to students with credit in ANTH 1L.**

**Grade Type: Letter Grade Only**

**Not Repeatable.**

**3 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: Natural Sciences**     **Transferable: UC/CSU**

**ANTH 1L**     **PHYSICAL ANTHROPOLOGY  
LABORATORY**     **1 Unit**

**Corequisite: Completion of or concurrent enrollment in ANTH 1 or 1H.**

**Advisory: Not open to students with credit in ANTH 1HL.**

**Grade Type: Letter Grade, the student may select Pass/No Pass**

**Not Repeatable.**

**3 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**

## ANTHROPOLOGY

**Business and Social Sciences**

**(650) 949-7322**     [foothill.edu/anthropology/](http://foothill.edu/anthropology/)

**ANTH 1**     **INTRODUCTION TO PHYSICAL  
ANTHROPOLOGY**     **4 Units**

**Advisory: Not open to students with credit in ANTH 1H.**

**Grade Type: Letter Grade, the student may select Pass/No Pass**

**Not Repeatable.**

**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: Not open to students with credit in ANTH 1.**

**Grade Type: Letter Grade Only**

**Not Repeatable.**

**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: Natural Sciences**     **Transferable: UC/CSU**

**ANTH 2A**     **CULTURAL ANTHROPOLOGY**     **4 Units**

**Advisory: Not open to students with credit in ANTH 2AH.**

**Grade Type: Letter Grade, the student may select Pass/No Pass**

**Not Repeatable.**

**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, with an emphasis on understanding and appreciating human diversity. Topics include a cross-cultural exploration of: subsistence strategies; social, political and economic organization; language and communication; marriage and kinship; religion; gender; ethnicity and race; social inequality; culture change; and the effects of colonialism and globalization. Focus is made on the application of anthropological perspectives to contemporary social issues.

**FHGE: Social & Behavioral Sciences**     **Transferable: UC/CSU**

**ANTH 2AH**     **HONORS CULTURAL  
ANTHROPOLOGY**     **4 Units**

**Prerequisite: Honors Institute participant.**

**Advisory: Not open to students with credit in ANTH 2A.**

**Grade Type: Letter Grade, the student may select Pass/No Pass**

**Not Repeatable.**

**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, with an emphasis on understanding and appreciating human diversity. Topics include a cross-cultural exploration of: subsistence strategies; social, political and economic organization; language and communication; marriage and kinship; religion; gender; ethnicity and race; social inequality; culture change; and the effects of colonialism and globalization. Focus is made on the application of anthropological perspectives to contemporary social issues. 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**

**ANTH 2B PATTERNS OF CULTURE 4 Units****Grade Type: Letter Grade, the student may select Pass/No Pass Not Repeatable.****4 hours lecture. (48 hours total per quarter)**

A cross-cultural, comparative and hands-on study of patterns in culture with a focus on recognizing, understanding and appreciating cultural diversity through ethnographic case studies. Introduces students to qualitative research methods in the social sciences in general, and more specifically to the concepts, theories and ethnographic methods used by cultural anthropologists in the study of human culture and societies. Students are provided with an opportunity to design and carry out original research through ethnographic field study.

**FHGE: Social & Behavioral Sciences Transferable: UC/CSU****ANTH 3 WORLD PREHISTORY: THE RISE & FALL OF EARLY CIVILIZATIONS 4 Units****Grade Type: Letter Grade, the student may select Pass/No Pass Not Repeatable.****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****Grade Type: Letter Grade, the student may select Pass/No Pass Not Repeatable.****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****Grade Type: Letter Grade, the student may select Pass/No Pass Not Repeatable.****4 hours lecture. (48 hours total per quarter)**

An introduction to the anthropological study of religion and belief systems. This course is a cross-cultural exploration into the ways humans around the world and through time have conceptualized their relationship between their natural and social worlds and the supernatural, 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****Grade Type: Letter Grade, the student may select Pass/No Pass Not Repeatable.****4 hours lecture. (48 hours total per quarter)**

An anthropological survey of the peoples of Africa. Issues addressed include: the colonial and Cold War experience and legacy in Africa; popular Western (mis)perceptions and portrayals of Africa and Africans; patterns of social organization, family, and kinship; political organization; economic systems; current political and economic conditions and ties to the global economy; conceptual systems; health and disease; popular culture; art and music; and social change. The course draws upon classic and contemporary anthropological research, research from other disciplines, ethnographies, and literature by African writers. A case study approach is used for some topics allowing in-depth analysis of particular African societies.

**FHGE: Non-GE Transferable: UC/CSU****ANTH 8 INTRODUCTION TO ARCHAEOLOGY 4 Units****Grade Type: Letter Grade, the student may select Pass/No Pass Not Repeatable.****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 12 APPLIED ANTHROPOLOGY 4 Units****Grade Type: Letter Grade, the student may select Pass/No Pass Not Repeatable.****4 hours lecture. (48 hours total per quarter)**

Applied anthropology focuses on the use of anthropological theories, perspectives and methods in real world, contemporary contexts of practice or problem-solving. This course, an introduction to the '5th field,' is of anthropology, provides students with theories, perspectives and skills that will help them recognize, more deeply understand and solve problems affecting local communities in this country and abroad, which have arisen as a result of culture change, modernization and globalization. Major areas of study will include development anthropology, the use of technology in field settings, anthropology and health care, anthropology and advocacy, anthropology and law, tourism and cultural heritage, organizational and business anthropology, and land and cultural resource management.

**FHGE: Social & Behavioral Sciences Transferable: UC/CSU****ANTH 13 INTRODUCTION TO FORENSIC ANTHROPOLOGY 4 Units****Grade Type: Letter Grade, the student may select Pass/No Pass Not Repeatable.****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 osteology 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.****Grade Type: Letter Grade, the student may select Pass/No Pass Not Repeatable.****3 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 osteology/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****Grade Type: Letter Grade, the student may select Pass/No Pass Not Repeatable.****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****Advisory: Not open to students with credit in ANTH 50.****Grade Type: Letter Grade, the student may select Pass/No Pass Not Repeatable.****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 16L BASIC ARCHAEOLOGY LABORATORY 1 Unit****Formerly: ANTH 8L****Advisory: UC transferability is limited to 3 units maximum for ANTH 16L, 17L & 18L; not open to students with credit in ANTH 8L.****Grade Type: Letter Grade, the student may select Pass/No Pass Not Repeatable.****3 hours laboratory. (36 hours total per quarter)**

An introduction to basic laboratory methods and techniques of archaeology using the scientific method, including cataloging, care and analysis of artifacts, bone recognition, and archaeological excavation. This class will introduce concepts within an anthropological research framework. In addition to gaining expertise in laboratory research, students will examine, discuss, critique and write about the techniques, tools, laboratory terminology and processes of laboratory research at a basic level. Students will use archaeology vocabulary in verbal and written class reports.

**FHGE: Non-GE Transferable: UC/CSU****ANTH 17L INTERMEDIATE ARCHAEOLOGY LABORATORY 2 Units****Formerly: ANTH 8LX****Advisory: UC transferability is limited to 3 units maximum for ANTH 16L, 17L & 18L; not open to students with credit in ANTH 8LX.****Grade Type: Letter Grade, the student may select Pass/No Pass Not Repeatable.****6 hours laboratory. (72 hours total per quarter)**

An introduction to intermediate level laboratory methods and techniques of archaeology using the scientific method, including cataloging, care and analysis of artifacts, bone recognition, and archaeological excavation. This class will further develop concepts within an anthropological research framework, focusing on guided laboratory analysis of active archaeology research projects. Students develop expertise in detailed laboratory research and write about the techniques, tools, laboratory terminology and processes of laboratory research at an intermediate level. Students will use archaeology vocabulary in verbal and written class reports based on active research projects.

**FHGE: Non-GE Transferable: UC/CSU****ANTH 20 NATIVE PEOPLES OF CALIFORNIA 4 Units****Grade Type: Letter Grade, the student may select Pass/No Pass Not Repeatable.****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, INCA & THEIR PREDECESSORS: CIVILIZATIONS OF THE AMERICAS 4 Units****Grade Type: Letter Grade, the student may select Pass/No Pass Not Repeatable.****4 hours lecture. (48 hours total per quarter)**

Survey of the origin, spread, and decline of pre-Columbian civilizations in Central and South America with a focus on the Maya, Inca and Aztec. Applies understandings of archaeology and cultural anthropology to examine the dynamics economic, social, political, cultural, and religious systems of Mesoamerica and South America over time. Covers the colonization process by the Spanish and current day indigenous issues in Mesoamerica and South America.

**FHGE: Social & Behavioral Sciences Transferable: UC/CSU****ANTH 51 ARCHAEOLOGY SURVEY 2 Units****Advisory: Not open to students with credit in ANTH 11B.****Grade Type: Letter Grade, the student may select Pass/No Pass Not Repeatable.****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****Advisory: Not open to students with credit in ANTH 11.****Grade Type: Letter Grade, the student may select Pass/No Pass Not Repeatable.****1 hour lecture, 9 hours fieldwork. (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 55 APPLIED CULTURAL ANTHROPOLOGY FIELD METHODS 1 Unit****Grade Type: Letter Grade, the student may select Pass/No Pass Not Repeatable.****1 hour lecture. (12 hours total per quarter)**

Applied anthropology focuses on the use of anthropological theories, perspectives and data-gathering methods in real-world contexts of practice or problem-solving. This 1-unit course provides students with the opportunity to learn and apply field methods from the sub-discipline of applied cultural anthropology to problems found in their own communities. Students will learn how to identify a research topic, write a proposal and project plan with specific milestones and deliverables, carry out research with the most appropriate field methodologies of applied research, and produce a "product" at the end of the course. Projects for this course will be in one of the major arenas of applied cultural anthropology, including: design anthropology, development anthropology, anthropology and health care, anthropology and social work, anthropology and education, organizational and business anthropology. Students will utilize field methodologies unique to applied cultural anthropology.

**FHGE: Non-GE Transferable: CSU**

**ANTH 56 APPLIED PHYSICAL ANTHROPOLOGY FIELD METHODS 1 Unit**

**Grade Type: Letter Grade, the student may select Pass/No Pass Not Repeatable.**

**1 hour lecture. (12 hours total per quarter)**

Applied anthropology focuses on the use of anthropological theories, perspectives and data-gathering methods in real-world contexts of practice or problem-solving. This 1-unit course provides students with the opportunity to learn and apply field methods from the sub-discipline of applied physical anthropology to problems found in their own communities. Students will learn how to identify a research topic, write a proposal and project plan with specific milestones and deliverables, carry out research with the most appropriate field methodologies of applied research, and produce a "product" at the end of the course. Projects for this course will be in one of the major arenas of applied physical anthropology, including: forensic anthropology and osteology, design anthropology (human engineering), medical anthropology, and environmental anthropology. Students will utilize field methodologies unique to applied physical anthropology.

**FHGE: Non-GE Transferable: CSU**

**ANTH 57 APPLIED ARCHAEOLOGY FIELD METHODS 1 Unit**

**Grade Type: Letter Grade, the student may select Pass/No Pass Not Repeatable.**

**1 hour lecture. (12 hours total per quarter)**

Applied anthropology focuses on the use of anthropological theories, perspectives and data-gathering methods in real-world contexts of practice or problem-solving. This 1-unit course provides students with the opportunity to learn and apply field methods from the sub-discipline of applied archaeology to problems found in their own communities. Students will learn how to identify a research topic, write a proposal and project plan with specific milestones and deliverables, carry out research with the most appropriate field methodologies of applied research, and produce a "product" at the end of the course. Projects for this course will be in one of the major arenas of applied archaeology, including: cultural resource management (CRM), historic preservation, museum studies, preservation law and ethics, and students will utilize field methodologies unique to applied archaeology.

**FHGE: Non-GE Transferable: CSU**

**ANTH 67A CULTURES OF THE WORLD: ECUADOR 4 Units**

**Grade Type: Letter Grade, the student may select Pass/No Pass Not Repeatable.**

**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**

**Grade Type: Letter Grade, the student may select Pass/No Pass Not Repeatable.**

**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 67C CULTURES OF THE WORLD: BRITISH ISLES 4 Units**

**Grade Type: Letter Grade, the student may select Pass/No Pass Not Repeatable.**

**4 hours lecture. (48 hours total per quarter)**

This course is part of a series to explore the diverse cultural heritage of the world using an anthropological perspective. In this case students cover the British Isles starting with the archaeological and historical past. Using anthropological methodology students explore the diversity within each culture, and then analyze the relationships within a worldwide context. As well, students are expected to synthesize the dynamics of power relationships within the culture in ancient and modern contexts by evaluating politics, economics, religion, and social development in the culture area. The class is designed to work with students either on an international program or intending to participate in a program of study on the British Isles.

**FHGE: Non-GE Transferable: CSU**

**ANTH 67E CULTURES OF THE WORLD: MEDITERRANEAN 4 Units**

**Grade Type: Letter Grade, the student may select Pass/No Pass Not Repeatable.**

**4 hours lecture. (48 hours total per quarter)**

This course is part of a series to explore the diverse cultural heritage of the world using an anthropological perspective. In this case students cover the Mediterranean starting with the archaeological and historical past. Using anthropological methodology students explore the diversity within each culture, and then analyze the relationships within a worldwide context. As well, students are expected to synthesize the dynamics of power relationships within the culture in ancient and modern contexts by evaluating politics, economics, religion, and social development in the culture area. The class is designed to work with students either on an international program or intending to participate in a program of study in the Mediterranean.

**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**

**Grade Type: Letter Grade, the student may select Pass/No Pass Not Repeatable.**

**3-12 hours laboratory 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: CULINARY ARTS**

**Apprenticeship**  
**650-949-7208 foothill.edu/apprenticeships/**

**APCA 100 CULINARY SAFETY & SANITATION 2.5 Units**

**Prerequisite: Per California Code of Regulations, this course is limited to students admitted to the Culinary Arts Apprenticeship Program.**

**Grade Type: Letter Grade, the student may select Pass/No Pass Not Repeatable.**

**40 hours total: 32 hours lecture, 8 hours laboratory.**

Students will study first aid, food safety management and other safety issues related to food service operations. They will learn how to assess the threat of contamination, prevention measures, and alternative responses to food safety and other concerns, such as allergens. The course also presents other material critical to safety in the modern day professional kitchen, including Hazard Analysis Critical Control Point (HACCP) and active managerial control. A case study in the form of food safety inspection and audit of the cafeteria and culinary classroom kitchen will give students a chance to see the difficulties that face food service operators every day.

**FHGE: Non-GE**

**APCA 101 BASIC CULINARY THEORY 2.5 Units**

**Prerequisite:** Per California Code of Regulations, this course is limited to students admitted to the Culinary Apprenticeship Program.

**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.

**40 hours total: 32 hours lecture, 8 hours laboratory.**

Students will be exposed to food chemistry and the vocabulary necessary to succeed in an industrial food service setting. Topics will range from baking to cold kitchen preparation to various understandings of dry and moist cooking techniques. In addition, students will learn product identification and protocols in food handling and preferred cooking methods for meats, poultry, fruits, vegetables, starches, legumes, fish and shellfish.

**FHGE: Non-GE**

**APCA 102 CULINARY MATH, MEASUREMENTS & CALCULATIONS 2.5 Units**

**Prerequisite:** Per California Code of Regulations, this course is limited to students admitted to the Culinary Apprenticeship Program.

**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.

**40 hours total: 32 hours lecture, 8 hours laboratory.**

One of the most important courses in culinary arts, this course instills methods to measure ingredients (volume, weight, time and temperature), convert from U.S. to Metric systems of measurement, calculate portion cost and recipe cost. Also covers pricing strategies and instills an understanding of order guides and invoices. Students will work with ratios and fractions with key ratios applied to achieve an edible result without a recipe. Students will learn to detect flaws in a recipe if the ratio is not correct. Students will produce a portfolio of their own recipe calculations.

**FHGE: Non-GE**

**APCA 104 BASIC COOKING TECHNIQUES 5 Units**

**Prerequisite:** Per California Code of Regulations, this course is limited to students admitted to the Culinary Apprenticeship Program.

**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.

**120 hours total: 30 hours lecture, 90 hours laboratory.**

Covers basic cooking. Students will make stocks, soups, sauces; prepare vegetables, starches, salads; fabricate and cook various cuts of meat and poultry. Highlights basic cooking techniques, such as sauteing, roasting, poaching, braising, and frying, while following industrial recipes.

**FHGE: Non-GE**

**APCA 105 CULINARY MENU DEVELOPMENT 3 Units**

**Prerequisite:** Per California Code of Regulations, this course is limited to students admitted to the Culinary Arts Apprenticeship Program.

**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.

**40 hours lecture total.**

Students develop their own menus for breakfast, lunch, and dinner; develop a beverage program; and cost out the menu items. Students design pricing strategies and submit as a portfolio.

**FHGE: Non-GE**

**APCA 106 SUSTAINABILITY IN FOOD SERVICE OPERATIONS 2.5 Units**

**Prerequisite:** Per California Code of Regulations, this course is limited to students admitted to the Culinary Apprenticeship Program.

**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.

**40 hours total: 32 hours lecture, 8 hours laboratory.**

Covers the principles of sustainability, including issues of animal welfare, nutrition, climate change, farm to table; other issues that impact people and the environment, such as water consumption, wage and supply chain ethics, and the reduction of our environmental footprint. The future of food and technology emerge as topics of discussion, and case studies feature menu innovation, actual operations, and a field trip to a sustainable restaurant or foodservice operation.

**FHGE: Non-GE**

**APPRENTICESHIP: ELECTRICIAN**

Apprenticeship

650-949-7208 [foothill.edu/apprenticeships/](http://foothill.edu/apprenticeships/)

**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.

**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.

**75 hours total: 24 hours lecture, 51 hours laboratory.**

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.

**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.

**75 hours total: 24 hours lecture, 51 hours laboratory.**

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**

**Prerequisite:** Per California Code of Regulations, this course is limited to students admitted to the Electrical Apprenticeship Program; student is a registered State indentured apprentice.

**Advisory:** Not open to students with credit in APRT 120.

**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.

**96 hours total: 24 hours lecture, 72 hours laboratory.**

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.

**Advisory:** Not open to students will credit in APEL 120.

**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.

**120 hours total: 36 hours lecture, 84 hours laboratory.**

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 and 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.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.  
**96 hours total: 24 hours lecture, 72 hours laboratory.**  
 Introduction to the National Electrical Code (NEC), DC theory, principles of magnetism and electromagnetism, basic blueprint reading.  
**FHGE: Non-GE**

**APEL 121A**      **ELECTRON THEORY; AC & DC ELECTRICAL THEORY; NEC 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.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.  
**120 hours total: 36 hours lecture, 84 hours laboratory.**  
 Introduction to the National Electrical Code (NEC), applied codeology toward 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.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.  
**96 hours total: 24 hours lecture, 72 hours laboratory.**  
 Study of the National Electrical Code, AC Theory and basic fundamentals of using blueprints.  
**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.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.  
**120 hours total: 36 hours lecture, 84 hours laboratory.**  
 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.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.  
**96 hours total: 24 hours lecture, 72 hours laboratory.**  
 Study of AC theory, transformer fundamental design and function. Expanded study of the National Electrical Code. Students will learn the fundamentals of AC theory and how it relates to transformer design. They will also learn to understand how National Electrical codes are applied for the safe and proper installation transformers.  
**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.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.  
**120 hours total: 36 hours lecture, 84 hours laboratory.**  
 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.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.  
**96 hours total: 24 hours lecture, 72 hours laboratory.**  
 Review of DC/AC theory. The study of overcurrent protection and the implementation of safe work practices.  
**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.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.  
**120 hours total: 36 hours lecture, 84 hours laboratory.**  
 Review of AC/DC theory. Study of electronics principles and applications, and industrial blueprint reading. Transformer installation, grounding and 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.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.  
**96 hours total: 24 hours lecture, 72 hours laboratory.**  
 This course will cover grounding and bonding of transformers, fire alarm systems and industrial blueprint reading.  
**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.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.  
**120 hours total: 36 hours lecture, 84 hours laboratory.**  
 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.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.  
**96 hours total: 24 hours lecture, 72 hours laboratory.**  
 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.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.  
**96 hours total: 24 hours lecture, 72 hours laboratory.**  
 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

**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 128.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.  
**96 hours total: 24 hours lecture, 72 hours laboratory.**  
 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.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.  
**96 hours total: 24 hours lecture, 72 hours laboratory.**  
 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.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.  
**75 hours total: 24 hours lecture, 51 hours laboratory.**  
 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.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.  
**75 hours total: 24 hours lecture, 51 hours laboratory.**  
 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.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.  
**75 hours total: 24 hours lecture, 51 hours laboratory.**  
 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.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.  
**75 hours total: 24 hours lecture, 51 hours laboratory.**  
 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

Apprenticeship  
 (650) 949-7208 [foothill.edu/apprenticeships/](http://foothill.edu/apprenticeships/)

**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.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.  
**64 hours total: 24 hours lecture, 40 hours laboratory.**  
 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.  
Grade Type: Letter Grade, the student may select Pass/No Pass Not Repeatable.  
40 hours total: 24 hours lecture, 16 hours laboratory.  
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.  
Grade Type: Letter Grade, the student may select Pass/No Pass Not Repeatable.  
40 hours total: 24 hours lecture, 16 hours laboratory.  
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.  
Grade Type: Letter Grade, the student may select Pass/No Pass Not Repeatable.  
40 hours total: 24 hours lecture, 16 hours laboratory.  
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.  
Grade Type: Letter Grade, the student may select Pass/No Pass Not Repeatable.  
40 hours total: 24 hours lecture, 16 hours laboratory.  
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.  
Grade Type: Letter Grade, the student may select Pass/No Pass Not Repeatable.  
40 hours total: 24 hours lecture, 16 hours laboratory.  
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.  
Grade Type: Letter Grade, the student may select Pass/No Pass Not Repeatable.  
40 hours total: 24 hours lecture, 16 hours laboratory.  
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.  
Grade Type: Letter Grade, the student may select Pass/No Pass Not Repeatable.  
40 hours total: 24 hours lecture, 16 hours laboratory.  
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 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.  
Grade Type: Letter Grade, the student may select Pass/No Pass Not Repeatable.  
40 hours total: 24 hours lecture, 16 hours laboratory.  
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.  
Grade Type: Letter Grade, the student may select Pass/No Pass Not Repeatable.  
40 hours total: 24 hours lecture, 16 hours laboratory.  
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.  
Grade Type: Letter Grade, the student may select Pass/No Pass Not Repeatable.  
40 hours total: 24 hours lecture, 16 hours laboratory.  
A continued study of the procedures and practices of the Ironworker trade with emphasis in architectural and ornamental ironworking. Students will learn elements of iron construction to include load-bearing, skeletal structure; stairs, fire escapes, ladders, conveyor systems, doors, elevators, windows, railings and other metal features of modern construction. Use and care of tools is covered in detail.  
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.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.  
**40 hours total: 24 hours lecture, 16 hours laboratory.**  
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.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.  
**40 hours total: 24 hours lecture, 16 hours laboratory.**  
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.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.  
**40 hours total: 24 hours lecture, 16 hours laboratory.**  
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.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.  
**40 hours total: 24 hours lecture, 16 hours laboratory.**  
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.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.  
**40 hours total: 24 hours lecture, 16 hours laboratory.**  
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 2.5 Units**  
**Prerequisite:** Per California Code of Regulations, this course is limited to students admitted to the Ironworkers Apprenticeship Program.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.  
**40 hours total: 30 hours lecture, 10 hours laboratory.**  
Provides the ironworker 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 of the course requires a minimum of eight (8) classroom hours and provides apprentices with useful information about the challenges facing the Ironworker union, as well as thought-provoking questions and suggestions for how to navigate the world of construction in the 21st century.  
**FHGE: Non-GE**

## APPRENTICESHIP: PIPE TRADES

Apprenticeship  
(650) 949-7142 [foothill.edu/apprenticeships/](http://foothill.edu/apprenticeships/)

**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.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.  
**54 hours total: 18 hours lecture, 36 hours laboratory.**  
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.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.  
**54 hours total: 18 hours lecture, 36 hours laboratory.**  
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.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.  
**54 hours total: 18 hours lecture, 36 hours laboratory.**  
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**  
**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.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.  
**54 hours total: 18 hours lecture, 36 hours laboratory.**  
 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.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.  
**108 hours total: 30 hours lecture, 78 hours laboratory.**  
 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.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.  
**108 hours total: 30 hours lecture, 78 hours laboratory.**  
 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.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.  
**54 hours total: 18 hours lecture, 36 hours laboratory.**  
 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**  
**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.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.  
**54 hours total: 18 hours lecture, 36 hours laboratory.**  
 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.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.  
**54 hours total: 18 hours lecture, 36 hours laboratory.**  
 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.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.  
**54 hours total: 18 hours lecture, 36 hours laboratory.**  
 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 troubleshooting projects for air conditioning systems.  
**FHGE: Non-GE**

**APPT 131 P-101 BASIC PLUMBING SKILLS 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.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.  
**118 hours total: 40 hours lecture, 78 hours laboratory.**  
 Orientation to the apprenticeship program, JATC policies and procedures. UA history and heritage will also be covered. Safety training is introduced, with instruction in general construction safety. This is followed up with necessary trade skills, including use and care of tools, pipe and tube installations, and soldering and 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.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.  
**108 hours total: 30 hours lecture, 78 hours laboratory.**  
 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.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.  
**108 hours total: 30 hours lecture, 78 hours laboratory.**  
 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.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.  
**54 hours total: 18 hours lecture, 36 hours laboratory.**  
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.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.  
**54 hours total: 18 hours lecture, 36 hours laboratory.**  
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.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.  
**54 hours total: 18 hours lecture, 36 hours laboratory.**  
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.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.  
**54 hours total: 18 hours lecture, 36 hours laboratory.**  
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.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.  
**108 hours total: 30 hours lecture, 78 hours laboratory.**  
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.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.  
**54 hours total: 18 hours lecture, 36 hours laboratory.**  
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.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.  
**54 hours total: 18 hours lecture, 36 hours laboratory.**  
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.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.  
**108 hours total: 30 hours lecture, 78 hours laboratory.**  
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 PROCESS PIPING 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 APPR 139.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.  
**54 hours total: 18 hours lecture, 36 hours laboratory.**  
Process piping and high purity water piping systems (HPW), including covering 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.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.  
**54 hours total: 18 hours lecture, 36 hours laboratory.**  
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 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.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.  
**118 hours total: 40 hours lecture, 78 hours laboratory.**  
Orientation to the apprenticeship program, JATC policies and procedures. UA history and heritage will also be covered. Safety training is introduced, with instruction in general construction safety. This is followed up with necessary trade skills, including use and care of tools, pipe and tube installations and soldering and 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.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.  
**108 hours total: 30 hours lecture, 78 hours laboratory.**  
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.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.  
**108 hours total: 30 hours lecture, 78 hours laboratory.**  
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.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.  
**54 hours total: 18 hours lecture, 36 hours laboratory.**  
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.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.  
**108 hours total: 30 hours lecture, 78 hours laboratory.**  
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.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.  
**108 hours total: 30 hours lecture, 78 hours laboratory.**  
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.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.  
**54 hours total: 18 hours lecture, 36 hours laboratory.**  
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.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.  
**54 hours total: 18 hours lecture, 36 hours laboratory.**  
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.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.  
**108 hours total: 30 hours lecture, 78 hours laboratory.**  
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 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.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.  
**118 hours total: 40 hours lecture, 78 hours laboratory.**  
Orientation to the apprenticeship program, JATC policies and procedures. UA history and heritage will also be covered. Safety training is introduced, with instruction in general construction safety and hazardous materials awareness. Necessary trade skills, including pipe and tube installations and soldering and 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.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.  
**108 hours total: 30 hours lecture, 78 hours laboratory.**  
 A review of 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.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.  
**108 hours total: 30 hours lecture, 78 hours laboratory.**  
 Basic and advanced refrigeration concepts. Extensive study of the design, assembly, and operation of compression systems. 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.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.  
**108 hours total: 30 hours lecture, 78 hours laboratory.**  
 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.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.  
**108 hours total: 30 hours lecture, 78 hours laboratory.**  
 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**  
**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.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.  
**108 hours total: 30 hours lecture, 78 hours laboratory.**  
 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.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.  
**108 hours total: 30 hours lecture, 78 hours laboratory.**  
 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.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.  
**108 hours total: 30 hours lecture, 78 hours laboratory.**  
 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; 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.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.  
**108 hours total: 30 hours lecture, 78 hours laboratory.**  
 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/OSHA/TOOLS/HERITAGE/SERVICE 4 Units**  
**Prerequisite:** Per California Code of Regulations, this course is limited to students admitted to the Plumbing & Pipefitting Apprenticeship Program.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.  
**99 hours total: 24 hours lecture, 75 hours laboratory.**  
 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 pipe trade tools, practice safety and heritage of the United Association. Also provides OSHA 30 certification.  
**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.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.  
**102 hours total: 30 hours lecture, 72 hours laboratory.**  
 First year of the Plumber & Pipefitter Apprenticeship program. This course provides 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.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**  
**99 hours total: 24 hours lecture, 75 hours laboratory.**  
First year of the Plumber & Pipefitter Apprenticeship program. This course provides 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.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**  
**102 hours total: 30 hours lecture, 72 hours laboratory.**  
Third-year course of the Plumber & Pipefitter Apprenticeship program. This course provides 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.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**  
**99 hours total: 24 hours lecture, 75 hours laboratory.**  
Second-year course of the Plumber & Pipefitter Apprenticeship program. This course provides 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.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**  
**102 hours total: 30 hours lecture, 72 hours laboratory.**  
Third-year course of the Plumber & Pipefitter Apprenticeship program. This course provides 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.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**  
**99 hours total: 24 hours lecture, 75 hours laboratory.**  
Fourth year of the Plumber & Pipefitter Apprenticeship program. This course 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/SIGNAL PERSON 4.5 Units**  
**Prerequisite:** Per California Code of Regulations, this course is limited to students admitted to the Plumbing & Pipefitting Apprenticeship Program.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**  
**102 hours total: 30 hours lecture, 72 hours laboratory.**  
Fourth-year course of the Plumber & Pipefitter Apprenticeship program. This course provides students with a working knowledge of Medical Gas, Brazer, Crane Signaling, and Hydronic Systems.  
**FHGE: Non-GE**

**APPT 169 ADVANCED DRAWING/LAYOUT FOR THE PLUMBING TRADES/UA FOREMAN TRAINING 4 Units**  
**Prerequisite:** Per California Code of Regulations, this course is limited to students admitted to the Plumbing & Pipefitting Apprenticeship Program.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**  
**99 hours total: 24 hours lecture, 75 hours laboratory.**  
Fifth-year course of the Plumber & Pipefitter Apprenticeship program. This course provides students with a working knowledge of Advanced Drawing, Plumbing Layout and Building Detailing. Practical field knowledge of plumbing duties, processes, objectives and code callouts is 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.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**  
**102 hours total: 30 hours lecture, 72 hours laboratory.**  
Fifth-year course of the Plumber & Pipefitter Apprenticeship program. This course provides students with a working knowledge of Plumbing Codes and review of how changes affect the Plumbing Codes.  
**FHGE: Non-GE**

**APPT 171 BASIC REFRIGERATION/HERITAGE/CFC/OSHA 10 4 Units**  
**Prerequisite:** Per California Code of Regulations, this course is limited to students admitted to the Refrigeration & Air Conditioning Mechanical Service Apprenticeship Program.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**  
**99 hours total: 24 hours lecture, 75 hours laboratory.**  
First-year course of the Refrigeration & Air Conditioning Apprenticeship program. This course provides students with a working knowledge of Thermodynamics, Chloro-Fluoro Carbons (CFC), and basic Refrigeration, as it pertains to the Air Conditioning Service industry. Also provides OSHA 10 certification.  
**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.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**  
**102 hours total: 30 hours lecture, 72 hours laboratory.**  
First-year course of the Refrigeration & Air Conditioning Apprenticeship program. This course provides 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.

**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.

**99 hours total: 24 hours lecture, 75 hours laboratory.**

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.

**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.

**102 hours total: 30 hours lecture, 72 hours laboratory.**

Second-year course of the Refrigeration & Air Conditioning Apprenticeship program. This course provides students with 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.

**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.

**99 hours total: 24 hours lecture, 75 hours laboratory.**

Third-year course of the Refrigeration & Air Conditioning Apprenticeship program. This course provides 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.

**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.

**102 hours total: 30 hours lecture, 72 hours laboratory.**

Third year of the Refrigeration & Air Conditioning Apprenticeship program. This course provides 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.

**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.

**99 hours total: 24 hours lecture, 75 hours laboratory.**

This course 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/ENERGY AUDITING PRACTICES 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.

**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.

**102 hours total: 30 hours lecture, 72 hours laboratory.**

Fourth-year course of the Refrigeration & Air Conditioning Apprenticeship program. This course provides students with a working knowledge of Start, Test and Balance for Piping Systems, Pumps, Chillers, Boilers, and Condensers. Students will learn how to audit mechanical equipment to ensure proper energy efficiency techniques are applied.

**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.

**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.

**99 hours total: 24 hours lecture, 75 hours laboratory.**

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.

**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.

**102 hours total: 30 hours lecture, 72 hours laboratory.**

Fifth-year course of the Refrigeration & Air Conditioning Apprenticeship program. This course provides students with a working knowledge of Troubleshooting, Test and Repair of Refrigeration and Air-Conditioning systems.

**FHGE: Non-GE**

**APPT 185 PIPE MATERIALS, SAFETY & TOOLS, SOLDERING & BRAZING 3 Units**

**Prerequisite:** Student is a registered State indentured apprentice.

**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.

**114 hours total: 7 hours lecture, 107 hours laboratory.**

This course provides students with a working knowledge of soldering and brazing along with safe practices as it relates to on-the-job-training.

**FHGE: Non-GE**

**APPT 186 MATHEMATICS/RIGGING & SIGNALING 3 Units**

**Prerequisite:** Per California Code of Regulations, this course is limited to students admitted to the Plumbing & Pipefitting Apprenticeship Program.

**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.

**108 hours total: 6 hours lecture, 102 hours laboratory.**

This course provides students with a working knowledge of mathematics, rigging and signaling as it applies to the Plumbing and Pipefitting industry. Students will apply safety practices as it relates to on-the-job training.

**FHGE: Non-GE**

**APPT 187 DRAWING INTERPRETATION & PLAN READING/SCIENCE 3 Units**

**Prerequisite:** Per California Code of Regulations, this course is limited to students admitted to the Plumbing & Pipefitting Apprenticeship Program.

**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.

**119 hours total: 5 hours lecture, 114 hours laboratory.**

Students will gain a working knowledge of Drawing Interpretation, Plan Reading and Science as it applies to the plumbing industry. This course is required to meet the certificate requirements to become a journeyman plumber.

**FHGE: Non-GE**

**APPT 188 ADVANCED PLAN READING/CAD 3 Units**

**Prerequisite:** Per California Code of Regulations, this course is limited to students admitted to the plumbing & pipefitting apprenticeship program.

**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.

**102 hours total: 13 hours lecture, 89 hours laboratory.**

Students will gain a working knowledge of advanced plan reading and computer-aided drafting (CAD) as it applies to the plumbing industry. This course is required to meet the certificate requirements to become a journeyman plumber.

**FHGE: Non-GE**

**APPT 189 WELDING/OXYGEN-ACETYLENE 3 Units**

**Prerequisite:** Per California Code of Regulations, this course is limited to students admitted to the Plumbing & Pipefitting Apprenticeship Program.

**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.

**72 hours total: 18 hours lecture, 54 hours laboratory.**

Provides students with a working knowledge of welding principles as they relate to Shielded Metal Arc Welding (SMAW) and Gas Tungsten Arc Welding (GTAW). Students will gain knowledge in the principles of oxygen/acetylene cutting and welding.

**FHGE: Non-GE**

**APPT 190 PIPE FITTING WITH A CALCULATOR 3 Units**

**Prerequisite:** Per California Code of Regulations, this course is limited to students admitted to the plumbing & pipefitting apprenticeship program.

**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.

**108 hours total: 6 hours lecture, 102 hours laboratory.**

This course provides students with a working knowledge of mathematics and pipe fitting as it applies to the plumbing and pipe fitting industry. Students will apply safety practices as it relates to on-the-job training.

**FHGE: Non-GE**

**APPT 191 PLUMBING CODE APPLICATION, PLUMBING FIXTURES 3 Units**

**Prerequisite:** Per California Code of Regulations, this course is limited to students admitted to the plumbing & pipefitting apprenticeship program.

**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.

**111 hours total: 6 hours lecture, 105 hours laboratory.**

This course provides students with a working knowledge of the plumbing Code application and plumbing fixtures as it applies to the plumbing and pipe fitting industry. Students will apply safety practices as it relates to on-the-job training. This course is required to meet the certificate requirements to become journeyman plumber.

**FHGE: Non-GE**

**APPT 192 NATURAL GAS INSTALLATION, DRAINAGE 3 Units**

**Prerequisite:** Per California Code of Regulations, this course is limited to students admitted to the plumbing & pipefitting apprenticeship program.

**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.

**111 hours total: 6 hours lecture, 105 hours laboratory.**

This course provides students with a working knowledge of Natural Gas Installations and Drainage as it applies to the plumbing and pipe fitting industry. This course is required to meet the certificate requirements to become journeyman plumber.

**FHGE: Non-GE**

**APPT 193 WATER SUPPLY, PATTERNS 2 Units**

**Prerequisite:** Per California Code of Regulations, this course is limited to students admitted to the plumbing & pipefitting apprenticeship program.

**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.

**70 hours total: 17 hours lecture, 53 hours laboratory.**

This course provides students with a working knowledge of water supply and patterns as it applies to the plumbing and pipe fitting industry. Students will apply safety practices as it relates to on-the-job training.

**FHGE: Non-GE**

**APPT 194 MEDICAL GAS, REVIEW EXIT EXAM/FINAL EXAM 1.5 Units**

**Prerequisite:** Per California Code of Regulations, this course is limited to students admitted to the Plumbing & Pipefitting Apprenticeship Program.

**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.

**60 hours total: 5 hours lecture, 55 hours laboratory.**

Apprentices learn the installation procedures of medical gas and vacuum systems. This includes medical gas alarms systems, valve stations, inlets, outlets and the complete vacuum system. Brazing techniques will be described and demonstrated.

**FHGE: Non-GE**

**APPT 195 HYDRONICS/STEAM SYSTEMS/PUMPS 6.5 Units**

**Prerequisite:** Per California Code of Regulations, this course is limited to students admitted to the Plumbing & Pipefitting Apprenticeship Program.

**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.

**108 hours total: 70 hours lecture, 38 hours laboratory.**

Basic concepts of various heating and cooling systems. Equipment selection, pipe sizing, proper installation methods are taught. One-pipe steam systems will be compared to two-pipe systems. Pump selection and application as well as service and repair.

**FHGE: Non-GE**

**APPT 196 BASIC ELECTRICITY, ELECTRICAL CONTROLS FOR MECHANIC EQUIPMENT 6.5 Units**

**Prerequisite:** Per California Code of Regulations, this course is limited to students admitted to the Plumbing & Pipefitting Apprenticeship Program.

**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.

**108 hours total: 70 hours lecture, 38 hours laboratory.**

Students will be taught basic electrical principals relating to mechanical equipment. Ohm's Law, circuitry, Variable Frequency Drives, as well as trouble-shooting techniques will be covered. Students will be able to identify and classify motors and starters.

**FHGE: Non-GE**

## APPRENTICESHIP: PIPE TRADES, SHEET METAL, FIELD IRONWORKERS

Apprenticeship  
(650) 949-7208 foothill.edu/apprenticeships/

**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.

**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.

**108 hours total: 30 hours lecture, 78 hours laboratory.**

First course of the Plumber & Pipefitter Apprenticeship Program. Provides students with a working knowledge of mathematics, plumbing industry materials and standards (as they apply to the plumbing industry), 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 4.5 Units**

**Prerequisite:** Per California Code of Regulations, this course is limited to students admitted to the Plumbing/Pipefitting/Refrigeration/HVAC Apprenticeship Program.

**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.

**108 hours total: 30 hours lecture, 78 hours laboratory.**

Second-year course of the Plumber & Pipefitter Apprenticeship Program. The course will provide students with a working knowledge of welding principles, as they relate 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 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.

**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.

**108 hours total: 30 hours lecture, 78 hours laboratory.**

Third-year course of the Plumber & Pipefitting Apprentice Program. 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 157 STEAMFITTING & PIPEFITTING 4.5 Units**

**Prerequisite:** Per California Code of Regulations, this course is limited to students admitted to the Plumbing Apprenticeship Program.

**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.

**108 hours total: 30 hours lecture, 78 hours laboratory.**

Fourth-year course of the Plumbing and Pipefitting Apprenticeship Program. 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.

**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.

**108 hours total: 30 hours lecture, 78 hours laboratory.**

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 HVAC TECH, CUSTOMER SERVICE 4.5 Units**  
**Prerequisite:** Per California Code of Regulations, this course is limited to students admitted to the Plumbing & Pipefitting Apprenticeship Program.

**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.

**108 hours total: 30 hours lecture, 78 hours laboratory.**

Third-year course of the Plumber, Pipefitter & Service Tech Apprenticeship Program regarding HVAC students; includes 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 Plumbing & Pipefitting Apprenticeship Program.

**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.

**108 hours total: 30 hours lecture, 78 hours laboratory.**

Third-year course of the Plumber, Pipefitter & Service Tech Apprenticeship Program. Reviews the theory and application of related math and science as well as the vapor compression cycle and refrigeration components and systems.

**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.

**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.

**108 hours total: 30 hours lecture, 78 hours laboratory.**

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 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.

**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.

**108 hours total: 30 hours lecture, 78 hours laboratory.**

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**

**Prerequisite:** Per California Code of Regulations, this course is limited to students admitted to the Plumbing & Pipefitting Apprenticeship Program.

**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.

**108 hours total: 30 hours lecture, 78 hours laboratory.**

Fifth-year course of the Plumber & Pipefitter Apprenticeship Program. Provides students with a working knowledge of the start, test, and 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 Plumbing & Pipefitting Apprenticeship Program.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.  
**108 hours total: 30 hours lecture, 78 hours laboratory.**  
Second-year course of the Plumber, Pipefitter & Service Technician Apprenticeship Program. Provides the student with a working knowledge of the fundamentals of oil return and oil separators, 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.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.  
**108 hours total: 30 hours lecture, 78 hours laboratory.**  
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.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.  
**108 hours total: 30 hours lecture, 78 hours laboratory.**  
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.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.  
**108 hours total: 30 hours lecture, 78 hours laboratory.**  
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.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.  
**108 hours total: 30 hours lecture, 78 hours laboratory.**  
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.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.  
**108 hours total: 30 hours lecture, 78 hours laboratory.**  
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.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.  
**108 hours total: 30 hours lecture, 78 hours laboratory.**  
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.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.  
**108 hours total: 30 hours lecture, 78 hours laboratory.**  
Introduction to the different properties of air distribution with air volumes, pressures, humidity and temperature; basic air balance procedures.  
**FHGE: Non-GE**

**APPR 186B REFRIGERATION 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.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.  
**108 hours total: 30 hours lecture, 78 hours laboratory.**  
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) 1.5 Units**  
**Prerequisite:** Per California Code of Regulations, this course is limited to students admitted to the Sheet Metal Specialist Apprenticeship Program.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.  
**54 hours total: 6 hours lecture, 48 hours laboratory.**  
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)** 1.5 Units  
**Prerequisite:** Per California Code of Regulations, this course is limited to students admitted to the Sheet Metal Specialist Apprenticeship Program.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**  
**54 hours total: 6 hours lecture, 48 hours laboratory.**  
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)** 1.5 Units  
**Prerequisite:** Per California Code of Regulations, this course is limited to students admitted to the Sheet Metal Specialist Apprenticeship Program.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**  
**54 hours total: 6 hours lecture, 48 hours laboratory.**  
A study of typical residential sheet metal flashing, waterproofing, ventilation and HVAC systems. Development of installation techniques.  
**FHGE: Non-GE**

**APPR 189B PLANS & ARCHITECTURAL APPLICATIONS FOR RESIDENTIAL SHEET METAL (SPECIALIST 2B)** 1.5 Units  
**Prerequisite:** Per California Code of Regulations, this course is limited to students admitted to the Sheet Metal Specialist Apprenticeship Program.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**  
**54 hours total: 6 hours lecture, 48 hours laboratory.**  
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**

**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.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**  
**36 hours total: 12 hours lecture, 24 hours laboratory.**  
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.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**  
**54 hours total: 24 hours lecture, 30 hours laboratory.**  
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.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**  
**54 hours total: 24 hours lecture, 30 hours laboratory.**  
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.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**  
**54 hours total: 24 hours lecture, 30 hours laboratory.**  
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.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**  
**54 hours total: 24 hours lecture, 30 hours laboratory.**  
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**

**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.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**  
**108 hours total: 30 hours lecture, 78 hours laboratory.**  
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.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**  
**108 hours total: 30 hours lecture, 78 hours laboratory.**  
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 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.

**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.

**108 hours total: 30 hours lecture, 78 hours laboratory.**

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 outlets, 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.

**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.

**108 hours total: 30 hours lecture, 78 hours laboratory.**

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.

**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.

**54 hours total: 24 hours lecture, 30 hours laboratory.**

Introductory course for Ship Yard Sheet Metal worker apprentices. Students will begin to learn how ship yard sheet metal workers use structural shapes and sheet metals of varying thicknesses and materials, up to 3/16ths of an inch, in the ship building and repair environment. This course includes an orientation to ship yard sheet metal work, trade history, tool and machine safety, measuring, trade math, and an introduction to sheet metal products specific to ship yard sheet metal work.

**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.

**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.

**54 hours total: 24 hours lecture, 30 hours laboratory.**

Continuation of the Ship Yard Sheet Metal Apprenticeship. It involves a continuation of working with sheet metals which may include copper, brass, bronze, lead, zinc, aluminum, black and galvanized iron, monel and stainless steel. Pattern development techniques are increasingly utilized to make duct fittings and items specific to ship fabrication, including spool flanges, flat oval and radius corner duct.

**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.

**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.

**108 hours total: 30 hours lecture, 78 hours laboratory.**

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.

**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.

**108 hours total: 30 hours lecture, 78 hours laboratory.**

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.

**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.

**108 hours total: 30 hours lecture, 78 hours laboratory.**

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.

**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.

**108 hours total: 30 hours lecture, 78 hours laboratory.**

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**

**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.

**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.

**54 hours total: 24 hours lecture, 30 hours laboratory.**

Continues study of topics specific to sheet metal ship building and repair, for Ship Yard Sheet Metal apprentices. Installation and/or fabrication of items including marine blowers, filter housings, non-structural bulkheads, lockers, tanks, deck coaming, overhead curtains, access covers and gaskets, galley sinks and countertops. Pattern development, forming and welding skills are practiced.

**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.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.  
**108 hours total: 30 hours lecture, 78 hours laboratory.**  
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.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.  
**108 hours total: 30 hours lecture, 78 hours laboratory.**  
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.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.  
**108 hours total: 30 hours lecture, 78 hours laboratory.**  
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.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.  
**108 hours total: 30 hours lecture, 78 hours laboratory.**  
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.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.  
**108 hours total: 30 hours lecture, 78 hours laboratory.**  
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.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.  
**108 hours total: 30 hours lecture, 78 hours laboratory.**  
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.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.  
**108 hours total: 30 hours lecture, 78 hours laboratory.**  
Development of basic skills necessary for the siding and 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 Sheet Metal Apprenticeship Program.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.  
**108 hours total: 30 hours lecture, 78 hours laboratory.**  
Develop the skills and knowledge to measure, draw, fabricate and install various related sheet metal components used in the siding and 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**

## APPRENTICESHIP: SHEET METAL

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**APSM 101 SMQ-1 TRADE INTRODUCTION 3 Units**  
**Prerequisite:** Per California Code of Regulations, this course is limited to students admitted to the Sheet Metal Apprenticeship Program.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.  
**40 hours total: 36 hours lecture, 4 hours laboratory.**  
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. Includes First Aid and CPR training and certifications.  
**FHGE: Non-GE**

**APSM 102 SMQ-2 CERTIFIED SAFETY & BEGINNING TRADE MATH 3 Units**  
**Prerequisite:** Per California Code of Regulations, this course is limited to students admitted to the Sheet Metal Apprenticeship Program.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.  
**40 hours total: 38 hours lecture, 2 hours laboratory.**  
Course introduces OSHA and related safety issues including job site safety, and aerial lift safety training and certification. Students will learn and apply the math skills necessary to meet the current industry standards in the 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**

**Prerequisite:** Per California Code of Regulations, this course is limited to students admitted to the Sheet Metal Apprenticeship Program.

**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.

**40 hours total: 16 hours lecture, 24 hours laboratory.**

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 2 Units**

**Prerequisite:** Per California Code of Regulations, this course is limited to students admitted to the Sheet Metal Apprenticeship Program.

**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.

**40 hours total: 18 hours lecture, 22 hours laboratory.**

Course covers 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 2.5 Units**

**Prerequisite:** Per California Code of Regulations, this course is limited to students admitted to the Sheet Metal Apprenticeship Program.

**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.

**40 hours total: 32 hours lecture, 8 hours laboratory.**

Introduction to communication of construction details through drafting of plans and patterns. Topics include drafting equipment and materials, use of an architect's 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 Apprenticeship Program.

**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.

**40 hours total: 12 hours lecture, 28 hours laboratory.**

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 Apprenticeship Program.

**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.

**40 hours total: 16 hours lecture, 24 hours laboratory.**

Introduction to communicating construction details through drafting of plans. Topics include drafting equipment and materials, use of an architect's 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 Apprenticeship Program.

**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.

**40 hours total: 16 hours lecture, 24 hours laboratory.**

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. Between the method, practice drawings and fabricated projects, there is much to cover in this course.

**FHGE: Non-GE**

**APSM 109 SMQ-9 RADIAL LINE LAY OUT & OGEE OFFSETS 1.5 Units**

**Prerequisite:** Per California Code of Regulations, this course is limited to students admitted to the Sheet Metal Apprenticeship Program.

**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.

**40 hours total: 14 hours lecture, 26 hours laboratory.**

Radial Line Lay Out 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 2 Units**

**Prerequisite:** Per California Code of Regulations, this course is limited to students admitted to the Sheet Metal Apprenticeship Program.

**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.

**40 hours total: 18 hours lecture, 22 hours laboratory.**

This course focuses on essential skills used in architectural sheet metal work, including joint design for water flow, caulking and soldering applications, miters, and expansion joints. Discussion of use of architectural sheet metal in order to protect buildings 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 Apprenticeship Program.

**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.

**40 hours total: 12 hours lecture, 28 hours laboratory.**

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, downspouts, flashings and counter flashings, soffits, and scuppers are covered in detail. Students fabricate many of these items.

**FHGE: Non-GE**

**APSM 112 SMQ-12 FIELD INSTALLATION 2 Units**

**Prerequisite:** Per California Code of Regulations, this course is limited to students admitted to the Sheet Metal Apprenticeship Program.

**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.

**40 hours total: 28 hours lecture, 12 hours laboratory.**

This course addresses knowledge and application specific to field work in the sheet metal industry. Students receive training and safety certifications for forklift, scissor lift, or articulating booms. Proper techniques for rigging and hoisting loads are presented. Field measurement and job-site layout considerations are practiced. In addition, fire damper types are presented as well as the necessity of following the manufacturer's specifications for applications related to life safety in buildings.

**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 Apprenticeship Program.

**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.

**40 hours total: 16 hours lecture, 24 hours laboratory.**

This course begins with an 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 Apprenticeship Program.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**  
**40 hours total: 12 hours lecture, 28 hours laboratory.**  
This course continues with development of Gas Metal Arc Welding and Flux Core Arc Welding skills. In addition, the SMAW welding process and metallurgy are introduced. Progress in student welding skill development is essential.  
**FHGE: Non-GE**

**APSM 116 SMQ-16 PLANS & SPECIFICATIONS 3 Units**  
**Prerequisite:** Per California Code of Regulations, this course is limited to students admitted to the Sheet Metal Apprenticeship Program.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**  
**40 hours total: 38 hours lecture, 2 hours laboratory.**  
Introduction to plans and specifications and their applications in the sheet metal construction industry. This includes 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 2.5 Units**  
**Prerequisite:** Per California Code of Regulations, this course is limited to students admitted to the Sheet Metal Apprenticeship Program.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**  
**40 hours total: 34 hours lecture, 6 hours laboratory.**  
This course continues to build on job specification and blueprint reading instructions and adds the creation of a shop drawing and use of submittals as done in the sheet metal industry. This includes reading typical plans, specifications and submittals, identifying specific information on the submittal, applying a numbering system to the shop drawing, creating material lists from 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**  
**Prerequisite:** Per California Code of Regulations, this course is limited to students admitted to the Sheet Metal Apprenticeship Program.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**  
**40 hours total: 16 hours lecture, 24 hours laboratory.**  
Course 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 3 Units**  
**Prerequisite:** Per California Code of Regulations, this course is limited to students admitted to the Sheet Metal Apprenticeship Program.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**  
**40 hours total: 36 hours lecture, 4 hours laboratory.**  
Course addresses the basics and critical details of heating, ventilating, and air conditioning (HVAC), and system design, operation, installation, and fabrication standards. Students will learn how HVAC systems can be designed with human comfort and efficient operation in mind. Students will learn basic components, and how to identify loss factors of typical HVAC systems. Load calculations and air flow calculations are performed and duct leak testing is introduced, stressing the importance of energy efficiency with today's environmental concerns.  
**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 Apprenticeship Program.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**  
**40 hours total: 14 hours lecture, 26 hours laboratory.**  
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 Unit**  
**Prerequisite:** Per California Code of Regulations, this course is limited to students admitted to the Sheet Metal Apprenticeship Program.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**  
**40 hours total: 8 hours lecture, 32 hours laboratory.**  
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 alternative fabrication techniques and theory. Geometry and math associated with fabrication are an integral part of this course. Jobsite conditions and fabrication of specialty items are emphasized.  
**FHGE: Non-GE**

**APSM 122 SMQ-22 CODES & STANDARDS 3 Units**  
**Prerequisite:** Per California Code of Regulations, this course is limited to students admitted to the Sheet Metal Apprenticeship Program.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**  
**40 hours total: 38 hours lecture, 2 hours laboratory.**  
Students are introduced to the organization and interpretation of building codes and standards in the sheet metal industry. The restrictions and limitations these codes place on the construction industry are covered in detail. Students work with codes common to the industry and use SMACNA standards to research information.  
**FHGE: Non-GE**

**APSM 123 SMQ-23 RESIDENTIAL SHEET METAL 2 Units**  
**Prerequisite:** Per California Code of Regulations, this course is limited to students admitted to the Sheet Metal Apprenticeship Program.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**  
**40 hours total: 18 hours lecture, 22 hours laboratory.**  
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, maintenance procedures and roof drainage system requirements.  
**FHGE: Non-GE**

**APSM 124 SMQ-24 METAL ROOFING 2 Units**  
**Prerequisite:** Per California Code of Regulations, this course is limited to students admitted to the Sheet Metal Apprenticeship Program.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**  
**40 hours total: 18 hours lecture, 22 hours laboratory.**  
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 lay out and installation is practiced, including roof penetrations and related flashings.  
**FHGE: Non-GE**

**APSM 125 SMQ-25 DETAILING 3 Units**  
**Prerequisite:** Per California Code of Regulations, this course is limited to students admitted to the Sheet Metal Apprenticeship Program.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.  
**40 hours total: 36 hours lecture, 4 hours laboratory.**  
Detailing in the sheet metal industry is a specialized skill that requires extensive knowledge and proper attention to detail when working with drawings and specifications. In this course, students will compile detail information from plans, specs, submittals, standards, field measurements, and codes.  
**FHGE: Non-GE**

**APSM 126 SMQ-26 FOREMAN TRAINING 2.5 Units**  
**Prerequisite:** Per California Code of Regulations, this course is limited to students admitted to the Sheet Metal Apprenticeship Program.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.  
**40 hours total: 32 hours lecture, 8 hours laboratory.**  
This course is for journeyman-level sheet metal workers who want to become supervisors, site managers, leads, and foreman. In this course, students will be able to identify the roles and responsibilities of the foreman, and reasons to become a foreman. Students will practice self-evaluation, successful foreman attributes, managing and leading others, and project management. They will learn to start a project and see it through to successful completion.  
**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 Apprenticeship Program.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.  
**40 hours total: 12 hours lecture, 28 hours laboratory.**  
In the Basic AutoCAD class students learn how to follow the proper protocols for computer lab use and perform essential computer file management operations. The students will navigate through the basic AutoCAD screen and command menus. The students will 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 SMQ-28 HVAC ENERGY CONSERVATION & ENVIRONMENTAL TECHNOLOGY 2.5 Units**  
**Prerequisite:** Per California Code of Regulations, this course is limited to students admitted to the Sheet Metal Apprenticeship Program.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.  
**40 hours total: 30 hours lecture, 10 hours laboratory.**  
This course is an introduction to energy and environmental technologies for the sheet metal and HVAC industry. It includes an 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. It also includes an overview of upcoming energy initiatives in California.  
**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 Apprenticeship Program.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.  
**40 hours total: 14 hours lecture, 26 hours laboratory.**  
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 Unit**  
**Prerequisite:** Per California Code of Regulations, this course is limited to students admitted to the Sheet Metal Apprenticeship Program.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.  
**40 hours total: 10 hours lecture, 30 hours laboratory.**  
Course covers basic computer-aided design (CAD) drawing skills required by industry. Use of CAD DUCT or similar specialized 3rd party sheet metal detailing software to set up drawings, including 3D duct detailing program with emphasis on electronic coordination. This course focuses on file management and drawing protocol and utilization of structural and architectural backgrounds. Students will design ducting within the CAD drawing and use CAD DUCT or similar software for location and elevation, as well as collision checks. Note: Other industry recognized third party software may be utilized in lieu of CAD DUCT, such as "Benchmark Draft" software, for similar lessons.  
**FHGE: Non-GE**

**APSM 132 SMQ-32 INTERMEDIATE CAD DETAILING THIRD PARTY 1 Unit**  
**Prerequisite:** Per California Code of Regulations, this course is limited to students admitted to the Sheet Metal Apprenticeship Program.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.  
**40 hours total: 10 hours lecture, 30 hours laboratory.**  
Continuation of 3D duct detailing program for electronic coordination, emphasizing accessing, editing, and recovering files with the CAD DUCT or similar third party sheet metal detailing software 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 Apprenticeship Program.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.  
**40 hours total: 12 hours lecture, 28 hours laboratory.**  
Develop advanced skills to layout architectural custom flashing and cornices. Work with the newest metal roofing material. Work with copper and other materials to lay out and fabricate specialized architectural items.  
**FHGE: Non-GE**

**APSM 134 SMQ-34 ADVANCED LAYOUT FABRICATION 1 Unit**  
**Prerequisite:** Per California Code of Regulations, this course is limited to students admitted to the Sheet Metal Apprenticeship Program.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.  
**40 hours total: 10 hours lecture, 30 hours laboratory.**  
Course addresses advanced methods of pattern development using both calculator and manual methods. Students will utilize math formulas relating to sheet metal lay out, fabrication, and shop procedures with the ITI Sheet Metal Pro Calculator, as well as apply geometric construction techniques to advanced patterns and job-site layouts.  
**FHGE: Non-GE**

**APSM 135 SMQ-35 PROJECT MANAGEMENT, TAKEOFFS & ESTIMATES 2 Units**  
**Prerequisite:** Per California Code of Regulations, this course is limited to students admitted to the Sheet Metal Apprenticeship Program.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.  
**40 hours total: 26 hours lecture, 14 hours laboratory.**  
Course covers the development of skills in supervision, management of various types of projects, performing takeoffs, (component ordering details according to shop or manufacturer's standards directly from contract drawings), and creating a detailed estimate of a specific project.  
**FHGE: Non-GE**

**APSM 136 SMQ-36 SERVICE BASICS 2 Units**  
Prerequisite: Per California Code of Regulations, this course is limited to students admitted to the Sheet Metal Apprenticeship Program.  
Grade Type: Letter Grade, the student may select Pass/No Pass Not Repeatable.  
40 hours total: 26 hours lecture, 14 hours laboratory.  
This course addresses the knowledge and 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 Unit**  
Prerequisite: Per California Code of Regulations, this course is limited to students admitted to the Sheet Metal Apprenticeship Program.  
Grade Type: Letter Grade, the student may select Pass/No Pass Not Repeatable.  
40 hours total: 6 hours lecture, 34 hours laboratory.  
This course covers the design, fabrication, and installation of a typical HVAC system from concept design drawing to the finished installed project. This course focuses on proper duct design and fabrication.  
FHGE: Non-GE

**APSM 138 SMQ-38 FINAL ARCHITECTURAL, INDUSTRIAL & ORNAMENTAL PROJECT 1 Unit**  
Prerequisite: Per California Code of Regulations, this course is limited to students admitted to the Sheet Metal Building Trades Apprenticeship Program.  
Grade Type: Letter Grade, the student may select Pass/No Pass Not Repeatable.  
40 hours total: 6 hours lecture, 34 hours laboratory.  
This course covers more complex and intricate design, fabrication, and installation work, utilizing a typical architectural, industrial or ornamental project from concept design drawing to the finished installed project.  
FHGE: Non-GE

**APSM 151A SERVICE INTRODUCTION & SAFETY 2.5 Units**  
Prerequisite: Per California Code of Regulations, this course is limited to students admitted to the Sheet Metal Apprenticeship Program.  
Grade Type: Letter Grade, the student may select Pass/No Pass Not Repeatable.  
40 hours total: 30 hours lecture, 10 hours laboratory.  
Students receive an introduction to their building trade service apprenticeship and the union HVAC industry with an emphasis on safety.  
FHGE: Non-GE

**APSM 151B ESSENTIAL HVAC SERVICE SKILLS 2.5 Units**  
Prerequisite: Per California Code of Regulations, this course is limited to students admitted to the Sheet Metal Apprenticeship Program.  
Grade Type: Letter Grade Only Not Repeatable.  
40 hours total: 30 hours lecture, 10 hours laboratory.  
Students gain further understanding of the roles and responsibilities of a beginning level HVAC service apprentice, including maintenance, vehicle use, documentation and professional representation.  
FHGE: Non-GE

**APSM 151C HEAT, MATTER & ENERGY IN HVAC SYSTEMS 2.5 Units**  
Prerequisite: Per California Code of Regulations, this course is limited to students admitted to the Sheet Metal Apprenticeship Program.  
Grade Type: Letter Grade Only Not Repeatable.  
40 hours total: 35 hours lecture, 5 hours laboratory.  
Students are introduced to the physical laws governing heat and energy transfer as it pertains to HVAC.  
FHGE: Non-GE

**APSM 152A PIPING, REFRIGERANT EVACUATION & RECOVERY 1.5 Units**  
Prerequisite: Per California Code of Regulations, this course is limited to students admitted to the Sheet Metal Apprenticeship Program.  
Grade Type: Letter Grade Only Not Repeatable.  
40 hours total: 12 hours lecture, 28 hours laboratory.  
Students are introduced to the materials and types of connections used in HVAC piping. Students learn how to safely evacuate and recover HVAC refrigerants.  
FHGE: Non-GE

**APSM 152B CHARGING REFRIGERANT SYSTEMS 2 Units**  
Prerequisite: Per California Code of Regulations, this course is limited to students admitted to the Sheet Metal Apprenticeship Program.  
Grade Type: Letter Grade Only Not Repeatable.  
40 hours total: 20 hours lecture, 20 hours laboratory.  
Students learn the fundamentals of charging refrigerant systems.  
FHGE: Non-GE

**APSM 152C INTRODUCTION TO ELECTRICITY 2.5 Units**  
Prerequisite: Per California Code of Regulations, this course is limited to students admitted to the Sheet Metal Apprenticeship Program.  
Grade Type: Letter Grade, the student may select Pass/No Pass Not Repeatable.  
40 hours total: 30 hours lecture, 10 hours laboratory.  
Students receive an introduction to electricity as related to HVAC equipment, with an emphasis on safety when working with HVAC equipment.  
FHGE: Non-GE

**APSM 153A FIELD INSTALLATION FOR THE SERVICE TECHNICIAN 2.5 Units**  
Prerequisite: Per California Code of Regulations, this course is limited to students admitted to the Sheet Metal Apprenticeship Program.  
Grade Type: Letter Grade, the student may select Pass/No Pass Not Repeatable.  
40 hours total: 30 hours lecture, 10 hours laboratory.  
Students establish basic steps for installation and start-up of HVAC systems.  
FHGE: Non-GE

**APSM 153B ELECTRIC MOTORS & MOTOR CONTROLS IN HVAC SYSTEMS 2.5 Units**  
Prerequisite: Per California Code of Regulations, this course is limited to students admitted to the Sheet Metal Apprenticeship Program.  
Grade Type: Letter Grade, the student may select Pass/No Pass Not Repeatable.  
40 hours total: 30 hours lecture, 10 hours laboratory.  
Students learn the basic aspects of the types of motors and their controls used in HVAC systems.  
FHGE: Non-GE

**APSM 153C COMPONENTS OF THE REFRIGERANT CYCLE 2.5 Units**  
Prerequisite: Per California Code of Regulations, this course is limited to students admitted to the Sheet Metal Apprenticeship Program.  
Grade Type: Letter Grade, the student may select Pass/No Pass Not Repeatable.  
40 hours total: 30 hours lecture, 10 hours laboratory.  
Students learn the theory and components of the refrigerant cycle, as used to transfer heat.  
FHGE: Non-GE

**APSM 154A REFRIGERATION IN AIR CONDITIONING 2 Units**

**Prerequisite:** Per California Code of Regulations, this course is limited to students admitted to the Sheet Metal Apprenticeship Program.

**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.

**40 hours total: 20 hours lecture, 20 hours laboratory.**

Students apply the refrigerant cycle theory to its use in an HVAC system and investigate the functions of individual components in these systems.

**FHGE: Non-GE**

**APSM 154B GAS & ELECTRIC HEATING 2 Units**

**Prerequisite:** Per California Code of Regulations, this course is limited to students admitted to the Sheet Metal Apprenticeship Program.

**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.

**40 hours total: 20 hours lecture, 20 hours laboratory.**

Students explore the operation, maintenance, and repair of gas and electric heating systems.

**FHGE: Non-GE**

**APSM 154C HYDRONIC HEATING 2 Units**

**Prerequisite:** Per California Code of Regulations, this course is limited to students admitted to the Sheet Metal Apprenticeship Program.

**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.

**40 hours total: 25 hours lecture, 15 hours laboratory.**

Students will learn the basic principles of and equipment used in hydronic heating.

**FHGE: Non-GE**

**APSM 155A SHEET METAL FABRICATION 1.5 Units**

**Prerequisite:** Per California Code of Regulations, this course is limited to students admitted to the Sheet Metal Apprenticeship Program.

**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.

**40 hours total: 16 hours lecture, 24 hours laboratory.**

Students learn essential sheet metal fabrication as required in HVAC duct systems. Students build seams and selected common duct fittings.

**FHGE: Non-GE**

**APSM 155B AIR DISTRIBUTION & EFFICIENT DUCT DESIGN 2.5 Units**

**Prerequisite:** Per California Code of Regulations, this course is limited to students admitted to the Sheet Metal Apprenticeship Program.

**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.

**40 hours total: 35 hours lecture, 5 hours laboratory.**

Students develop an understanding of air flow characteristics and the proper design of duct systems.

**FHGE: Non-GE**

**APSM 155C MAINTAINING EFFICIENT OPERATION OF ELECTRIC COOLING & HEATING EQUIPMENT 2 Units**

**Prerequisite:** Per California Code of Regulations, this course is limited to students admitted to the Sheet Metal Apprenticeship Program.

**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.

**40 hours total: 25 hours lecture, 15 hours laboratory.**

Students learn to perform maintenance procedures required for efficient operation of HVAC systems.

**FHGE: Non-GE**

**APSM 156A HEAT PUMP EFFICIENT OPERATION & SERVICE 2.5 Units**

**Prerequisite:** Per California Code of Regulations, this course is limited to students admitted to the Sheet Metal Apprenticeship Program.

**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.

**40 hours total: 30 hours lecture, 10 hours laboratory.**

Students learn how heat pumps function to transfer heat in either direction and apply theory with actual components.

**FHGE: Non-GE**

**APSM 156B COOLING TOWERS, PUMPS & PIPING 2.5 Units**

**Prerequisite:** Per California Code of Regulations, this course is limited to students admitted to the Sheet Metal Apprenticeship Program.

**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.

**40 hours total: 35 hours lecture, 5 hours laboratory.**

Students develop an understanding of cooling towers, pumps, and condensing water circulation system requirements, using theory and system materials.

**FHGE: Non-GE**

**APSM 156C CHILLED WATER HVAC SYSTEMS & COMPONENTS 2.5 Units**

**Prerequisite:** Per California Code of Regulations, this course is limited to students admitted to the Sheet Metal Apprenticeship Program.

**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.

**40 hours total: 35 hours lecture, 5 hours laboratory.**

Students receive an introduction to the operation, maintenance and repair of chilled water systems.

**FHGE: Non-GE**

**APSM 157A PLANS & SPECIFICATIONS FOR THE SERVICE TECHNICIAN 2.5 Units**

**Prerequisite:** Per California Code of Regulations, this course is limited to students admitted to the Sheet Metal Apprenticeship Program.

**Grade Type:** Letter Grade Only Not Repeatable.

**40 hours total: 30 hours lecture, 10 hours laboratory.**

Students gain an introduction to and experience in reading and interpretation of building plans and specifications, especially as related to mechanical systems and equipment.

**FHGE: Non-GE**

**APSM 157B HVAC ENERGY CODES & STANDARDS 2.5 Units**

**Prerequisite:** Per California Code of Regulations, this course is limited to students admitted to the Sheet Metal Apprenticeship Program.

**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.

**40 hours total: 35 hours lecture, 5 hours laboratory.**

Students are introduced to the California mechanical code, Building Energy Use Index, Title 24, and "Green" LEED construction, with particular attention to the role of HVAC service in energy conservation.

**FHGE: Non-GE**

**APSM 157C INDOOR AIR QUALITY & ENERGY EFFICIENCY 2.5 Units**

**Prerequisite:** Per California Code of Regulations, this course is limited to students admitted to the Sheet Metal Apprenticeship Program.

**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.

**40 hours total: 35 hours lecture, 5 hours laboratory.**

Students will consider factors of indoor air quality versus energy efficiency, including airflow, filtration, air changes per hour, and humidity. Related HVAC equipment solutions, including economizers and duct system designs will also be discussed. Students will be introduced to typical measurements and requirements.

**FHGE: Non-GE**

**APSM 158A INTRODUCTION TO DIRECT DIGITAL HVAC CONTROLS** 2 Units  
Prerequisite: Per California Code of Regulations, this course is limited to students admitted to the Sheet Metal Apprenticeship Program.  
Grade Type: Letter Grade, the student may select Pass/No Pass Not Repeatable.  
40 hours total: 28 hours lecture, 12 hours laboratory.  
Students are introduced to the components and principles that comprise a direct digital control system.  
FHGE: Non-GE

**APSM 158B PNEUMATIC CONTROLS FOR HVAC SYSTEMS** 2.5 Units  
Prerequisite: Per California Code of Regulations, this course is limited to students admitted to the Sheet Metal Apprenticeship Program.  
Grade Type: Letter Grade, the student may select Pass/No Pass Not Repeatable.  
40 hours total: 30 hours lecture, 10 hours laboratory.  
Students apply theory using components of a pneumatic control system to develop a sound understanding of a pneumatic control system operation.  
FHGE: Non-GE

**APSM 158C INVERTER, VRF & HEAT RECOVERY TECHNOLOGY** 2.5 Units  
Prerequisite: Per California Code of Regulations, this course is limited to students admitted to the Sheet Metal Apprenticeship Program.  
Grade Type: Letter Grade, the student may select Pass/No Pass Not Repeatable.  
40 hours total: 35 hours lecture, 5 hours laboratory.  
Students explore the components and principals that comprise inverter, variable refrigerant flow (VRF), and heat recovery systems as used in the HVAC industry.  
FHGE: Non-GE

**APSM 159A INTRODUCTION TO TESTING ADJUSTING & BALANCING HVAC SYSTEMS** 2.5 Units  
Prerequisite: Per California Code of Regulations, this course is limited to students admitted to the Sheet Metal Apprenticeship Program.  
Grade Type: Letter Grade, the student may select Pass/No Pass Not Repeatable.  
40 hours total: 30 hours lecture, 10 hours laboratory.  
Students will gain an overview of the fundamental process of heat transfer and how pressures relate to air movement in HVAC systems.  
FHGE: Non-GE

**APSM 159B AIRFLOW & PSYCHROMETRICS FOR TAB** 2.5 Units  
Prerequisite: Per California Code of Regulations, this course is limited to students admitted to the Sheet Metal Apprenticeship Program.  
Grade Type: Letter Grade, the student may select Pass/No Pass Not Repeatable.  
40 hours total: 32 hours lecture, 8 hours laboratory.  
Students will gain an overview of the purpose for commercial HVAC systems, the main characteristics of psychrometrics and methods to measure airflow in HVAC systems.  
FHGE: Non-GE

**APSM 159C TESTING ADJUSTING & BALANCING OF HVAC SYSTEMS** 2 Units  
Prerequisite: Per California Code of Regulations, this course is limited to students admitted to the Sheet Metal Apprenticeship Program.  
Grade Type: Letter Grade, the student may select Pass/No Pass Not Repeatable.  
40 hours total: 28 hours lecture, 12 hours laboratory.  
Students will continue to explore methods of testing, adjusting and balancing HVAC systems. More complex systems will be explored, using applicable measuring equipment. Written reports will be produced.  
FHGE: Non-GE

**APSM 171A HVAC TRADE HISTORY & INTRODUCTION TO TESTING, ADJUSTING & BALANCING** 3 Units  
Prerequisite: Per California Code of Regulations, this course is limited to students admitted to the Sheet Metal Apprenticeship Program.  
Grade Type: Letter Grade, the student may select Pass/No Pass Not Repeatable.  
40 total hours: 36 hours lecture, 4 hours laboratory.  
Students will gain an introductory overview of TAB in the HVAC industry. Students will be able to describe human comfort and HVAC industry process needs.  
FHGE: Non-GE

**APSM 171B BASICS OF AIRFLOW, HEAT ENERGY & HEAT TRANSFER** 2.5 Units  
Prerequisite: Per California Code of Regulations, this course is limited to students admitted to the Sheet Metal Apprenticeship Program.  
Grade Type: Letter Grade, the student may select Pass/No Pass Not Repeatable.  
40 hours total: 30 hours lecture, 10 hours laboratory.  
Students obtain an overview of the fundamental process of heat transfer and how pressures relate to air movement in HVAC systems.  
FHGE: Non-GE

**APSM 171C SAFETY TRAINING FOR TAB APPRENTICESHIP** 2.5 Units  
Prerequisite: Per California Code of Regulations, this course is limited to students admitted to the Sheet Metal Apprenticeship Program.  
Grade Type: Letter Grade, the student may select Pass/No Pass Not Repeatable.  
40 hours total: 30 hours lecture, 10 hours laboratory.  
Students will gain certifications in OSHA 10 compliance, CPR and first aid, fall protection and NFPA 70E arc flash compliance.  
FHGE: Non-GE

**APSM 172A BASIC HVAC SYSTEMS, PSYCHROMETRICS, AIR PRESSURES & MEASUREMENTS OF AIR** 2.5 Units  
Prerequisite: Per California Code of Regulations, this course is limited to students admitted to the Sheet Metal Apprenticeship Program.  
Grade Type: Letter Grade, the student may select Pass/No Pass Not Repeatable.  
40 hours total: 32 hours lecture, 8 hours laboratory.  
Students will confirm an understanding of the main characteristics of psychrometrics and methods to measure airflow in commercial HVAC systems.  
FHGE: Non-GE

**APSM 172B PROPORTIONAL BALANCING** 2 Units  
Prerequisite: Per California Code of Regulations, this course is limited to students admitted to the Sheet Metal Apprenticeship Program.  
Grade Type: Letter Grade, the student may select Pass/No Pass Not Repeatable.  
40 hours total: 24 hours lecture, 16 hours laboratory.  
Students will learn and practice the proportional balancing method to adjust air and water flows in commercial HVAC systems.  
FHGE: Non-GE

**APSM 172C DUCT LEAKAGE TESTING** 2 Units  
Prerequisite: Per California Code of Regulations, this course is limited to students admitted to the Sheet Metal Apprenticeship Program.  
Grade Type: Letter Grade, the student may select Pass/No Pass Not Repeatable.  
40 hours total: 28 hours lecture, 12 hours laboratory.  
Students will gain an overview of the various methods of duct leakage testing, per requirements applied in the commercial HVAC industry.  
FHGE: Non-GE

**APSM 173A ELECTRICAL FUNDAMENTALS, ELECTRIC MOTORS & ROTATIONAL MEASUREMENTS 2.5 Units**  
**Prerequisite:** Per California Code of Regulations, this course is limited to students admitted to the Sheet Metal Apprenticeship Program.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.  
**40 hours total: 30 hours lecture, 10 hours laboratory.**  
Students will gain an overview of common electrical terminology, electrical formulas, types of motors used in the HVAC industry and measuring rotational speed.  
**FHGE: Non-GE**

**APSM 173B TEMPERATURE MEASUREMENTS, DUCT SYSTEMS & BASIC CONTROLS 2.5 Units**  
**Prerequisite:** Per California Code of Regulations, this course is limited to students admitted to the Sheet Metal Apprenticeship Program.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.  
**40 hours total: 32 hours lecture, 8 hours laboratory.**  
Students will gain an understanding of a variety of temperature measurements, the use of temperature measurement instruments, basic overview of HVAC duct systems and the control devices used to regulate temperature and humidity in HVAC systems.  
**FHGE: Non-GE**

**APSM 173C HVAC FANS, FAN LAWS & V-BELT DRIVES 2.5 Units**  
**Prerequisite:** Per California Code of Regulations, this course is limited to students admitted to the Sheet Metal Apprenticeship Program.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.  
**40 hours total: 30 hours lecture, 10 hours laboratory.**  
Students will survey common types of fans used in HVAC systems and learn the factors that affect fan performance and fan drive packages.  
**FHGE: Non-GE**

**APSM 174A HYDRONIC SYSTEMS, PUMPS & HYDRONIC BALANCING 2.5 Units**  
**Prerequisite:** Per California Code of Regulations, this course is limited to students admitted to the Sheet Metal Apprenticeship Program.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.  
**40 hours total: 30 hours lecture, 10 hours laboratory.**  
Students will gain an overview of the components and design of hydronic systems used in HVAC. Students will be able to measure pressures and determine flow through a pump and across various hydronic components.  
**FHGE: Non-GE**

**APSM 174B BALANCING DOCUMENTATION, COOLING TOWERS & TAB RELATED SKILLS 2 Units**  
**Prerequisite:** Per California Code of Regulations, this course is limited to students admitted to the Sheet Metal Apprenticeship Program.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.  
**40 hours total: 24 hours lecture, 16 hours laboratory.**  
Students will use Microsoft Word and Excel to complete reporting documentation used in the TAB industry. Students will determine performance values of cooling towers used in HVAC systems.  
**FHGE: Non-GE**

**APSM 174C FIRE LIFE SAFETY LEVEL 1 2.5 Units**  
**Prerequisite:** Per California Code of Regulations, this course is limited to students admitted to the Sheet Metal Apprenticeship Program.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.  
**40 hours total: 32 hours lecture, 8 hours laboratory.**  
Students will gain an overview of various types of fire dampers used in HVAC systems. Upon completion, students will be able to perform fire damper operational tests and inspections.  
**FHGE: Non-GE**

**APSM 175A TABB TECHNICIAN CERTIFICATION 2 Units**  
**Prerequisite:** Per California Code of Regulations, this course is limited to students admitted to the Sheet Metal Apprenticeship Program.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.  
**40 hours total: 20 hours lecture, 20 hours laboratory.**  
Students will demonstrate proper test and balance skills and achieve TABB Technician certification.  
**FHGE: Non-GE**

**APSM 175B DDC CONTROLS & PROGRAMS 2 Units**  
**Prerequisite:** Per California Code of Regulations, this course is limited to students admitted to the Sheet Metal Apprenticeship Program.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.  
**40 hours total: 24 hours lecture, 16 hours laboratory.**  
Students will gain an overview of direct digital control systems used in HVAC systems. Students will program and produce control documentation for a packaged rooftop HVAC system.  
**FHGE: Non-GE**

**APSM 175C FIRE LIFE SAFETY LEVEL 2 2.5 Units**  
**Prerequisite:** Per California Code of Regulations, this course is limited to students admitted to the Sheet Metal Apprenticeship Program.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.  
**40 hours total: 32 hours lecture, 8 hours laboratory.**  
Students will become familiar with the building codes that govern fire life safety systems. Upon completion, students will be able to test a fire life safety system and achieve ICB FLS Level 2 certification.  
**FHGE: Non-GE**

**APSM 176A PLANS & SPECIFICATIONS, CODES & STANDARDS 2.5 Units**  
**Prerequisite:** Per California Code of Regulations, this course is limited to students admitted to the Sheet Metal Apprenticeship Program.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.  
**40 hours total: 30 hours lecture, 10 hours laboratory.**  
Students will explain the organization of construction documentation specifications and plans used in the TAB HVAC industry. Students will prepare a TAB bid estimate, per standards used in the TAB industry.  
**FHGE: Non-GE**

**APSM 176B BASIC REFRIGERATION & BRAZING/SOLDERING 2.5 Units**  
**Prerequisite:** Per California Code of Regulations, this course is limited to students admitted to the Sheet Metal Apprenticeship Program.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.  
**40 hours total: 32 hours lecture, 8 hours laboratory.**  
Students will describe the location and function of components used in HVAC refrigeration systems. Students will demonstrate proper brazing and soldering techniques.  
**FHGE: Non-GE**

**APSM 176C CLEAN ROOMS & HEPA FILTER TESTING 2 Units**  
**Prerequisite:** Per California Code of Regulations, this course is limited to students admitted to the Sheet Metal Apprenticeship Program.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.  
**40 hours total: 28 hours lecture, 12 hours laboratory.**  
Students will describe the purpose of a cleanroom and the function of HEPA and ULPA filters. Students will perform HEPA filter challenge and cleanroom performance testing to industry standards.  
**FHGE: Non-GE**

**APSM 177A TITLE 24 MECHANICAL ACCEPTANCE TESTING** 2.5 Units  
**Prerequisite:** Per California Code of Regulations, this course is limited to students admitted to the Sheet Metal Apprenticeship Program.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.  
**40 hours total: 32 hours lecture, 8 hours laboratory.**  
Students will explain the requirements of the California Title 24 energy code. Students will perform all Title 24 Mechanical Acceptance tests required in non-residential mechanical systems. Students will achieve NEMIC Mechanical Acceptance Test Technician certification.  
**FHGE: Non-GE**

**APSM 177B ADVANCED DDC CONTROLS/ COMMISSIONING OF HVAC SYSTEMS** 2 Units  
**Prerequisite:** Per California Code of Regulations, this course is limited to students admitted to the Sheet Metal Apprenticeship Program.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.  
**40 hours total: 24 hours lecture, 16 hours laboratory.**  
Students will install, program and calibrate direct digital control components on HVAC systems. Students will describe the SMACNA commissioning process and prepare sample functional performance tests.  
**FHGE: Non-GE**

**APSM 177C ENERGY AUDITING** 2.5 Units  
**Prerequisite:** Per California Code of Regulations, this course is limited to students admitted to the Sheet Metal Apprenticeship Program.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.  
**40 hours total: 32 hours lecture, 8 hours laboratory.**  
Students will demonstrate the skills and knowledge to prepare and conduct a building energy audit to industry standards. Students will achieve the ICB Energy Audit Technician certification.  
**FHGE: Non-GE**

**APSM 178A INDOOR AIR QUALITY** 2 Units  
**Prerequisite:** Per California Code of Regulations, this course is limited to students admitted to the Sheet Metal Apprenticeship Program.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.  
**40 hours total: 28 hours lecture, 12 hours laboratory.**  
Students will explain basic factors of air quality, demonstrate the use of indoor air quality test instruments and perform various tests to prepare a sample IAQ report.  
**FHGE: Non-GE**

**APSM 178B GREEN CONSTRUCTION & LEED CERTIFICATION FOR HVAC** 2.5 Units  
**Prerequisite:** Per California Code of Regulations, this course is limited to students admitted to the Sheet Metal Apprenticeship Program.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.  
**40 hours total: 32 hours lecture, 8 hours laboratory.**  
Students will gain an overview of "Green Construction" principles and techniques used in the HVAC industry. Students will identify various methods of energy conservation and generation in high performance buildings.  
**FHGE: Non-GE**

**APSM 178C FOREMAN TRAINING/PROJECT MANAGEMENT FOR HVAC** 2.5 Units  
**Prerequisite:** Per California Code of Regulations, this course is limited to students admitted to the Sheet Metal Apprenticeship Program.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.  
**40 hours total: 32 hours lecture, 8 hours laboratory.**  
Students will describe the role and responsibilities of jobsite foreman and project managers. Students will prepare a sample job cost tracking worksheet.  
**FHGE: Non-GE**

**APSM 179A BUILDING & CASCADING PRESSURES/AIR CHANGE TESTING** 2 Units  
**Prerequisite:** Per California Code of Regulations, this course is limited to students admitted to the Sheet Metal Apprenticeship Program.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.  
**40 hours total: 24 hours lecture, 16 hours laboratory.**  
Students will perform and calculate air changes per hour on building spaces, adjust room and building pressure differentials and prepare associated required documentation, per industry standards.  
**FHGE: Non-GE**

**APSM 179B SOUND & VIBRATION IN HVAC SYSTEMS** 2.5 Units  
**Prerequisite:** Per California Code of Regulations, this course is limited to students admitted to the Sheet Metal Apprenticeship Program.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.  
**40 hours total: 32 hours lecture, 8 hours laboratory.**  
Upon completion, students will measure room sound pressure readings to properly complete noise criterion (NC) and room criterion (RC) reports to industry standards. Students will properly conduct vibration testing on various HVAC equipment and document results to industry standards.  
**FHGE: Non-GE**

**APSM 179C BIOLOGICAL SAFETY CABINETS/ LABORATORY FUME HOODS** 2 Units  
**Prerequisite:** Per California Code of Regulations, this course is limited to students admitted to the Sheet Metal Apprenticeship Program.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.  
**40 hours total: 24 hours lecture, 16 hours laboratory.**  
Students will identify various types of laboratory fume hoods and biological safety cabinets and describe the function of each style. Students will follow proper industry standards to test laboratory fume hoods and biological safety cabinets to required industry standards.  
**FHGE: Non-GE**

## APPRENTICESHIP: SOUND & COMMUNICATION

Apprenticeship  
(650) 949-7208 [foothill.edu/apprenticeships/](http://foothill.edu/apprenticeships/)

**APSC 111 JOB INFORMATION, SAFETY, TEST INSTRUMENTS, STRUCTURED CABLING, FIBER OPTICS** 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.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.  
**80 hours total: 30 hours lecture, 50 hours laboratory.**  
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, use of fastening devices and how to tie basic knots. This course will cover the TIA/EIA standards and students apply codeology to cabling systems, connectors, unshielded twisted pair cables and connecting hardware. This course also 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.  
**FHGE: Non-GE**

**APSC 112**      **CODES & PRACTICES,  
CONNECTORS & RACEWAYS,  
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.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**  
**80 hours total: 30 hours lecture, 50 hours laboratory.**  
This course will cover the National Electrical Code (NEC). Students apply codeology to cabling systems, boxes, connectors, and raceways. 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, MASTER  
CLOCK, 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 132.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**  
**80 hours total: 30 hours lecture, 50 hours laboratory.**  
Study of AC theory. The student will become familiar with sine waves, inductance, inductive reactance, capacitive reactance, frequency and AC impedance. Calculate voltage, current, impedance and power in both a series and a parallel AC circuit. Introduction to nurse call systems, including system components, ancillary systems, system design, installation and troubleshooting techniques. Instruction on personal computing software, such as Microsoft Word and Excel. Students create Word documents and practical spreadsheets.  
**FHGE: Non-GE**

**APSC 122**      **FIRE ALARM, PAGING,  
EMERGENCY COMMUNICATION,  
MASS NOTIFICATION 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.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**  
**80 hours total: 30 hours lecture, 50 hours laboratory.**  
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. In addition, students will study paging system theory, components, installation and troubleshooting. Course concludes with Emergency Communication Systems and Mass Notification systems and code requirements for installation and commissioning.  
**FHGE: Non-GE**

**APSC 131**      **VDV/FIRE LIFE SAFETY PREP,  
NETWORKING, CCTV, CATV & DAS**      **4 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.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**  
**80 hours total: 40 hours lecture, 40 hours laboratory.**  
Preparation for the Voice Data Video and Fire Life Safety state certifications. Review of navigating the NEC, Fire Alarm and Signaling Code, overview of the certification application process and lessons on most aspects of the Voice Data Video industry. Concludes with sample exam tests. Also includes basic networking, studies on the OSI reference model, TCP/IP reference module, managing IP addresses and data transport. Networking lessons tie directly into the Closed Circuit Television (CCTV) Intelligent Network Video advanced study of CCTV systems, including video camera types, lenses, optics, lighting characteristics and the study of signal transmission methods. Hands-on lab assignment installing and configuring networked video surveillance camera system. Further lessons include the fundamentals of Closed Antenna Television (CATV) and Distributed Antenna System (DAS). Fundamentals of distributing a radio frequency over the proper medium, connections, signal levels and testing. Hands-on lab includes installing cable, connector terminations, equipment installation and testing.  
**FHGE: Non-GE**

**APSC 132**      **RADIO FREQUENCIES, SECURITY  
SYSTEMS, AUDIO-VISUAL**      **4 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.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**  
**80 hours total: 40 hours lecture, 40 hours laboratory.**  
Begins with the study of radio frequencies. Lessons include the electromagnetic spectrum, frequency spectrum allocation, RF communication systems and how these systems work, focusing on the sound and communication industry. Next, students study intrusion and access control systems. Lessons include the components of security systems, magnetic contacts, motion sensors, control panels and biometric readers. Power quality is studied, showing how it can affect sound and communication systems. Lessons include performance issues due to hum and buzz created by power supply leakage current, ground loops and electromagnetic interference. Audio and video fundamentals will be studied. Lessons include the properties of sound, distributed audio and video, planning and testing of audio visual systems. Students will perform hands-on design with entertainment and application platforms for audio-visual, cabling, coax, fiber optics and networking systems.  
**FHGE: Non-GE**

## APPRENTICESHIP: VETERINARY ASSISTING

Apprenticeship  
(650) 949-7208    [foothill.edu/apprenticeships/](http://foothill.edu/apprenticeships/)

**APAV 50A**      **CURRENT TOPICS IN  
VETERINARY TECHNOLOGY I**      **1 Unit**

**Prerequisite:** Per California Code of Regulations, this course is limited to students admitted to the Advanced Veterinary Assisting Apprenticeship Program.  
**Grade Type:** Letter Grade Only  
**Not Repeatable.**  
**12 hours lecture total.**  
This course is the first in a series of three courses that orient the advanced veterinary assisting apprentice to the workplace. Different aspects of the veterinary health care team will be discussed, as well as the various roles available in the organization. Different departments will present their interests, core values, and structure for integrating veterinary assistants into the team. Students will develop an appreciation of the broad scope of careers within the field. An acculturation process of the student to the facility begins in this course.  
**FHGE: Non-GE**    **Transferable: CSU**



**APAV 50B CURRENT TOPICS IN VETERINARY TECHNOLOGY II** 1 Unit  
**Prerequisite:** Per California Code of Regulations, this course is limited to students admitted to the Advanced Veterinary Assisting Apprenticeship Program.  
**Grade Type:** Letter Grade Only  
**Not Repeatable.**  
**12 hours lecture total.**  
Provides enrichment of the core curriculum to the veterinary assisting apprentice student. Presenters will include veterinarians, veterinary technicians, and animal care and management professionals involved in behavior and training of dogs and cats. Course will focus on learning theory, animal welfare, making the veterinary hospital experience less stressful and more pleasurable, decrease learned procedure aversion and fear of veterinary offices, and decrease of injuries to professionals.  
**FHGE: Non-GE Transferable: CSU**

**APAV 50C CURRENT TOPICS IN VETERINARY TECHNOLOGY III** 1 Unit  
**Prerequisite:** Per California Code of Regulations, this course is limited to students admitted to the Advanced Veterinary Assisting Apprenticeship Program.  
**Grade Type:** Letter Grade Only  
**Not Repeatable.**  
**12 hours lecture total.**  
Provides enrichment of the core curriculum to the advanced veterinary assisting apprentice. Presenters will include veterinarians, veterinary technicians, business professionals, and educators. Lectures, lecture-demonstrations, multimedia presentations, live demonstrations, or hands-on workshops presented by the instructor or professionals in veterinary medicine. Content consists of relevant topics related to the workplace and concurrent coursework in the program curriculum, with an emphasis on clinical pharmacology and client education topics.  
**FHGE: Non-GE Transferable: CSU**

**APAV 51 INTRODUCTION TO VETERINARY TECHNOLOGY** 2 Units  
**Prerequisite:** Per California Code of Regulations, this course is limited to students admitted to the Advanced Veterinary Assisting Apprenticeship Program.  
**Advisory:** Not open to students with credit in V T 51.  
**Grade Type:** Letter Grade Only  
**Not Repeatable.**  
**24 hours lecture total.**  
Introduction to the profession of veterinary technology. Orientation to the program requirements and curriculum. Overview of program structure and student services. Review and practice of library skills. 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 pertaining to veterinary medicine. Laws and regulations governing veterinary technicians. Introduction to basic animal care skills and clinical procedures.  
**FHGE: Non-GE Transferable: CSU**

**APAV 53A MEDICAL TERMINOLOGY** 2 Units  
**Prerequisite:** Per California Code of Regulations, this course is limited to students admitted to the Advanced Veterinary Assisting Apprenticeship Program.  
**Advisory:** Not open to students with credit in V T 53A.  
**Grade Type:** Letter Grade Only  
**Not Repeatable.**  
**24 hours lecture total.**  
Focus on basic word parts and rules of word construction to learn the language of medicine. Translation of common medical terms pertaining to the different body systems, with emphasis on those terms particular to veterinary medicine. Application of language to clinical situations.  
**FHGE: Non-GE Transferable: CSU**

**APAV 53B MEDICAL CALCULATIONS** 2 Units  
**Prerequisite:** Per California Code of Regulations, this course is limited to students admitted to the Advanced Veterinary Assisting Apprenticeship Program.  
**Advisory:** MATH 230 or high school pre-algebra at a minimum to increase student success; this course is not open to students with credit in V T 53B.  
**Grade Type:** Letter Grade Only  
**Not Repeatable.**  
**24 hours lecture total.**  
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**

**APAV 54A COMPARATIVE VETERINARY ANATOMY & PHYSIOLOGY FOR THE VETERINARY TECHNICIAN** 5 Units  
**Prerequisite:** Per California Code of Regulations, this course is limited to students admitted to the Advanced Veterinary Assisting Apprenticeship Program.  
**Advisory:** Not open to students with credit in V T 54A.  
**Grade Type:** Letter Grade Only  
**Not Repeatable.**  
**84 hours total: 48 hours lecture, 36 hours laboratory.**  
The first of two courses in comparative veterinary anatomy and physiology for veterinary technicians. Clinically relevant veterinary anatomy and physiology. Discussion of the similarities and differences among the major domestic species. The first course introduces basics of chemistry to help the student interpret the physical and chemical basis of life. Systems included in the first course are: integumentary, muscles, skeletal, and cardiovascular. Emphasis is placed on the normal structure and function of the major organ systems as the foundation for understanding normal physiology and the pathophysiology of disease.  
**FHGE: Non-GE Transferable: CSU**

**APAV 54B COMPARATIVE VETERINARY ANATOMY & PHYSIOLOGY FOR THE VETERINARY TECHNICIAN** 5 Units  
**Prerequisites:** APAV 54A; per California Code of Regulations, this course is limited to students admitted to the Advanced Veterinary Assisting Apprenticeship Program.  
**Advisory:** Not open to students with credit in V T 54B.  
**Grade Type:** Letter Grade Only  
**Not Repeatable.**  
**84 hours total: 48 hours lecture, 36 hours laboratory.**  
The second of two courses in comparative veterinary anatomy and physiology for veterinary technicians. Clinically relevant veterinary anatomy and physiology. Discussion of the similarities and differences among the major domestic species. Systems included in this course are: respiratory, gastrointestinal, neurologic, endocrine, reproductive, and urinary. The differences between avian and mammalian anatomy and physiology is discussed. Emphasis is placed on the normal structure and function of the major organ systems as the foundation for understanding normal physiology and the pathophysiology of disease.  
**FHGE: Non-GE Transferable: CSU**

**APAV 55 ANIMAL MANAGEMENT & CLINICAL SKILLS I** 4 Units  
**Prerequisite:** Per California Code of Regulations, this course is limited to students admitted to the Advanced Veterinary Assisting Apprenticeship Program.  
**Grade Type:** Letter Grade Only  
**Not Repeatable.**  
**72 hours total: 36 hours lecture, 36 hours laboratory.**  
Intended for the pre-clinical nursing training of advanced veterinary assisting apprenticeship students. The following topics are covered: occupational health and safety, dog and cat handling and restraint, administration of medication, assessing dehydration and basic fluid administration, principles of aseptic technique, sanitation, disinfection and sterilization, introduction to principles of surgical nursing and instrumentation.  
**FHGE: Non-GE Transferable: CSU**

**APAV 56 ANIMAL MANAGEMENT & CLINICAL SKILLS II** 4 Units  
**Prerequisites:** APAV 55; per California Code of Regulations, this course is limited to students admitted to the Advanced Veterinary Assisting Apprenticeship Program.  
**Grade Type:** Letter Grade Only  
**Not Repeatable.**  
**72 hours total: 36 hours lecture, 36 hours laboratory.**  
Intended for the pre-clinical training of veterinary technology students. Survey of basic responsibilities and technical duties of veterinary technicians. Clinical nutrition and feeding of the dog and cat. Basic principles of wound healing. Basic electrocardiography. Venipuncture for catheter placement, blood collection, and intravenous administration of fluids and medications. Troubleshooting of intravenous catheter set-ups. Bandaging and splinting. Introduction to anesthesia: stages of anesthesia, components of anesthetic equipment. Introduction to basic operating room skills and procedures.  
**FHGE: Non-GE Transferable: CSU**

**APAV 60 VETERINARY OFFICE PRACTICE** 2 Units  
**Prerequisite:** Per California Code of Regulations, this course is limited to students admitted to the Advanced Veterinary Assisting Apprenticeship Program.  
**Advisory:** Not open to students with credit in V T 60.  
**Grade Type:** Letter Grade Only  
**Not Repeatable.**  
**24 hours lecture total.**  
Principles and practice of veterinary office management for veterinary nursing students. Client relations, telephone techniques, interpersonal skills, and team dynamics. Generation and maintenance of correspondence, medical records, legal forms, and hospital logs. Professional ethics and legal boundaries of the veterinary health care team. Facility management utilizing traditional and electronic media and appropriate veterinary medical terminology and abbreviations. Resume writing and interviewing techniques. Principles of inventory control. Use of practice management software. State and federal laws as they apply to the veterinary practice.  
**FHGE: Non-GE Transferable: CSU**

**APAV 75A ANIMAL CARE SKILLS I** 1 Unit  
**Prerequisite:** Per California Code of Regulations, this course is limited to students admitted to the Advanced Veterinary Assisting Apprenticeship Program.  
**Advisory:** This course is not open to students with credit in V T 75A.  
**Grade Type:** Letter Grade Only  
**Not Repeatable.**  
**36 hours laboratory total.**  
Practical application of animal care skills and principles of animal care and management. Opportunity to participate in the health care team involved in the husbandry and management of companion animals in a hospital and shelter environment. Emphasis will be on the basic principles and application of clinical facility management, care and behavior of hospitalized patients, routine maintenance duties, and euthanasia, grief and pet loss support.  
**FHGE: Non-GE Transferable: CSU**

**APAV 75B ANIMAL CARE SKILLS II** 1 Unit  
**Prerequisite:** Per California Code of Regulations, this course is limited to students admitted to the Advanced Veterinary Assisting Apprenticeship Program.  
**Advisory:** Not open to students with credit in V T 75B.  
**Grade Type:** Letter Grade Only  
**Not Repeatable.**  
**36 hours laboratory total.**  
Practical application of animal care skills and principles of animal care and management using techniques and knowledge learned in the veterinary technology classes. Students expand their animal care knowledge, skills, and abilities to include skills needed to be successful applying clinical diagnostics in the workplace. Students are expected to apply knowledge of medical terminology, anatomy and physiology to animal care duties. There is an emphasis on professional behavior, medical record keeping, and clinical procedures with dogs and cats.  
**FHGE: Non-GE Transferable: CSU**

**APAV 81 CLINICAL PATHOLOGY METHODS** 5 Units  
**Prerequisites:** APAV 55; per California Code of Regulations, this course is limited to students admitted to the Advanced Veterinary Assisting Apprenticeship Program.  
**Grade Type:** Letter Grade Only  
**Not Repeatable.**  
**84 hours total: 48 hours lecture, 36 hours laboratory.**  
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.  
**FHGE: Non-GE Transferable: CSU**

## ART

Fine Arts and Communication  
650.949.7156 [foothill.edu/art/](http://foothill.edu/art/)

Foothill offers art activity courses in seven 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. Please refer to the De Anza College Catalog for the corresponding families and courses.

**Drawing Family:** ART 4B, 4C, 4D, 4E & 4I

**Painting Family:** ART 19A, 19B, 19C, 19D, 19E, 19F, 47A & 47B

**Printmaking Family:** ART 39 or GID 46 & ART 40 or GID 38

**Ceramic Construction Family:** ART 44, 45A, 45B, 45C & 46B

**Art Ceramic Surface Family:** ART 45F

**Book Arts & Paper Family:** ART 6

**Sculpture Family:** ART 5C

**ART 1 INTRODUCTION TO ART** 4.5 Units

**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**

**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.

**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**

**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.

**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.

**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.

**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.

**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.

**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.

**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 MODERNISM 4.5 Units**

**Advisory:** Not open to students with credit in ART 2CH.

**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.

**4 hours lecture, 1.5 hours laboratory. (66 hours total per quarter)**

History of Western art from ca. 1600 to the 20th century. An introductory survey examining images, objects, and architecture produced from the late Renaissance to Modernism. Illustrated lectures and readings.

**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.

**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.

**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**

**Advisory:** Not open to students with credit in ART 12.

**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.

**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 2J AMERICAN ART 4.5 Units**

**Advisory:** Not open to students with credit in ART 14.

**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.

**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 HISTORY OF MODERN ART FROM POST-IMPRESSIONISM TO THE PRESENT 4.5 Units**

**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.

**4 hours lecture, 1.5 hours laboratory. (66 hours total per quarter)**

A study of art and architecture from Post-Impressionism to the present day emphasizing the importance of social, economic, and political influences on the art of this period. 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. We will study painting, sculpture, architecture, conceptual art, environmental art, and modern digital media from across the world. A field trip will be taken to a museum.

**FHGE: Non-GE Transferable: UC/CSU**

**ART 4A FUNDAMENTALS IN DRAWING 4 Units**

**Grade Type:** Letter Grade Only

**Not Repeatable.**

**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**

**Advisory:** This course is included in the Drawing family of activity courses.

**Grade Type:** Letter Grade Only

**Not Repeatable.**

**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 color drawing media, 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**

**Advisory:** This course is included in the Drawing family of activity courses.

**Grade Type:** Letter Grade, the student may select Pass/No Pass

**Not Repeatable.**

**3 hours lecture, 3 hours laboratory. (72 hours total per quarter)**

An intermediate-level representational drawing course concentrating on observation and depiction of volume, texture 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.

**Grade Type:** Letter Grade Only

**Not Repeatable.**

**3 hours lecture, 3 hours laboratory. (72 hours total per quarter)**

Introduction to drawing the human figure from observation from a live figure model 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.

**Grade Type:** Letter Grade, the student may select Pass/No Pass

**Not Repeatable.**

**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 from a live figure model.

**FHGE: Non-GE Transferable: UC/CSU**

**ART 4G MURAL MAKING: COMMUNITY ART PROJECT 4 Units**

**Advisory:** ART 5A; not open to students with credit in ART 18 or 80.

**Grade Type:** Letter Grade, the student may select Pass/No Pass

**Not Repeatable.**

**3 hours lecture, 3 hours laboratory. (72 hours total per quarter)**

This studio art course introduces and involves students in painting a large-scale collaborative community mural project. Students will generate ideas, plan preliminary mural sketches, design compositions, research cultural symbolism, scale images and paint a large-scale collaborative community painting. In addition, students will learn basic painting techniques and how to mix acrylic paint. This course will discuss how murals can be used to create social change, as well as explore the use of themes such as humanity, empowerment, community, personal and cultural identity. Lectures will analyze historical and contemporary events and movements depicted in murals, as well as significant mural artists.

**FHGE: Humanities Transferable: UC/CSU**

**ART 4I FIGURE DRAWING II 4 Units**

**Advisory:** This course is included in the Drawing family of activity courses.

**Grade Type:** Letter Grade, the student may select Pass/No Pass

**Not Repeatable.**

**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: UC/CSU**

**ART 5A 2-D FOUNDATIONS 4 Units**

**Grade Type:** Letter Grade Only

**Not Repeatable.**

**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**

**Grade Type:** Letter Grade Only

**Not Repeatable.**

**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 5C SCULPTURE 4 Units**

**Advisory:** This course is included in the Sculpture family of activity courses.

**Grade Type:** Letter Grade, the student may select Pass/No Pass

**Not Repeatable.**

**3 hours lecture, 3 hours laboratory. (72 hours total per quarter)**

Introduction to three-dimensional sculptural principles, techniques, and concepts utilizing a wide range of materials and practices. Various sculpture methods are practiced with attention to creative self-expression and historical context.

**FHGE: Non-GE Transferable: UC/CSU**

**ART 6 COLLAGE & COMPOSITION 4 Units**

**Advisory:** ART 4A or 5A; this course is included in the Book Arts & Paper family of activity courses.

**Grade Type:** Letter Grade, the student may select Pass/No Pass

**Not Repeatable.**

**3 hours lecture, 3 hours 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**

**Advisory:** Familiarity with computer operating systems; ART 4A or GID 31; ART 5A; PHOT 1; not open to students with credit in ART 56 or GID 41.

**Grade Type:** Letter Grade, the student may select Pass/No Pass

**Not Repeatable.**

**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 15 INTRODUCTION TO ILLUSTRATION TECHNIQUES 4 Units**

**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**

**3 hours lecture, 3 hours laboratory. (72 hours total per quarter)**

Introduction to the use of illustration materials, techniques and styles used in a variety of art areas and specifically in the field of illustration. Emphasis is on understanding hands-on media potential and the development of refined technical skills required for the successful execution of illustrations. Covers wet and dry art media, wash, pen and ink, collage, paint, mix media, tools and a variety of art techniques.

**FHGE: Non-GE Transferable: UC/CSU**

**ART 15A DIGITAL PAINTING I 4 Units**

**Advisory:** Familiarity with current interface operations for desktop computers, laptops and digital tablets; not open to students with credit in ART 14C or 86.

**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**

**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**

**Advisory:** Familiarity with current interface operations for desktop computers, laptops and digital tablets.

**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**

**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 15D DIGITAL ILLUSTRATION FOR FILM & ANIMATION 4 Units**

**Prerequisite:** ART 15A.

**Advisory:** GID 37; familiarity with current interface operations for desktop computers, laptops and digital tablets.

**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**

**3 hours lecture, 3 hours laboratory. (72 hours total per quarter)**

Advanced instruction using computers, digital tablets and software to produce digital illustrations, sketches, images, and drawings for artistic expression and design focused for live-action film and feature film animation media. Emphasis on skills and concepts related to human anatomy, gesture drawing, character design, and basic illustration, visual development, and composition principles.

**FHGE: Non-GE Transferable: UC/CSU**

**ART 19A OIL PAINTING I 4 Units**

**Advisory:** This course is included in the Painting family of activity courses.

**Grade Type:** Letter Grade Only  
**Not Repeatable.**

**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**

**Advisory:** This course is included in the Painting family of activity courses.

**Grade Type:** Letter Grade Only  
**Not Repeatable.**

**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**

**Advisory:** This course is included in the Painting family of activity courses.

**Grade Type:** Letter Grade Only  
**Not Repeatable.**

**3 hours lecture, 3 hours laboratory. (72 hours total per quarter)**

The theory and practice of intermediate oil painting. 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**

**Advisory:** This course is included in the Painting family of activity courses.

**Grade Type:** Letter Grade Only  
**Not Repeatable.**

**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**

**Advisory:** This course is included in the Painting family of activity courses.

**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**

**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**

**Advisory:** This course is included in the Painting family of activity courses.

**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**

**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 4 Units**

**Grade Type:** Letter Grade Only  
**Not Repeatable.**

**3 hours lecture, 3 hours 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 4 Units**

**Prerequisite:** ART 20A.

**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**

**3 hours lecture, 3 hours 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.

**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**

**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 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.

**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**

**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 INTRODUCTION TO PRINTMAKING 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, GID 38 or GRDS 69.

**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**

**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 4 Units**

**Prerequisite:** ART 45A.

**Advisory:** This course is included in the Ceramic Construction family of activity courses.

**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**

**3 hours lecture, 3 hours laboratory. (72 hours total per quarter)**

Studio practice in designing and creating original ceramic sculpture.

**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.

**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**

**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 45B BEGINNING CERAMICS POTTER'S WHEEL 4 Units**

**Advisory:** This course is included in the Ceramic Construction family of activity courses.

**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**

**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 45C ADVANCED CERAMICS 4 Units**

**Prerequisites:** ART 45A and 45B.

**Advisory:** This course is included in the Ceramic Construction family of activity courses.

**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**

**3 hours lecture, 3 hours 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 45F LOW-TEMPERATURE CERAMIC FIRING & GLAZING TECHNIQUES 4 Units**

**Prerequisite:** ART 45A or 45B.

**Advisory:** This course is included in the Ceramic Surface family of activity courses.

**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**

**3 hours lecture, 3 hours 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 46B POTTER'S WHEEL II 4 Units**

**Prerequisite:** ART 45B.

**Advisory:** This course is included in the Ceramic Construction family of activity courses.

**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**

**3 hours lecture, 3 hours 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**

**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.

**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**

**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.  
Grade Type: Letter Grade, the student may select Pass/No Pass  
Not Repeatable.  
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 70R INDEPENDENT STUDY IN ART** 1 Unit  
**ART 71R** 2 Units  
**ART 72R** 3 Units  
**ART 73R** 4 Units  
Grade Type: Letter Grade, the student may select Pass/No Pass  
Not Repeatable.  
3-12 hours laboratory 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 71A INDUSTRIAL DESIGN FOUNDATIONS I** 4 Units  
Advisory: ART 74 and 74A.  
Grade Type: Letter Grade, the student may select Pass/No Pass  
Not Repeatable.  
3 hours lecture, 3 hours laboratory. (72 hours total per quarter)  
Introduction to the processes and presentation of foundation level basic hands-on three-dimensional Industrial Design. This course emphasizes the principles of design and the fundamental aesthetic application of color, texture, shape, form, structure and space through the functional Industrial design problems. Introduction to hands-on model making using a wide range of three-dimensional media such as paint, textured surfaces, clay, plaster molds and wood.  
FHGE: Non-GE Transferable: CSU

**ART 71B INDUSTRIAL DESIGN FOUNDATIONS II** 4 Units  
Advisory: ART 71A.  
Grade Type: Letter Grade, the student may select Pass/No Pass  
Not Repeatable.  
3 hours lecture, 3 hours laboratory. (72 hours total per quarter)  
Continuation of ART 71A, introduction to hands-on processes of foundation level Industrial and Product Designers. Continue integrating of the principles of design and the fundamental aesthetic application of color, texture, shape, volume, structure and space through and hands-on projects. Generate digital three-dimensional industrial design three-dimensional printing prototypes, digital software, mock-ups, and models using industry standard techniques.  
FHGE: Non-GE Transferable: CSU

**ART 72 STUDIO ART PORTFOLIO PREPARATION** 4 Units  
Grade Type: Letter Grade, the student may select Pass/No Pass  
Not Repeatable.  
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 74 INDUSTRIAL DESIGN VISUALIZATION I** 4 Units  
Grade Type: Letter Grade, the student may select Pass/No Pass  
Not Repeatable.  
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 74A INDUSTRIAL DESIGN VISUALIZATION II** 4 Units  
Grade Type: Letter Grade Only  
Not Repeatable.  
3 hours lecture, 3 hours laboratory. (72 hours total per quarter)  
Continuation of ART 74, hands-on and digital visualization course in the rapid sketching processes utilized by industrial designers. This class is a practical, theoretical and creative course that emphasizes visualization, problem solving and communication drawing skills used by contemporary product and industrial designers. Hands-on and digital sketching techniques including rendering volumes using lighting effects, two dimensional visual textures, markers techniques, orthogonal views and linear perspective specific to the human form, artistic component layout drawings, explanatory drawings, creative thumbnail sketching and idea development.  
FHGE: Non-GE Transferable: CSU

**ART 76 HISTORY OF INDUSTRIAL DESIGN** 4 Units  
Grade Type: Letter Grade Only  
Not Repeatable.  
4 hours lecture, 1 hour laboratory. (60 hours total per quarter)  
A study of the development of industrial design starting at the Industrial Revolution of the 18th and 19th centuries and continuing to the present day. Emphasis will be on the social, political, cultural and technological contexts for design.  
FHGE: Non-GE Transferable: CSU

## ASTRONOMY

Physical Sciences, Mathematics & Engineering  
(650) 949-7259 [foothill.edu/astronomy/](http://foothill.edu/astronomy/)

**ASTR 10A GENERAL ASTRONOMY: SOLAR SYSTEM** 5 Units

Advisory: Concurrent enrollment in ASTR 10L.  
Grade Type: Letter Grade, the student may select Pass/No Pass  
Not Repeatable.  
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.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.  
**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:** Concurrent enrollment in ASTR 10L; not open to students with credit in ASTR 10B.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.  
**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 outline 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:** Completion of or concurrent enrollment in ASTR 10A, 10B or 10BH.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.  
**3 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  
**Prerequisite:** Honors Institute participant.  
**Corequisite:** ASTR 10BH.  
**Advisory:** Not open to students with credit in ASTR 34 or 34H.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.  
**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**  
**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.  
**3-12 hours laboratory per week. (36-144 hours total per quarter)**  
 Provides an opportunity for the student to expand their studies in Astronomy 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 or 10BH.  
**Grade Type:** Letter Grade Only Not Repeatable.  
**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 or 10BH 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 [foothill.edu/athletics/](http://foothill.edu/athletics/)

**ATHL 4 INTERCOLLEGIATE FOOTBALL I (MEN)** 2 Units  
**Grade Type:** Letter Grade, the student may select Pass/No Pass 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 of the men's football team.  
**FHGE: Lifelong Learning Transferable: UC/CSU**

**ATHL 4A PRESEASON CONDITIONING FOR FOOTBALL** 2 Units  
**Grade Type:** Letter Grade, the student may select Pass/No Pass 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  
**Grade Type:** Letter Grade, the student may select Pass/No Pass 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**  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**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  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**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. Intended for participants of the men's football team.  
**FHGE: Lifelong Learning Transferable: UC/CSU**

**ATHL 4F INTERCOLLEGIATE FOOTBALL II (MEN) 3 Units**  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**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. Intended for participants of the men's football team.  
**FHGE: Lifelong Learning Transferable: UC/CSU**

**ATHL 11 INTERCOLLEGIATE BASKETBALL I (MEN) 3 Units**  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**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 of the men's basketball team.  
**FHGE: Lifelong Learning Transferable: UC/CSU**

**ATHL 11A PRESEASON CONDITIONING FOR MEN'S BASKETBALL 2 Units**  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**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**  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**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**  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**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  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**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. Intended for participants of the men's intercollegiate basketball team.  
**FHGE: Lifelong Learning Transferable: UC/CSU**

**ATHL 11F INTERCOLLEGIATE BASKETBALL II (MEN) 2 Units**  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**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. Intended for participants of the men's basketball team.  
**FHGE: Lifelong Learning Transferable: UC/CSU**

**ATHL 12 INTERCOLLEGIATE BASKETBALL I (WOMEN) 3 Units**  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**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 of the women's basketball team.  
**FHGE: Lifelong Learning Transferable: UC/CSU**

**ATHL 12A PRESEASON CONDITIONING FOR WOMEN'S BASKETBALL 2 Units**  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**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**  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**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 12C FUNCTIONAL FITNESS FOR WOMEN'S BASKETBALL 1 Unit**  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**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  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**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. Intended for participants of the women's basketball team.  
**FHGE: Lifelong Learning Transferable: UC/CSU**

**ATHL 12F INTERCOLLEGIATE BASKETBALL II (WOMEN) 2 Units**  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**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. Intended for participants of the women's basketball team.  
**FHGE: Lifelong Learning Transferable: UC/CSU**

**ATHL 21 INTERCOLLEGIATE SOCCER I (MEN) 2 Units**  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**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 of the men's soccer team.  
**FHGE: Lifelong Learning Transferable: UC/CSU**

**ATHL 21A PRESEASON CONDITIONING FOR MEN'S SOCCER 2 Units**  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**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**  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**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**  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**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**  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**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. Intended for participants of the men's soccer team.  
**FHGE: Lifelong Learning Transferable: UC/CSU**

**ATHL 21F INTERCOLLEGIATE SOCCER II (MEN) 3 Units**  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**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. Intended for participants of the men's soccer team.  
**FHGE: Lifelong Learning Transferable: UC/CSU**

**ATHL 22 INTERCOLLEGIATE SOCCER I (WOMEN) 2 Units**  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**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 of the women's soccer team.  
**FHGE: Lifelong Learning Transferable: UC/CSU**

**ATHL 22A PRESEASON CONDITIONING FOR WOMEN'S SOCCER 2 Units**  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**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**  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**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**  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**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**  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**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. Intended for participants of the women's soccer team.  
**FHGE: Lifelong Learning Transferable: UC/CSU**

**ATHL 22F INTERCOLLEGIATE SOCCER II (WOMEN) 3 Units**  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**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. Intended for participants of the women's soccer team.  
**FHGE: Lifelong Learning Transferable: UC/CSU**

**ATHL 31 INTERCOLLEGIATE SOFTBALL I (WOMEN) 3 Units**  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**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 participants 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**  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**May be taken six times for credit.**  
**6 hours laboratory. (72 hours total per quarter)**  
 The development of athletic skills and mental conditioning which are 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**  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**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**  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**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  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**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. Intended for participants of the women's softball team with previous high school, club or collegiate softball playing experience.  
**FHGE: Lifelong Learning Transferable: UC/CSU**

**ATHL 31F INTERCOLLEGIATE SOFTBALL II (WOMEN) 2 Units**  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**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. Intended for participants of the women's softball team with previous high school, club or collegiate softball playing experience.  
**FHGE: Lifelong Learning Transferable: UC/CSU**

**ATHL 32 INTERCOLLEGIATE SWIMMING I (MEN & WOMEN) 3 Units**  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**May be taken six times for credit.**  
**9 hours laboratory. (108 hours total per quarter)**  
 Competitive intercollegiate swimming emphasizing early season conditioning, development of skills and strategy, and team building through pre-conference and conference competition. Intended for participants of the men's/women's swimming team.  
**FHGE: Lifelong Learning Transferable: UC/CSU**

**ATHL 32A PRESEASON CONDITIONING FOR SWIMMING 2 Units**  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**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**  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**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**  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**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  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**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. Intended for participants of the men's/women's swimming team.  
**FHGE: Lifelong Learning Transferable: UC/CSU**

**ATHL 32F INTERCOLLEGIATE SWIMMING II (MEN & WOMEN) 2 Units**  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**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. Intended for participants of the men's/women's swimming team.  
**FHGE: Lifelong Learning Transferable: UC/CSU**

**ATHL 33 INTERCOLLEGIATE WATER POLO I (WOMEN) 2 Units**  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**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 of the women's water polo team.  
**FHGE: Lifelong Learning Transferable: UC/CSU**

**ATHL 33A PRESEASON CONDITIONING FOR WOMEN'S WATER POLO 2 Units**  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**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**  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**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  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**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 41D FUNCTIONAL FITNESS FOR WOMEN'S SAND VOLLEYBALL** 1 Unit  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**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 sand volleyball.  
**FHGE: Lifelong Learning Transferable: UC/CSU**

**ATHL 33E INTERCOLLEGIATE WATER POLO (WOMEN)** 1 Unit  
**Formerly: H P 40K, PHED 35G**  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**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. Intended for participants of the women's water polo team.  
**FHGE: Lifelong Learning Transferable: UC/CSU**

**ATHL 42 INTERCOLLEGIATE VOLLEYBALL I (WOMEN)** 2 Units  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**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. Intended for participants of the women's volleyball team.  
**FHGE: Lifelong Learning Transferable: UC/CSU**

**ATHL 33F INTERCOLLEGIATE WATER POLO II (WOMEN)** 3 Units  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**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 of the women's water polo team.  
**FHGE: Lifelong Learning Transferable: UC/CSU**

**ATHL 42A PRESEASON CONDITIONING FOR WOMEN'S VOLLEYBALL** 2 Units  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**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 41 PRESEASON CONDITIONING FOR WOMEN'S SAND VOLLEYBALL** 2 Units  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**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 sand volleyball.  
**FHGE: Lifelong Learning Transferable: UC/CSU**

**ATHL 42B SPORT TECHNIQUES & CONDITIONING FOR WOMEN'S VOLLEYBALL** 2 Units  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**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 41A INTERCOLLEGIATE SAND VOLLEYBALL I (WOMEN)** 2 Units  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**May be taken six times for credit.**  
**6 hours laboratory. (72 hours total per quarter)**  
 Competitive intercollegiate sand volleyball emphasizing early season conditioning, development of skills and strategy, and team building through pre-conference and conference competition. Intended for participants of the women's sand volleyball team.  
**FHGE: Lifelong Learning Transferable: UC/CSU**

**ATHL 42C FUNCTIONAL FITNESS FOR WOMEN'S VOLLEYBALL** 1 Unit  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**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 41B INTERCOLLEGIATE SAND VOLLEYBALL II (WOMEN)** 3 Units  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**May be taken six times for credit.**  
**9 hours laboratory. (108 hours total per quarter)**  
 Competitive intercollegiate sand volleyball emphasizing athletic skill and strategy development and performance through conference and post-conference competition. Intended for participants of the women's sand volleyball team.  
**FHGE: Lifelong Learning Transferable: UC/CSU**

**ATHL 42E INTERCOLLEGIATE VOLLEYBALL (WOMEN)** 1 Unit  
**Formerly: PHED 34B**  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**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. Intended for participants of the women's volleyball team.  
**FHGE: Lifelong Learning Transferable: UC/CSU**

**ATHL 41C SPORT TECHNIQUES & CONDITIONING FOR WOMEN'S SAND VOLLEYBALL** 2 Units  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**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 sand volleyball. This includes drills in the sand, weight and flexibility training, and cardio-respiratory development.  
**FHGE: Lifelong Learning Transferable: UC/CSU**

**ATHL 42F INTERCOLLEGIATE VOLLEYBALL II (WOMEN)** 3 Units  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**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. Intended for participants of the women's volleyball team.  
**FHGE: Lifelong Learning Transferable: UC/CSU**

**ATHL 44 INTERCOLLEGIATE TENNIS I (MEN) 3 Units**  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**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. Intended for participants of the men's tennis team.  
**FHGE: Lifelong Learning Transferable: UC/CSU**

**ATHL 44A PRESEASON CONDITIONING FOR MEN'S TENNIS 2 Units**  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**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**  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**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**  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**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  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**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. Intended for participants of the men's tennis team.  
**FHGE: Lifelong Learning Transferable: UC/CSU**

**ATHL 44F INTERCOLLEGIATE TENNIS II (MEN) 2 Units**  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**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. Intended for participants of the men's tennis team.  
**FHGE: Lifelong Learning Transferable: UC/CSU**

**ATHL 45 INTERCOLLEGIATE TENNIS I (WOMEN) 3 Units**  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**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**  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**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**  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**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**  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**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  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**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 of the women's tennis team.  
**FHGE: Lifelong Learning Transferable: UC/CSU**

**ATHL 45F INTERCOLLEGIATE TENNIS II (WOMEN) 2 Units**  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**May be taken six times for credit.**  
**6 hours laboratory. (72 hours total per quarter)**  
 Competitive intercollegiate tennis emphasizing athletic skill and strategy development and performance through conference and post-conference competition. Intended for participants of the women's tennis team.  
**FHGE: Lifelong Learning Transferable: UC/CSU**

**ATHL 70R INDEPENDENT STUDY IN ATHLETICS 1 Unit**  
**ATHL 71R 2 Units**  
**ATHL 72R 3 Units**  
**ATHL 73R 4 Units**  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**  
**3-12 hours laboratory 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 foothill.edu/biology/

### BIOL 1A PRINCIPLES OF CELL BIOLOGY 6 Units

**Prerequisite:** CHEM 1A or 1AH.

**Advisory:** Students taking the biology majors' sequence (BIOL 1A, 1B, 1C, 1D) are strongly advised to take the sequence in its entirety.

**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**

**4 hours lecture, 6 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.

**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**

**4 hours lecture, 6 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.

**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**

**4 hours lecture, 6 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, protists, 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.

**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**

**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 230; demonstrated proficiency in English by placement as determined by score on the English placement test OR through an equivalent placement process OR completion of ESLL 125 & ESLL 249.

**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**

**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

**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**

**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, NatSci Transferable: UC/CSU

### BIOL 9L ENVIRONMENTAL BIOLOGY LABORATORY 1 Unit

**Corequisite:** BIOL 9.

**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**

**3 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

**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**

**4 hours lecture, 3 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

**Grade Type:** Letter Grade Only

**Not Repeatable.**

**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.

**FHGE:** Lifelong Learning Transferable: UC/CSU

### BIOL 13 MARINE BIOLOGY 5 Units

**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**

**4 hours lecture, 3 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

**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**

**4 hours lecture, 3 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**  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**  
**4 hours lecture, 3 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 40A HUMAN ANATOMY &  
PHYSIOLOGY I 5 Units**  
**Prerequisites:** BIOL 1A, 10, 14 or equivalent; CHEM 1A, 1AH, 30A, 30B or equivalent.  
**Advisory:** One of the following: ENGL 1A, 1AH, or 1S & 1T or equivalent; completion of this course with a grade of "C" or higher is highly recommended.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**  
**4 hours lecture, 3 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.  
**FHGE: Non-GE Transferable: UC/CSU**

**BIOL 40B HUMAN ANATOMY &  
PHYSIOLOGY II 5 Units**  
**Prerequisite:** BIOL 40A or equivalent.  
**Advisory:** Completion of this course with a grade of "C" or higher is highly recommended.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**  
**4 hours lecture, 3 hours laboratory. (84 hours total per quarter)**  
Anatomy and physiology of the nervous system, cardiovascular system and respiratory system.  
**FHGE: Non-GE Transferable: UC/CSU**

**BIOL 40C HUMAN ANATOMY &  
PHYSIOLOGY III 5 Units**  
**Prerequisite:** BIOL 40B or equivalent.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**  
**4 hours lecture, 3 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 12A or 30A or equivalent.  
**Advisory:** ESLL 125 and 235; critical reading skills and knowledge of English sentence structure; ability to comprehend spoken English in academic context.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**  
**4 hours lecture, 6 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:** BIOL 1A or 40A.  
**Advisory:** One of the following: ENGL 1A, 1AH, or 1S & 1T.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**  
**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**  
**Prerequisite:** Honors Institute participant.  
**Advisory:** Not open to students with credit in BIOL 34 or 34H.  
**Grade Type:** Letter Grade Only  
**Not Repeatable.**  
**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**  
**Prerequisites:** BIOL 40A, 40B and 40C or equivalent.  
**Advisory:** One of the following: ENGL 1A, 1AH, or 1S & 1T; not open to students with credit in BIOL 46.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**  
**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**

**BIOL 300 HUMAN PATHOPHYSIOLOGY  
& PHARMACOLOGY 4 Units**  
**Grade Type:** Letter Grade Only  
**Not Repeatable.**  
**4 hours lecture. (48 hours total per quarter)**  
The basis of human disease and its management relevant to the practice of health care professionals. The etiology and pathogenesis of diseases are discussed along with the application of diagnostic procedures and patient care. The pathology and underlying principles of the human systems are presented, along with characteristics of typical drugs, side effects, cautions, and interactions. This is an upper division General Education course, intended for students in the Dental Hygiene Baccalaureate Degree Program; enrollment is limited to students accepted in the program.  
**FHGE: Upper Division Transferable: CSU**

**BUSINESS**

Business and Social Sciences  
(650) 949-7322 foothill.edu/business/

**BUSI 11 INTRODUCTION TO INFORMATION SYSTEMS 5 Units**

**Advisory:** MATH 220 or equivalent; demonstrated proficiency in English by placement as determined by score on the English placement test OR through an equivalent placement process OR completion of ESLL 125 & ESLL 249; knowledge of Excel; not open to students with credit in CIS 10 or 60.

**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.

**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 as determined by score on the English placement test OR through an equivalent placement process OR completion of ESLL 125 & ESLL 249; UC will award transfer credit for either BUSI 18 or BUSI 19, not both.

**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.

**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 award transfer credit for either BUSI 18 or BUSI 19, not both.

**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.

**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 22H or 52.

**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.

**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. The course examines the relationship between businesses and consumers, internal and external stakeholders and how those relationships impact business operations. The course topics include the impact of globalization on business operations, and how economic, political, legal, and social issues impact business operations. In addition, the course covers basic business and corporate ethics and social responsibility topics.

**FHGE: Social & Behavioral Sciences Transferable: UC/CSU**

**BUSI 22H HONORS PRINCIPLES OF BUSINESS 5 Units**

**Prerequisite:** Honors Institute participant.

**Advisory:** Not open to students with credit in BUSI 22 or 52.

**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.

**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. The course examines the relationship between businesses and consumers, internal and external stakeholders and how those relationships impact business operations. The course topics include the impact of globalization on business operations, and how economic, political, legal, and social issues impact business operations. In addition, the course covers basic business and corporate ethics and social responsibility topics. As an honors course, this course will use advanced teaching methods and current real-world business situations to enhance and deepen student learning of critical business concepts and frameworks. With an emphasis on research and analysis, students will apply critical thinking skills and business concepts to develop their knowledge of how businesses succeed within today's global business environment.

**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.

**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.

**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:** ENGL 1A, 1AH, 1S & 1T, or equivalent.

**Advisory:** BUSI 11 or 91L.

**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.

**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**

**Prerequisite:** Honors Institute participant.

**Advisory:** Not open to students with credit in BUSI 34 or 34H.

**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.

**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.

**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.

**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 59 PRINCIPLES OF MARKETING 4 Units****Advisory:** Not open to students with credit in BUSI 90.**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.****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.**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.****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****Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.****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 and 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 60 FUNDAMENTALS OF FINANCE 5 Units****Advisory:** MATH 105.**Grade Type:** Letter Grade Only  
**Not Repeatable.****5 hours lecture. (60 hours total per quarter)**

This course provides an introduction to the fundamentals of financial analysis and applications to business challenges in valuation, risk analysis, corporate investment decisions, and basic security analysis and investment management. The four major sections of the course are: (A) an introduction to the financial system, financial statement analysis; (B) Interest Rates and Valuing Cash Flows: time value of money; interest rates; valuation of stocks, bonds; (C) Valuation of the Firm: Investment Decision Rules, Fundamentals of Capital Budgeting, Stock Valuation (NPV); and (D) Introduction to Risk and Return: risk and return; systemic risk; Portfolio Theory, CAPM, WACC.

**FHGE:** Non-GE **Transferable:** CSU**BUSI 61 INVESTMENT FUNDAMENTALS 3 Units****Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.****3 hours lecture. (36 hours total per quarter)**

Introduction to securities investment characteristics and rights. Investment vehicles (stock, bonds, derivatives (options)). Markets and exchanges. Stock and Bond valuation analyses (fundamental and technical analysis). Portfolio evaluation and stock trading. Personal financial management. After-tax returns.

**FHGE:** Non-GE **Transferable:** CSU**BUSI 62 PRINCIPLES OF SALESMANSHIP 3 Units****Advisory:** Not open to students with credit in BUSI 91.**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.****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 as determined by score on the English placement test OR through an equivalent placement process OR completion of ESLL 125 & ESLL 249.**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.****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, evolving technology and government regulations and international issues, and standard operating procedure in the work place. Examples of major philosophical schools of ethics and how their specific theories may be applied to 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****Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.****3-12 hours laboratory 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 87 HUMAN RESOURCES MANAGEMENT 5 Units****Advisory:** Demonstrated proficiency in English by placement as determined by score on the English placement test OR through an equivalent placement process OR completion of ESLL 125 & ESLL 249.**Grade Type:** Letter Grade Only  
**Not Repeatable.****5 hours lecture. (60 hours total per quarter)**

This course is a comprehensive study of human resource management in organizations, including human resource planning; employment legislation; recruitment and selection; training and development; compensation and benefits; performance appraisal and career management; managing labor relations; safety, health, and well-being; and motivation and enhancing performance. The course will explore topics including values, ethical issues, leadership and communication, conflict, work design, and organizational culture.

**FHGE:** Non-GE **Transferable:** CSU**BUSI 90A PRINCIPLES OF MANAGEMENT 4 Units****Advisory:** Demonstrated proficiency in English by placement as determined by score on the English placement test OR through an equivalent placement process OR completion of ESLL 125 & ESLL 249.**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.****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**

**Advisory:** Not open to students with credit in BUSI 10.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**

**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, THE BUSINESS PLAN 4 Units**

**Advisory:** Demonstrated proficiency in English by placement as determined by score on the English placement test OR through an equivalent placement process OR completion of ESLL 125 & ESLL 249.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**

**4 hours lecture. (48 hours total per quarter)**

This course focuses on the business plan as a necessary component of starting a small business. The course discusses the phases and components in the development of the business plan, including determining actual content, reviewing examples, creating a comprehensive plan, and pitching to potential investors.

**FHGE:** Non-GE Transferable: CSU

**BUSI 96 ENTREPRENEURSHIP-STARTING & MANAGING A SMALL BUSINESS 3 Units**

**Advisory:** BUSI 95; demonstrated proficiency in English by placement as determined by score on the English placement test OR through an equivalent placement process OR completion of ESLL 125 & ESLL 249.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**

**3 hours lecture. (36 hours total per quarter)**

Hands-on course introducing the broad range of skills needed to start-up and maintain a small business, an intrapreneurial venture, or a social entrepreneurship project. In this class, students begin with a well-planned business concept (business plan or business model) and apply fundamental entrepreneurial techniques to successfully initiate their business, and ultimately identify critical actions required to succeed. Areas of discussion will include legal, financial, marketing, operational, personnel, with a specific focus on bringing students' business plans to life.

**FHGE:** Non-GE Transferable: CSU

**CRLP 55 LIFELONG LEARNING STRATEGIES 3 Units**

**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**

**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 71 EXPLORING CAREER FIELDS 1 Unit**

**Advisory:** May not be concurrently enrolled in CRLP 7.

**Grade Type:** Pass/No Pass Only  
**Not Repeatable.**

**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**

**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**

**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:** Lifelong Learning Transferable: CSU

**CRLP 74 SUCCESSFUL INTERVIEWING TECHNIQUES 1 Unit**

**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**

**1 hour lecture. (12 hours total per quarter)**

Development of successful interviewing skills, including techniques for pre-interview preparation, dynamics of an interview, salary negotiations and follow-up.

**FHGE:** Lifelong Learning Transferable: CSU

## CHEMISTRY

Physical Sciences, Mathematics & Engineering  
(650) 949-7259 [foothill.edu/chemistry/](http://foothill.edu/chemistry/)

**CHEM 1A GENERAL CHEMISTRY 5 Units**

**Prerequisites:** Satisfactory score on the chemistry placement test or CHEM 20 or 25; satisfactory score on the mathematics placement test or MATH 105 or 108.

**Advisory:** Concurrent enrollment in ESLL 125 or ENGL 209; not open to students with credit in CHEM 1AH.

**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**

**3 hours lecture, 6 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. 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

## CAREER LIFE PLANNING

Counseling and Student Services

(650) 949-7423 [foothill.edu/counseling/](http://foothill.edu/counseling/)

**CRLP 7 SELF-ASSESSMENT 4 Units**

Formerly: CRLP 70

**Advisory:** May not be concurrently enrolled in CRLP 71; not open to students with credit in CRLP 70.

**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**

**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: UC/CSU

**CHEM 1AH HONORS GENERAL CHEMISTRY 5 Units**  
**Prerequisites:** MATH 105, 108 or equivalent; satisfactory score on the chemistry placement test or an AP chemistry score of 4 or 5; Honors Institute participant.  
**Advisory:** Familiarity with calculus topics, including derivatives and integration, either in high school or college; not open to students with credit in CHEM 1A.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**  
**3 hours lecture, 6 hours laboratory. (108 hours total per quarter)**

Fundamental chemical principles with an emphasis on physical properties and their mathematical modeling and interpretation. As an honors course, the treatment of the chemical topics will be at a higher level mathematically and conceptually. Students are expected to have a high degree of competency in mathematics and advanced reasoning skills. Topics include: The atom in modern chemistry; chemical formulas, equations, stoichiometry and theoretical yields; classical models of atomic bonding, electron shells, and molecular shapes; the behavior of gases, gas laws, kinetic molecular theory, molecular collisions; solids, liquids and phase transitions, intermolecular forces, phase diagrams; thermodynamic processes and thermochemistry, heat capacity and calorimetry, reversible processes in ideal gases; spontaneous processes and thermodynamic systems.

**FHGE:** Natural Sciences **Transferable:** UC/CSU

**CHEM 1B GENERAL CHEMISTRY 5 Units**  
**Prerequisite:** CHEM 1A or 1AH.  
**Advisory:** Not open to students with credit in CHEM 1BH.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**  
**3 hours lecture, 6 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 1BH HONORS GENERAL CHEMISTRY 5 Units**  
**Prerequisites:** CHEM 1AH; Honors Institute participant.  
**Advisory:** Familiarity with calculus topics, including derivatives and integration, either in high school or college; not open to students with credit in CHEM 1B.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**  
**3 hours lecture, 6 hours laboratory. (108 hours total per quarter)**

Designed for physical science majors, the fundamental chemical principles are explored with an emphasis on physical properties and their mathematical modeling and interpretation. As an honors course, the treatment of the chemical topics will be at a higher level mathematically and conceptually. Students are expected to have a high degree of competency in mathematics and advanced reasoning skills. Topics include: Chemical equilibrium with a mass action and thermodynamic description; solutions, including acid-base titrations, oxidation reduction titrations, nonvolatile and volatile solutes; advanced acid-base equilibrium, including strengths, weak acid/base reactions, and polyprotic acids; introduction to quantum mechanics, including the wave nature of light, Bohr model, wave-particle duality and particle in a box models; quantum mechanics and atomic structure, including the hydrogen atom, the shell model, Aufbau principle, periodic table interpretation and periodic properties; valence bond theory and orbital hybridization; chemical kinetics, including mechanisms Arrhenius equation, catalysts and solution kinetics.

**FHGE:** Non-GE **Transferable:** UC/CSU

**CHEM 1C GENERAL CHEMISTRY & QUALITATIVE ANALYSIS 5 Units**

**Prerequisite:** CHEM 1B or 1BH.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**

**3 hours lecture, 6 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 9 CHEMISTRY OF COOKING 5 Units**

**Prerequisite:** Satisfactory score on the mathematics placement test or MATH 220.

**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**

**4 hours lecture, 3 hours laboratory. (84 hours total per quarter)**

This course will use kitchen science and cooking to introduce fundamental principles of chemistry. Concepts include atomic theory; stoichiometry; acid-base reactions; the molecular structure of food compounds; heat transfer and cooking methods; egg foams, protein structure and denaturation; gas laws; pressure cooking and the Maillard reaction for meats; the molecular basis of aroma and flavor; sauces and viscosity; chemical reactions involved in baking; caramelization of sugars and crystallization in chocolate. Laboratory experiments will utilize both common chemistry instrumentation and kitchen equipment.

**FHGE:** Natural Sciences **Transferable:** UC/CSU

**CHEM 12A ORGANIC CHEMISTRY 4 Units**

**Prerequisite:** CHEM 1C.

**Corequisite:** Concurrent enrollment or prior completion of laboratory component to course (CHEM 12AL or 13AH).

**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**

**4 hours lecture. (48 hours total per quarter)**

This course is the first of a three quarter course describing the chemistry of organic (carbon containing) compounds. Emphasis on structure-reactivity relationships and mechanisms of functional group transformations. For science majors and students pursuing professional careers in dentistry, medicine, pharmacy, or veterinary medicine. Generally not appropriate for nursing majors (see CHEM 30B).

**FHGE:** Non-GE **Transferable:** UC/CSU

**CHEM 12AL ORGANIC CHEMISTRY LABORATORY 2 Units**

**Corequisite:** CHEM 12A.

**Advisory:** Not open to students with credit in CHEM 13AH.

**Grade Type:** Letter Grade Only  
**Not Repeatable.**

**6 hours laboratory. (72 hours total per quarter)**

Laboratory course to accompany CHEM 12A. Intended to introduce students to laboratory techniques common in modern synthetic organic chemistry. Introduces laboratory techniques common in synthetic Organic Chemistry. Students will work on both standard preparatory scale and microscale to prepare, isolate, purify and characterize organic compounds.

**FHGE:** Non-GE **Transferable:** UC/CSU

**CHEM 12B ORGANIC CHEMISTRY** 4 Units  
Prerequisites: CHEM 12A and CHEM 12AL or 13AH.  
Corequisite: Concurrent enrollment or prior completion of laboratory component to course (CHEM 12BL or 13BH).  
Grade Type: Letter Grade, the student may select Pass/No Pass  
Not Repeatable.  
4 hours lecture. (48 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. 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 12BL ORGANIC CHEMISTRY LABORATORY** 2 Units  
Corequisite: CHEM 12B.  
Advisory: Not open to students with credit in CHEM 13BH.  
Grade Type: Letter Grade Only  
Not Repeatable.  
6 hours laboratory. (72 hours total per quarter)  
Laboratory course to accompany CHEM 12B. Emphasis is on Spectroscopic methods for the structure elucidation of organic compounds. Provides extensive practice in the synthesis, purification, isolation and characterization of organic target molecules. For Chemistry and other STEM 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** 4 Units  
Prerequisites: CHEM 12B and CHEM 12BL or 13BH.  
Corequisite: Concurrent enrollment or prior completion of laboratory component to course (CHEM 12CL or 13CH).  
Grade Type: Letter Grade, the student may select Pass/No Pass  
Not Repeatable.  
4 hours lecture. (48 hours total per quarter)  
The third and final quarter of Organic Chemistry expands the study of functional groups to include ketones, aldehydes, carboxylic acids and its derivatives, and amines. Also introduces the chemistry of poly-functional, biologically active molecules such as proteins and carbohydrates. Continued emphasis on structure-reactivity relationships, mechanisms of reaction and multi-step syntheses. For chemistry and other STEM majors as well as any pre-professional students studying for careers in dentistry, medicine, pharmacy, veterinary medicine and for any other interested students who have mastered the prerequisites.  
FHGE: Non-GE Transferable: UC/CSU

**CHEM 12CL ORGANIC CHEMISTRY LABORATORY** 2 Units  
Corequisite: CHEM 12C.  
Advisory: Not open to students with credit in CHEM 13CH.  
Grade Type: Letter Grade Only  
Not Repeatable.  
6 hours laboratory. (72 hours total per quarter)  
Laboratory course to accompany CHEM 12C. Intended to strengthen skill in application of laboratory techniques, and to encourage independent work. Emphasis is on chemical reactions relevant to CHEM 12C, Multi-step syntheses, and identification of unknowns.  
FHGE: Non-GE Transferable: UC/CSU

**CHEM 13AH HONORS ORGANIC CHEMISTRY LABORATORY** 3 Units  
Prerequisites: CHEM 1C or equivalent; Honors Institute participant.  
Corequisite: CHEM 12A.  
Advisory: Not open to students with credit in CHEM 12AL.  
Grade Type: Letter Grade Only  
Not Repeatable.  
1 hour lecture, 6 hours laboratory. (84 hours total per quarter)  
Honors laboratory course to accompany CHEM 12A. Intended to introduce students to laboratory techniques common in modern synthetic organic chemistry. Emphasis is on chemical reactions relevant to CHEM 12A content. Similar to CHEM 12AL, this honors course adds critical analysis of primary literature, and requires additional writing assignments and group presentations.  
FHGE: Non-GE Transferable: UC/CSU

**CHEM 13BH HONORS ORGANIC CHEMISTRY LABORATORY** 3 Units  
Prerequisites: CHEM 12A and CHEM 12AL or 13AH; Honors Institute participant.  
Corequisite: CHEM 12B.  
Advisory: Not open to students with credit in CHEM 12BL.  
Grade Type: Letter Grade Only  
Not Repeatable.  
1 hour lecture, 6 hours laboratory. (84 hours total per quarter)  
Honors laboratory course to accompany CHEM 12B. Intended to introduce students to laboratory techniques common in modern synthetic organic chemistry. Emphasis is on chemical reactions relevant to CHEM 12B content. Similar to CHEM 12BL, this honors course adds critical analysis of primary literature, and requires additional writing assignments and group presentations.  
FHGE: Non-GE Transferable: UC/CSU

**CHEM 13CH HONORS ORGANIC CHEMISTRY LABORATORY** 3 Units  
Prerequisites: CHEM 12B and CHEM 12BL or 13BH; Honors Institute participant.  
Corequisite: CHEM 12C.  
Advisory: Not open to students with credit in CHEM 12CL.  
Grade Type: Letter Grade Only  
Not Repeatable.  
1 hour lecture, 6 hours laboratory. (84 hours total per quarter)  
Honors laboratory course to accompany CHEM 12C. Intended to introduce students to research methods, improve skill in application of laboratory techniques, and strengthen quantitative reasoning. Students work on challenging projects taken from the primary literature. Emphasis is on Physical-Organic Chemistry, Multi-step synthesis, and chemical reactions relevant to CHEM 12C.  
FHGE: Non-GE Transferable: UC/CSU

**CHEM 20 I MATTER: INTRODUCTION TO CHEMISTRY & THE ENVIRONMENT** 5 Units  
Prerequisite: Satisfactory score on the mathematics placement test or MATH 105 or 108.  
Advisory: Concurrent enrollment in ESLL 125 or ENGL 209.  
Grade Type: Letter Grade, the student may select Pass/No Pass  
Not Repeatable.  
4 hours lecture, 3 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 or those planning to complete the General Chemistry sequence (CHEM 1A-1C). CHEM 20 qualifies as a prerequisite for CHEM 1A and is accepted for General Education Natural Science transfer credit by both the California State University and University of California systems.  
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 125 or ENGL 209; UC will grant transfer credit for a maximum of one course from the following: CHEM 25, 30A or 30B.

**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**

**4 hours lecture, 3 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 220.

**Advisory:** UC will grant transfer credit for a maximum of one course from the following: CHEM 25, 30A or 30B.

**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**

**4 hours lecture, 3 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, radiologic technology, respiratory therapy, and pharmaceutical technology.

**FHGE: Natural Sciences Transferable: UC/CSU**

**CHEM 30B SURVEY OF ORGANIC & BIOCHEMISTRY 5 Units**

**Prerequisite:** CHEM 30A.

**Advisory:** UC will grant transfer credit for a maximum of one course from the following: CHEM 25, 30A or 30B.

**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**

**4 hours lecture, 3 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.

**Grade Type:** Pass/No Pass Only  
**Not Repeatable.**

**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. Emphasis on study and test-taking strategies, time and resource management. (2) Development of analytical reasoning, problem-solving strategies and critical thinking skills. Emphasis on topics the student must master for success in subsequent courses, CHEM 1B and 1C.

**FHGE: Non-GE Transferable: CSU**

**CHILD DEVELOPMENT**

Business and Social Sciences

(650) 949-7322 [foothill.edu/childdevelopment/](http://foothill.edu/childdevelopment/)

**CHLD 1 CHILD GROWTH & DEVELOPMENT: PRENATAL THROUGH EARLY CHILDHOOD 4 Units**

**Advisory:** Not open to students with credit in CHLD 55.

**Grade Type:** Letter Grade Only

**Not Repeatable.**

**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**

**Grade Type:** Letter Grade Only

**Not Repeatable.**

**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**

**Grade Type:** Letter Grade, the student may select Pass/No Pass

**Not Repeatable.**

**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**

**Advisory:** Demonstrated proficiency in English by placement as determined by score on the English placement test OR through an equivalent placement process OR completion of ESLL 125 & ESLL 249; not open to students with credit in CHLD 11.

**Grade Type:** Letter Grade, the student may select Pass/No Pass

**Not Repeatable.**

**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: American Cultures & Communities Transferable: CSU**

<p><b>CHLD 53NC SUPPORTING CHILDREN WITH SPECIAL NEEDS IN CHILDREN'S PROGRAMS</b> 3 Units</p> <p><b>Grade Type: Letter Grade Only</b>  <b>Not Repeatable.</b>  <b>3 hours lecture. (36 hours total per quarter)</b>  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.  <b>FHGE: Non-GE Transferable: CSU</b></p>	<p><b>CHLD 54D FROM THE INSIDE OUT: THE POWER OF REFLECTION &amp; SELF-AWARENESS</b> 1 Unit</p> <p><b>Grade Type: Letter Grade Only</b>  <b>Not Repeatable.</b>  <b>1 hour lecture. (12 hours total per quarter)</b>  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.  <b>FHGE: Non-GE Transferable: CSU</b></p>
<p><b>CHLD 53NP DEVELOPMENT OF CHILDREN WITH SPECIAL NEEDS</b> 3 Units</p> <p><b>Grade Type: Letter Grade Only</b>  <b>Not Repeatable.</b>  <b>3 hours lecture. (36 hours total per quarter)</b>  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.  <b>FHGE: Non-GE Transferable: CSU</b></p>	<p><b>CHLD 56 OBSERVATION &amp; ASSESSMENT</b> 4 Units</p> <p><b>Advisory: CHLD 1 and 56N.</b>  <b>Grade Type: Letter Grade Only</b>  <b>Not Repeatable.</b>  <b>4 hours lecture. (48 hours total per quarter)</b>  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.  <b>FHGE: Non-GE Transferable: CSU</b></p>
<p><b>CHLD 54A DEVELOPING A HEALTHY ORGANIZATIONAL CLIMATE IN EDUCATION</b> 1 Unit</p> <p><b>Grade Type: Letter Grade Only</b>  <b>Not Repeatable.</b>  <b>1 hour lecture. (12 hours total per quarter)</b>  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.  <b>FHGE: Non-GE Transferable: CSU</b></p>	<p><b>CHLD 56N PRINCIPLES &amp; PRACTICES OF TEACHING YOUNG CHILDREN</b> 4 Units</p> <p><b>Grade Type: Letter Grade Only</b>  <b>Not Repeatable.</b>  <b>4 hours lecture. (48 hours total per quarter)</b>  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.  <b>FHGE: Non-GE Transferable: CSU</b></p>
<p><b>CHLD 54B THE RIGHT FIT: RECRUITING, SELECTING &amp; ORIENTING STAFF</b> 1 Unit</p> <p><b>Grade Type: Letter Grade Only</b>  <b>Not Repeatable.</b>  <b>1 hour lecture. (12 hours total per quarter)</b>  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.  <b>FHGE: Non-GE Transferable: CSU</b></p>	<p><b>CHLD 59 WORKING WITH SCHOOL-AGE CHILDREN</b> 4 Units</p> <p><b>Grade Type: Letter Grade Only</b>  <b>Not Repeatable.</b>  <b>4 hours lecture. (48 hours total per quarter)</b>  Review of developmental characteristics of children ages five to 12 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.  <b>FHGE: Non-GE Transferable: CSU</b></p>
<p><b>CHLD 54C LEADERSHIP IN ACTION: HOW EFFECTIVE DIRECTORS GET THINGS DONE</b> 1 Unit</p> <p><b>Grade Type: Letter Grade Only</b>  <b>Not Repeatable.</b>  <b>1 hour lecture. (12 hours total per quarter)</b>  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.  <b>FHGE: Non-GE Transferable: CSU</b></p>	<p><b>CHLD 63N ARTISTIC &amp; CREATIVE DEVELOPMENT</b> 3 Units</p> <p><b>Grade Type: Letter Grade Only</b>  <b>Not Repeatable.</b>  <b>3 hours lecture. (36 hours total per quarter)</b>  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.  <b>FHGE: Non-GE Transferable: CSU</b></p>

**CHLD 71 PLANNING CREATIVE ART ACTIVITIES FOR CHILDREN 1 Unit**

**Grade Type: Letter Grade, the student may select Pass/No Pass Not Repeatable.**

**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**

**Grade Type: Letter Grade Only Not Repeatable.**

**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 2 Units**

**Grade Type: Letter Grade Only Not Repeatable.**

**2 hours lecture. (24 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**

**Grade Type: Letter Grade, the student may select Pass/No Pass Not Repeatable.**

**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**

**Grade Type: Letter Grade, the student may select Pass/No Pass Not Repeatable.**

**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**

**Grade Type: Letter Grade, the student may select Pass/No Pass Not Repeatable.**

**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 86A MENTORING THE EARLY CARE & EDUCATION PROFESSIONAL 4 Units**

**Advisory: CHLD 1, 88; a minimum of one other three-unit course in Child Development.**

**Grade Type: Letter Grade Only**

**Not Repeatable.**

**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.**

**Grade Type: Letter Grade, the student may select Pass/No Pass**

**Not Repeatable.**

**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**

**Grade Type: Letter Grade Only**

**Not Repeatable.**

**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 emphasizing 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**

**Grade Type: Letter Grade, the student may select Pass/No Pass**

**Not Repeatable.**

**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.**

**Grade Type: Letter Grade, the student may select Pass/No Pass**

**Not Repeatable.**

**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.

**Grade Type:** Letter Grade Only

**Not Repeatable.**

**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.

**Grade Type:** Letter Grade Only

**Not Repeatable.**

**4 hours lecture. (48 hours total per quarter)**

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.

**Grade Type:** Letter Grade Only

**Not Repeatable.**

**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

**Grade Type:** Letter Grade Only

**Not Repeatable.**

**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

650.949.7440 [foothill.edu/communicationstudies/](http://foothill.edu/communicationstudies/)

**COMM 1A PUBLIC SPEAKING** 5 Units

**Advisory:** Demonstrated proficiency in English by placement as determined by score on the English placement test OR through an equivalent placement process OR completion of ESLL 125 & ESLL 249; not open to students with credit in COMM 1AH or SPCH 1A.

**Grade Type:** Letter Grade, the student may select Pass/No Pass

**Not Repeatable.**

**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:** Not open to students with credit in COMM 1A or SPCH 1A.

**Grade Type:** Letter Grade, the student may select Pass/No Pass

**Not Repeatable.**

**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 as determined by score on the English placement test OR through an equivalent placement process OR completion of ESLL 125 & ESLL 249; not open to students with credit in COMM 1BH or SPCH 1B.

**Grade Type:** Letter Grade, the student may select Pass/No Pass

**Not Repeatable.**

**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:** Not open to students with credit in COMM 1B or SPCH 1B.

**Grade Type:** Letter Grade, the student may select Pass/No Pass

**Not Repeatable.**

**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**

**Advisory:** Demonstrated proficiency in English by placement as determined by score on the English placement test OR through an equivalent placement process OR completion of ESLL 125 & ESLL 249; not open to students with credit in SPCH 2.

**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.

**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:** Comm, Lifelong **Transferable:** UC/CSU

**COMM 3 INTRODUCTION TO COMMUNICATION STUDIES 5 Units**

**Advisory:** Demonstrated proficiency in English by placement as determined by score on the English placement test OR through an equivalent placement process OR completion of ESLL 125 & ESLL 249; not open to students with credit in SPCH 3.

**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.

**5 hours lecture. (60 hours total per quarter)**

Exploration of the nature and history of human communication in multiple forms and contexts. Critical examination of human communication theories, methods, and processes. Overview of research methods for the evaluation of human communication phenomena. Discussion of ethical perspectives and intercultural aspects of communication. Application of communication theory 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 as determined by score on the English placement test OR through an equivalent placement process OR completion of ESLL 125 & ESLL 249; not open to students with credit in SPCH 4.

**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.

**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 as determined by score on the English placement test OR through an equivalent placement process OR completion of ESLL 125 & ESLL 249; not open to students with credit in SPCH 10.

**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.

**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 (Asian Americans, African Americans, European Americans, Latino Americans, Native Americans, Gays, Lesbians, Bi-sexual and Transgendered peoples).

**FHGE:** Amer, Lifelong **Transferable:** UC/CSU

**COMM 12 INTERCULTURAL COMMUNICATION 5 Units**

**Advisory:** Demonstrated proficiency in English by placement as determined by score on the English placement test OR through an equivalent placement process OR completion of ESLL 125 & ESLL 249; not open to students with credit in SPCH 12.

**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.

**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:** Amer, Lifelong **Transferable:** UC/CSU

**COMM 54A FORENSIC SPEECH 5 Units**

**Advisory:** Demonstrated proficiency in English by placement as determined by score on the English placement test OR through an equivalent placement process OR completion of ESLL 125 & ESLL 249; not open to students with credit in SPCH 54.

**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.

**5 hours lecture. (60 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 55 CAREER & LEADERSHIP COMMUNICATION IN THE GLOBAL WORKPLACE 5 Units**

**Advisory:** Demonstrated proficiency in English by placement as determined by score on the English placement test OR through an equivalent placement process OR completion of ESLL 125 & ESLL 249; not open to students with credit in SPCH 55.

**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.

**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:** Comm, Lifelong **Transferable:** CSU

**COMM 70R INDEPENDENT STUDY IN COMMUNICATION STUDIES 1 Unit**

**COMM 71R 2 Units**  
**COMM 72R 3 Units**  
**COMM 73R 4 Units**

**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.

**3-12 hours laboratory 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 foothill.edu/cs/

**C S 1A**      **OBJECT-ORIENTED  
PROGRAMMING  
METHODOLOGIES IN JAVA**      **4.5 Units**

**Advisory:** Satisfactory score on the mathematics placement test or MATH 105 or 108; not open to students with credit in C S 1AH.

**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.

**4 hours lecture, 2 hours laboratory. (72 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 1AH**      **HONORS OBJECT-  
ORIENTED PROGRAMMING  
METHODOLOGIES IN JAVA**      **4.5 Units**

**Prerequisite:** Honors Institute participant.

**Advisory:** Satisfactory score on the mathematics placement test or MATH 105 or 108; not open to students with credit in C S 1A.

**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.

**4 hours lecture, 2 hours laboratory. (72 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. Honors work emphasizes a deeper study of computer science via discourse, projects and techniques that exercise the powerful tools available to the computer scientist in general, and Java programmers in particular.

**FHGE:** Communication & Analytical Thinking    **Transferable:** UC/CSU

**C S 1B**      **INTERMEDIATE SOFTWARE  
DESIGN IN JAVA**      **4.5 Units**

**Prerequisite:** C S 1A or 1AH.

**Advisory:** Demonstrated proficiency in English by placement as determined by score on the English placement test OR through an equivalent placement process OR completion of ESLL 125 & ESLL 249.

**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.

**4 hours lecture, 2 hours laboratory. (72 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**      **4.5 Units**

**Prerequisite:** C S 1B.

**Advisory:** One of the following: ENGL 1A, 1AH, or 1S & 1T.

**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.

**4 hours lecture, 2 hours laboratory. (72 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**      **4.5 Units**

**Prerequisite:** C S 1A or 1AH.

**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.

**4 hours lecture, 2 hours laboratory. (72 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++**      **4.5 Units**

**Advisory:** Satisfactory score on the mathematics placement test or MATH 105 or 108; not open to students with credit in C S 2AH.

**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.

**4 hours lecture, 2 hours laboratory. (72 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 2AH**      **HONORS OBJECT-  
ORIENTED PROGRAMMING  
METHODOLOGIES IN C++**      **4.5 Units**

**Prerequisite:** Honors Institute participant.

**Advisory:** Satisfactory score on the mathematics placement test or MATH 105 or 108; not open to students with credit in C S 2A.

**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.

**4 hours lecture, 2 hours laboratory. (72 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. Honors work emphasizes a deeper study of computer science via discourse, projects and techniques that exercise the powerful tools available to the computer scientist in general, and C++ programmers in particular.

**FHGE:** Communication & Analytical Thinking    **Transferable:** UC/CSU

**C S 2B**      **INTERMEDIATE SOFTWARE  
DESIGN IN C++**      **4.5 Units**

**Prerequisite:** C S 2A or 2AH.

**Advisory:** Demonstrated proficiency in English by placement as determined by score on the English placement test OR through an equivalent placement process OR completion of ESLL 125 & ESLL 249.

**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.

**4 hours lecture, 2 hours laboratory. (72 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      4.5 Units**  
**& ALGORITHMS IN C++**

**Prerequisite:** C S 2B.

**Advisory:** One of the following: ENGL 1A, 1AH, or 1S & 1T.

**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**

**4 hours lecture, 2 hours laboratory. (72 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 2M      INTERMEDIATE ALGORITHM      4.5 Units**  
**& DATA STRUCTURE**  
**METHODOLOGIES IN C++**

**Prerequisite:** C S 2A or 2AH.

**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**

**4 hours lecture, 2 hours laboratory. (72 hours total per quarter)**

Systematic treatment of intermediate data structures, algorithm analysis and abstract data types in the C++ 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 3A      OBJECT-ORIENTED      4.5 Units**  
**PROGRAMMING**  
**METHODOLOGIES IN PYTHON**

**Advisory:** Satisfactory score on the mathematics placement test or MATH 105 or 108.

**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**

**4 hours lecture, 2 hours laboratory. (72 hours total per quarter)**

Systematic introduction to fundamental concepts of computer science through the study of the Python programming language. Coding topics include control structures, functions, classes, string processing, lists, tuples, dictionaries, working with files, and elementary graphics. 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 3B      INTERMEDIATE SOFTWARE      4.5 Units**  
**DESIGN IN PYTHON**

**Prerequisite:** C S 3A.

**Advisory:** Demonstrated proficiency in English by placement as determined by score on the English placement test OR through an equivalent placement process OR completion of ESLL 125 & ESLL 249.

**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**

**4 hours lecture, 2 hours laboratory. (72 hours total per quarter)**

Systematic treatment of intermediate concepts in computer science through the study of Python object-oriented programming (OOP). Coding topics include Python sequences, user-defined classes and interfaces, modules, packages, collection classes, threads, lambda expressions, list comprehensions, regular expressions and multi-dimensional arrays. Concept topics include OOP project design, recursion, inheritance, polymorphism, functional programming, linked-lists, FIFOs, LIFOs, event-driven parsing, exceptions and guarded code.

**FHGE: Non-GE    Transferable: UC/CSU**

**C S 3C      ADVANCED DATA STRUCTURES      4.5 Units**  
**& ALGORITHMS IN PYTHON**

**Prerequisite:** C S 3B.

**Advisory:** Demonstrated proficiency in English by placement as determined by score on the English placement test OR through an equivalent placement process OR completion of ESLL 125 & ESLL 249.

**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**

**4 hours lecture, 2 hours laboratory. (72 hours total per quarter)**

A systematic treatment of advanced data structures, algorithm analysis and abstract data types in the Python programming language, intended for computer science majors as well as non-majors and professionals seeking advanced Python experience. Coding topics include large program software engineering design, multi-dimensional arrays, string processing, primitives, compound types, and allocation of instance and static data. Data structure concept topics include dynamic memory, inheritance, polymorphism, hierarchies, recursion, linked-lists, stacks, queues, trees, hash tables and graphs. Algorithm 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: Non-GE    Transferable: UC/CSU**

**C S 10      COMPUTER ARCHITECTURE      4.5 Units**  
**& ORGANIZATION**

**Prerequisite:** One of the following: C S 1A, 1AH, 2A or 2AH.

**Advisory:** C S 1C or 2C.

**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**

**4 hours lecture, 2 hours laboratory. (72 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**

**Prerequisites:** C S 1A or 1AH; satisfactory score on the mathematics placement test or MATH 48C.

**Advisory:** One of the following: ENGL 1A, 1AH, or 1S & 1T; not open to students with credit in CIS 18 or MATH 22.

**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**

**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 19A      THEORY OF QUANTUM COMPUTING I      5 Units**

**Formerly:** C S 83A

**Advisory:** C S 1B, 18, and MATH 1B or 1BH; not open to students with credit in C S 83A.

**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**

**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: UC/CSU**

**C S 19B THEORY OF QUANTUM COMPUTING II 5 Units**  
Formerly: C S 83B  
**Advisory:** A prior course in quantum computing such as C S 19A; not open to students with credit in C S 83B.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**  
**5 hours lecture. (60 hours total per quarter)**  
Establishes the basic results of Turing machines, algorithm complexity and non-orthogonal measurements as applied to quantum entanglement. The density-operator formulation of quantum mechanics is developed to provide a tool for modeling entangled states in noisy quantum channels. The course introduces quantum search algorithms, distance measures, bounds for fidelity and topological quantum computers.  
**FHGE: Non-GE Transferable: UC/CSU**

**C S 20A PROGRAMMING IN C# 4.5 Units**  
**Advisory:** One of the following: C S 1A, 1AH, 2A, 2AH or equivalent.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**  
**4 hours lecture, 2 hours laboratory. (72 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 PYTHON FOR PROGRAMMERS 4.5 Units**  
**Advisory:** One of the following: C S 1A, 1AH, 2A, 2AH, 3A or equivalent.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**  
**4 hours lecture, 2 hours laboratory. (72 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 21B INTERMEDIATE PYTHON PROGRAMMING 4.5 Units**  
**Advisory:** C S 3A or 21A or relevant experience.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**  
**4 hours lecture, 2 hours laboratory. (72 hours total per quarter)**  
This course builds on the student's prior knowledge of the Python programming language by offering a more in-depth and advanced approach to building effective Python applications. Specific topics include user interfaces, networked applications, databases, multithreading and regular expressions. The course reinforces object oriented design, thorough documentation, testing and conventional programming style.  
**FHGE: Non-GE Transferable: UC/CSU**

**C S 22A JAVASCRIPT FOR PROGRAMMERS 4.5 Units**  
**Advisory:** One of the following: C S 1A, 1AH, 2A, 2AH, 3A or equivalent; knowledge of HTML and CSS.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**  
**4 hours lecture, 2 hours laboratory. (72 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 26A RUBY & FUNCTIONAL PROGRAMMING 4.5 Units**  
Formerly: C S 85A  
**Advisory:** One of the following: C S 1A, 1AH, 2A, 2AH; not open to students with credit in C S 85A.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**  
**4 hours lecture, 2 hours laboratory. (72 hours total per quarter)**  
Introduction to functional programming languages using Ruby as an educational and practical development environment. Students will learn how to create programs that use the functional paradigm while obeying the object-oriented structure inherent in the language. Many examples and topics will be covered including database-driven web applications using the Rails framework.  
**FHGE: Non-GE Transferable: UC/CSU**

**C S 30A INTRODUCTION TO LINUX 4.5 Units**  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**  
**4 hours lecture, 2 hours laboratory. (72 hours total per quarter)**  
Introduction to the Linux operating system 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 SHELL PROGRAMMING 4.5 Units**  
**Advisory:** C S 30A or equivalent.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**  
**4 hours lecture, 2 hours laboratory. (72 hours total per quarter)**  
Linux shell script programming using the Bourne Again shell programming language (bash) and Linux 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 SYSTEM ADMINISTRATION 4.5 Units**  
**Advisory:** C S 30A.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**  
**4 hours lecture, 2 hours laboratory. (72 hours total per quarter)**  
Basic Linux systems administration. Command line fundamentals, file management from command line, help commands, create/view/edit text files, manage local Linux users and groups, control access to files with Linux file system permissions, monitor and manage Linux processes, control services and daemons, configure and secure OpenSSH service, analyze and store logs, manage Linux networking, archive and copy files between systems, install and update software packages, access Linux file systems, use virtualized systems.  
**FHGE: Non-GE Transferable: UC/CSU**

**C S 30D ADVANCED LINUX SYSTEM ADMINISTRATION 4.5 Units**  
**Advisory:** C S 30C or equivalent.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**  
**4 hours lecture, 2 hours laboratory. (72 hours total per quarter)**  
Advanced systems administration of Red Hat Enterprise Linux (RHEL). Overview of automated installation, basic Linux command line usage, regular expression overview, pipelines, redirection, network configuration and troubleshooting, simple partition and filesystems creation, logical volumes, SMB and NFS network file systems, user account management, access control lists (ACLs), SELinux security overview, software package management, installed services management, log file analysis and maintenance, process management, Linux kernel tuning and maintenance, Linux troubleshooting techniques.  
**FHGE: Non-GE Transferable: UC/CSU**

**C S 30E LINUX SYSTEM ADMINISTRATION: NETWORK SERVICES 4.5 Units**

**Advisory:** C S 30D or equivalent.

**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.

**4 hours lecture, 2 hours laboratory. (72 hours total per quarter)**

The course is focused on deploying and managing network servers running caching Domain Name Service (DNS), MariaDB, Apache HTTPD, Postfix SMTP mail clients, network file sharing with Network File System (NFS) and Server Message Block (SMB), iSCSI initiators and targets, advanced networking facilities and firewall configurations, and the use of Bash shell scripting to help automate, configure, and troubleshoot the system. These topics will be taught through lectures and hands-on labs.

**FHGE: Non-GE Transferable: UC/CSU**

**C S 31A INTRODUCTION TO DATABASE MANAGEMENT SYSTEMS 4.5 Units**

**Advisory:** One of the following: C S 1A, 1AH, 2A, 2AH, 3A or equivalent.

**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.

**4 hours lecture, 2 hours laboratory. (72 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 and databases and Online 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 4.5 Units**

**Advisory:** C S 1B or 2B.

**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.

**4 hours lecture, 2 hours laboratory. (72 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 Units**

**Advisory:** Satisfactory score on the mathematics placement test or MATH 105 or 108; concurrent enrollment in ESSL 125 or ENGL 209.

**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.

**2 hours lecture, 1 hour laboratory. (36 hours total per quarter)**

Introduction to basic computer programming concepts using an object-oriented language. Intended for students interested in C S 1A or 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) 4.5 Units**

**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.

**4 hours lecture, 2 hours laboratory. (72 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 & SWITCHING ESSENTIALS (CCNA) 4.5 Units**

**Advisory:** C S 50A.

**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.

**4 hours lecture, 2 hours laboratory. (72 hours total per quarter)**

This course describes the architecture, components, and operations of routers and switches in a small network. Students learn how to configure a router and a switch for basic functionality. By the end of this course students will be able to configure and troubleshoot routers and switches and resolve common issues with RIPv1, RIPv2, single-area and multi-area OSPF, virtual LANs, and inter-VLAN routing in both IPv4 and IPv6 networks. This course is preparation for the CCENT and CCNA certification exams. 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 SCALING LOCAL AREA NETWORKS (CCNA) 4.5 Units**

**Advisory:** C S 50A.

**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.

**4 hours lecture, 2 hours laboratory. (72 hours total per quarter)**

This course describes the architecture, components, and operations of routers and switches in larger and more complex networks. Students learn how to configure routers and switches for advanced functionality. By the end of this course, students will be able to configure and troubleshoot routers and switches and resolve common issues with OSPF, EIGRP, and STP in both IPv4 and IPv6 networks. Students will also develop the knowledge and skills needed to implement a WLAN in a small-to-medium network.

**FHGE: Non-GE Transferable: CSU**

**C S 50D CONNECTING NETWORKS, WANs (CCNA) 4.5 Units**

**Advisory:** C S 50A, 50B and 50C.

**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.

**4 hours lecture, 2 hours laboratory. (72 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 4.5 Units**

**Advisory:** C S 50A, 50B, 50C and 50D or equivalent knowledge and skills.

**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.

**4 hours lecture, 2 hours laboratory. (72 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)      4.5 Units**

**Advisory:** C S 50B or equivalent experience.

**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**

**4 hours lecture, 2 hours laboratory. (72 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)      4.5 Units**

**Advisory:** C S 50C or equivalent experience.

**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**

**4 hours lecture, 2 hours laboratory. (72 hours total per quarter)**

The course provides the knowledge and skills necessary 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)      4.5 Units**

**Advisory:** C S 52A, 52B or equivalent experience.

**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**

**4 hours lecture, 2 hours laboratory. (72 hours total per quarter)**

This course provides the knowledge and teaches the skills necessary to plan and perform regular maintenance on complex enterprise routed and switched networks and 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 53A      CYBERSECURITY FUNDAMENTALS      4.5 Units**

**Advisory:** C S 50A.

**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**

**4 hours lecture, 2 hours laboratory. (72 hours total per quarter)**

The fundamental aspects of computer and network security as it pertains to policy deployment and network defense. Core topics include cryptography, public key infrastructure, standards and protocols, physical security, infrastructure security, remote access, messaging, intrusion detection and system baselines. Industry-specific topics include certifications for CompTIA's Security+, ISC2, SSCP.

**FHGE: Non-GE    Transferable: CSU**

**C S 53B      FIREWALLS & THREAT  
                 MANAGEMENT      4.5 Units**

**Advisory:** C S 53A.

**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**

**4 hours lecture, 2 hours laboratory. (72 hours total per quarter)**

Survey of topics in field of firewall, advanced threats and their characteristics. Students will learn how to manage Firewalls and advanced threats using security policies, profiles and signatures to protect networks against emerging threats.

**FHGE: Non-GE    Transferable: CSU**

**C S 53C      ETHICAL HACKING      4.5 Units**

**Advisory:** C S 53A.

**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**

**4 hours lecture, 2 hours laboratory. (72 hours total per quarter)**

Survey current techniques used by malicious hackers to attack computers and networks, and it develops the defenses that security professionals use to defend Windows and Linux systems from such attacks. Topics will be presented in the context of legal restrictions and ethical guidelines. Hands-on labs, playing the role of both attacker and defender, using port scans, footprinting, buffer overflow exploits, SQL injection, privilege escalation, Trojans, and backdoors.

**FHGE: Non-GE    Transferable: CSU**

**C S 53D      INTRODUCTION TO  
                 COMPUTER FORENSICS      4.5 Units**

**Advisory:** C S 53A.

**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**

**4 hours lecture, 2 hours laboratory. (72 hours total per quarter)**

Provides an overview of the forensic rules-of-evidence, evidence integrity, factual reporting, and the role of expert opinion in legal proceedings. The course is appropriate for students from information technology-related field. No previous experience in computer forensics is required. All students must agree with and sign the CyberSecurity Institute Code of Ethics and Conduct.

**FHGE: Non-GE    Transferable: CSU**

**C S 54A      STORAGE AREA NETWORKS      4.5 Units**

**Advisory:** C S 50A, 50B, and 50C.

**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**

**4 hours lecture, 2 hours laboratory. (72 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      4.5 Units**

**Advisory:** C S 50A, 50B, 50C, 54A.

**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**

**4 hours lecture, 2 hours laboratory. (72 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, 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 Certified Professional exam. Course is taught by a VMware certified instructor.

**FHGE: Non-GE    Transferable: CSU**

**C S 54C      VMWARE VIEW      4.5 Units**

**Advisory:** C S 54A, 54B.

**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**

**4 hours lecture, 2 hours laboratory. (72 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 4.5 Units**

**Advisory:** C S 50A.

**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.

**4 hours lecture, 2 hours laboratory. (72 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 4.5 Units**

**Advisory:** C S 50A.

**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.

**4 hours lecture, 2 hours laboratory. (72 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 56B IT ESSENTIALS 4.5 Units**

**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.

**4 hours lecture, 2 hours laboratory. (72 hours total per quarter)**

The course presents a working knowledge of computer internals and provide practical skills in computer hardware assembly and software installation. Emphasis is placed on troubleshooting problems, throughout the process Activities includes hands-on labs and virtual learning tools which encourage critical thinking and complex problem-solving skills.

**FHGE:** Non-GE **Transferable:** CSU

**C S 60A INSTALLING & CONFIGURING WINDOWS SERVER 2012 4.5 Units**

**Advisory:** C S 50A.

**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.

**4 hours lecture, 2 hours laboratory. (72 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 plan and build a scalable Active Directory infrastructure, configure folder security, file filtering and disaster recovery backups, administer and maintain servers with graphical and PowerShell tools, set up servers with Group Policies and delegate administrative tasks, and virtualize servers with Hyper-V and build fault tolerant replica servers.

**FHGE:** Non-GE **Transferable:** CSU

**C S 60B ADMINISTERING WINDOWS SERVER 2012 4.5 Units**

**Advisory:** C S 60A.

**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.

**4 hours lecture, 2 hours laboratory. (72 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 deploy, manage, and maintain servers, configure file and print services, configure network services and access, configure a network policy server infrastructure, and configure and manage group policy.

**FHGE:** Non-GE **Transferable:** CSU

**C S 60C CONFIGURING ADVANCED WINDOWS SERVER 2012 SERVICES 4.5 Units**

**Advisory:** C S 60A, 60B.

**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.

**4 hours lecture, 2 hours laboratory. (72 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 deploy, manage, and maintain servers, configure file and print services, configure network services and access, configure a network policy server infrastructure, and configure and manage group policy.

**FHGE:** Non-GE **Transferable:** CSU

**C S 61A WINDOWS 8 CONFIGURATION 4.5 Units**

**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.

**4 hours lecture, 2 hours laboratory. (72 hours total per quarter)**

Introduction to configuring and troubleshooting Windows 8 in an enterprise. It provides both lecture and laboratory exercises to enable the student to plan and perform the installation of Windows 8; install Windows 8 on computers that are running an existing operating system; configure disks, partitions, volumes, and device drivers in a Windows 8 system and configure network connectivity; implement Windows 8 technologies to desktops and network connections; share files and printers; optimize and maintain Windows 8 based computers; configure mobile computer settings and to enable remote access; 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 4.5 Units**

**Advisory:** C S 1B or 2B.

**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.

**4 hours lecture, 2 hours laboratory. (72 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 4.5 Units**

**Advisory:** C S 1B or 2B.

**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.

**4 hours lecture, 2 hours laboratory. (72 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 71A DATA ANALYTICS & MANAGEMENT 4.5 Units**

**Advisory:** MATH 10, C S 31A, C S 21A or 21B.

**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.

**4 hours lecture, 2 hours laboratory. (72 hours total per quarter)**

Introduction of Big Data ecosystems, tool infrastructure and industrial applications. Overview of the evolution, characteristics and significance of Big Data and the analytics process model. Hands-on exploration of Big Data solutions for specific industries. Concept topics include data management such as acquiring, cleansing and normalizing Big Data; application to log analytics, fraud detection, social media patterns, call centers, etc.; review of traditional SQL based Relational Database Management and issues with scaling when datasets are too big; methodology of NoSQL; big data technology infrastructures, such as the Hadoop framework and ecosystem components including Hadoop Distributed File Systems (HDFS), Hbase, MapReduce, Oozie, Pig and functionality used in Big Data; survey of tools in analytics and data visualization (DVT); survey of deployment patterns used in various industries.

**FHGE:** Non-GE **Transferable:** CSU

**C S 80A OPEN SOURCE CONTRIBUTION 4.5 Units**  
**Advisory:** C S 40A; C S 1A (or 1AH) and 1B (or 1M), or 2A (or 2AH) and 2B.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**

**4 hours lecture, 2 hours laboratory. (72 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 4.5 Units**  
**Advisory:** One of the following: C S 1B, 2B, 20A, 21B.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**

**4 hours lecture, 2 hours laboratory. (72 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 4.5 Units**

**Advisory:** Knowledge of an object-oriented programming language.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**  
**4 hours lecture, 2 hours laboratory. (72 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 84A DATABASE-DRIVEN WEB APPLICATION DEVELOPMENT 4.5 Units**

**Advisory:** C S 31A, 49 and GID 57 or equivalent.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**  
**4 hours lecture, 2 hours laboratory. (72 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 4.5 Units**

**Advisory:** C S 31A or equivalent.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**  
**4 hours lecture, 2 hours laboratory. (72 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 [foothill.edu/counseling/](http://foothill.edu/counseling/)

**CNSL 1 COLLEGE SUCCESS 3 Units**

**Advisory:** Maximum UC credit awarded for completion of CNSL 1 and CNSL 5 is 4.5 quarter units.

**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**

**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**

**Advisory:** ESLL 236 & 237; maximum UC credit awarded for completion of CNSL 1 and CNSL 5 is 4.5 quarter units; not open to students with credit in CNSL 50.

**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**

**1.5 hours 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 6 EXPLORING LEADERSHIP 4 Units**

**Formerly:** CNSL 61

**Advisory:** Demonstrated proficiency in English by placement as determined by score on the English placement test OR through an equivalent placement process OR completion of ESLL 125 & ESLL 249; not open to students with credit in CNSL 61.

**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**

**4 hours lecture. (48 hours total per quarter)**

Explores concepts of leadership theory with direct applications for leading organizations and creating positive social change. The intent is to provide students with a foundational understanding of the knowledge and skills needed to be an effective leader. This course utilizes experiential activities and group projects as a primary method for applying theories and concepts to the everyday practice of leadership. In this course, leadership is understood primarily as a function of personal development with the intention to create transformational change in one's community.

**FHGE: Non-GE Transferable: UC/CSU**

**CNSL 8 TRANSFER READINESS 1 Unit**

**Formerly:** CNSL 85A

**Advisory:** One of the following: ENGL 1A, 1AH, or 1S & 1T; not open to students with credit in CNSL 8H, 85A, or 85H.

**Grade Type:** Pass/No Pass Only  
**Not Repeatable.**

**1 hour lecture. (12 hours total per quarter)**

Provides a global perspective about the transfer process from a California community college to a four-year university, including transfer exploration, transfer policies, academic requirements, transfer planning and process, and available tools and services in support of transfer goals. Students have the opportunity to broaden their perspectives by examining the role of higher education in society. Guides students to examine their life plan and achievements, and to develop a strong personal statement. Students will complete a university cost analysis as well as explore resources to help fund their education.

**FHGE: Non-GE Transferable: UC/CSU**



**CNSL 8H HONORS TRANSFER READINESS 1 Unit**  
**Prerequisite:** Honors Institute participant.  
**Advisory:** One of the following: ENGL 1A, 1AH, or 1S & 1T; not open to students with credit in CNSL 8, 85A, or 85H.  
**Grade Type:** Pass/No Pass Only  
**Not Repeatable.**

**1 hour lecture. (12 hours total per quarter)**  
Provides a global perspective about the transfer process from a California community college to a four-year university, including transfer exploration, transfer policies, academic requirements, transfer planning and process, and available tools and services in support of transfer goals. Students have the opportunity to broaden their perspectives by examining the role of higher education in society. Guides students to examine their life plan and achievements, and to develop a strong personal statement. Students will complete a university cost analysis as well as explore resources to help fund their education. This honors course includes digging deeper into the pedagogy of higher education, exploring additional highly selective colleges and universities, and requires application of higher-level critical thinking, reading and writing skills.  
**FHGE: Non-GE Transferable: UC/CSU**

**CNSL 52 COLLEGE & LIFE MANAGEMENT 4 Units**  
**Advisory:** Not open to students with credit in CNSL 2.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**

**4 hours lecture. (48 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 72 STRESS, WELLNESS & COPING 3 Units**  
**Advisory:** Not open to students with credit in SPED 72.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**

**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, practice, and understand effective coping strategies to promote self-awareness, personal wellness, and academic success. Emphasis placed on mental health and application of self-help skills.  
**FHGE: Lifelong Learning Transferable: CSU**

**CNSL 86 INTRODUCTION TO LEADERSHIP 1 Unit**  
**Advisory:** Eligibility for ENGL 110 or ESLL 125.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**

**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.  
**FHGE: Non-GE Transferable: CSU**

**CNSL 87 LEADERSHIP: THEORIES & PRACTICES 1 Unit**  
**Advisory:** Eligibility for ENGL 110 or ESLL 125.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**

**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 125.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**  
**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.  
**FHGE: Non-GE Transferable: CSU**

**CNSL 89 ADVANCED LEADERSHIP REALITIES 1 Unit**

**Advisory:** Eligibility for ENGL 110 or ESLL 125.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**  
**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.  
**FHGE: Non-GE Transferable: CSU**

**CNSL 90 INTRODUCTION TO ONLINE LEARNING 1.5 Units**

**Advisory:** Familiarity with the Internet; ESLL 125 or higher.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**  
**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**

**Advisory:** Not open to students with credit in CNSL 86LX.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**  
**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**

**Advisory:** Not open to students with credit in CNSL 86LY.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**  
**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**

**Advisory:** Not open to students with credit in CNSL 86LZ.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**  
**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

Non-degree applicable credit course.  
Advisory: Not open to students with credit in CNSL 175.  
Grade Type: Pass/No Pass Only  
Not Repeatable.  
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

**CRWR 39B ADVANCED SHORT FICTION WRITING** 5 Units

Prerequisite: CRWR 39A.  
Grade Type: Letter Grade, the student may select Pass/No Pass  
Not Repeatable.  
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 as determined by score on the English placement test OR through an equivalent placement process OR completion of ESLL 125 & ESLL 249.  
Grade Type: Letter Grade, the student may select Pass/No Pass  
Not Repeatable.  
5 hours lecture. (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.  
FHGE: Humanities Transferable: UC/CSU

**CRWR 41B ADVANCED POETRY WRITING** 5 Units

Advisory: CRWR 41A.  
Grade Type: Letter Grade, the student may select Pass/No Pass  
Not Repeatable.  
5 hours lecture. (60 hours total per quarter)  
Explicit instruction and practice in reading and writing poetry at an advanced level. Assignments include reading, analyzing and responding to published and student work and writing original work. Class presentation and workshop leadership required.  
FHGE: Non-GE Transferable: UC/CSU

## DANCE

Kinesiology and Athletics  
(650) 949-7741 [foothill.edu/dance/](http://foothill.edu/dance/)

Foothill offers dance 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. Please 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, 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.  
Grade Type: Letter Grade, the student may select Pass/No Pass  
Not Repeatable.  
3 hours laboratory. (36 hours total per quarter)  
Introduction to the elementary fundamentals of classical ballet technique and training. Includes the basic vocabulary and practice of beginning barre and center floor exercises.  
FHGE: Lifelong Learning Transferable: UC/CSU

## CREATIVE WRITING

Language Arts  
(650) 949-7678 [foothill.edu/la/](http://foothill.edu/la/)

**CRWR 6 INTRODUCTION TO CREATIVE WRITING** 5 Units

Prerequisite: Demonstrated proficiency in English by placement as determined by score on the English placement test OR through an equivalent placement process OR completion of ESLL 125 & ESLL 249.  
Grade Type: Letter Grade, the student may select Pass/No Pass  
Not Repeatable.  
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: Humanities Transferable: UC/CSU

**CRWR 25A POETRY IN COMMUNITY** 5 Units

Advisory: Demonstrated proficiency in English by placement as determined by score on the English placement test OR through an equivalent placement process OR completion of ESLL 125 & ESLL 249.  
Grade Type: Letter Grade, the student may select Pass/No Pass  
Not Repeatable.  
5 hours lecture. (60 hours total per quarter)  
Contemporary local poets guest lecture and engage in conversation with students about process, poetics, and approach to publishing. Emphasis on ways poetry has historically created community to honor and maintain cultural knowledge and to complicate single narratives. Special emphasis on integrated reading and writing for literary analysis, including reflective and creative stylistic emulation of poets studied. Focus on sharing new work through organizing community reading and publishing class anthology.  
FHGE: Humanities Transferable: UC/CSU

**CRWR 39A INTRODUCTION TO SHORT FICTION WRITING** 5 Units

Prerequisite: Demonstrated proficiency in English by placement as determined by score on the English placement test OR through an equivalent placement process OR completion of ESLL 125 & ESLL 249.  
Grade Type: Letter Grade, the student may select Pass/No Pass  
Not Repeatable.  
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: Humanities Transferable: UC/CSU

**DANC 1B INTERMEDIATE BALLET 1 Unit**  
**Advisory:** This course is included in the Ballet & Conditioning family of activity courses.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**  
**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**  
**Advisory:** This course is included in the Ballet & Conditioning family of activity courses.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**  
**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: UC/CSU**

**DANC 2A BEGINNING MODERN DANCE 1 Unit**  
**Advisory:** This course is included in the Dance Technique family of activity courses; not open to students with credit in DANC 2.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**  
**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.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**  
**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: UC/CSU**

**DANC 3A BEGINNING JAZZ DANCE 1 Unit**  
**Advisory:** This course is included in the Dance Technique family of activity courses.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**  
**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.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**  
**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**  
**Advisory:** This course is included in the Social & Cultural Dance family of activity courses; not open to students with credit in DANC 4.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**  
**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**  
**Advisory:** This course is included in the Social & Cultural Dance family of activity courses.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**  
**3 hours laboratory. (36 hours total per quarter)**  
Introduction to intermediate ballroom and social dance techniques. Instruction and practice in intermediate Swing, Cha-Cha, Waltz, Fox Trot, Rhumba and Tango dances.  
**FHGE: Lifelong Learning Transferable: UC/CSU**

**DANC 4C ADVANCED BALLROOM & SOCIAL DANCE 1 Unit**  
**Advisory:** This course is included in the Social & Cultural Dance family of activity courses.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**  
**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.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**  
**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.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**  
**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.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**  
**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.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.  
**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 10 TOPICS IN DANCE HISTORY** 5 Units  
**Advisory:** Not open to students with credit in H P 70.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.  
**5 hours lecture. (60 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 styles. Examines topics in dance as an art form, including origin and history of major styles, 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  
**Advisory:** This course is included in the Dance Performance family of activity courses; not open to students with credit in DANC 11.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.  
**2 hours lecture, 6 hours 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.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.  
**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.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.  
**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, makeup 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.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.  
**2 hours lecture, 6 hours 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.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.  
**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.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.  
**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, makeup 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.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.  
**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.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.  
**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.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**  
**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.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**  
**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.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**  
**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**  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**  
**3-12 hours laboratory 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**

**D A 51A INTRODUCTION TO CHAIRSIDE DENTAL ASSISTING 10.5 Units**  
**Grade Type:** Letter Grade Only  
**Not Repeatable.**  
**6.5 hours lecture, 13 hours laboratory. (234 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; enrollment is limited to students accepted in the program.  
**FHGE: Non-GE Transferable: CSU**

**D A 51B INTERMEDIATE CLINICAL DENTAL ASSISTING 3 Units**  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**  
**2 hours lecture, 3 hours laboratory. (60 hours total per quarter)**  
 Periodontal and oral surgery procedures, equipment, and instruments. Registered Dental Assistant orthodontic function. Intended for students in the Dental Assisting Program; enrollment is limited to students accepted in the program.  
**FHGE: Non-GE Transferable: CSU**

**D A 51C ADVANCED DENTAL ASSISTING SKILLS 3.5 Units**  
**Grade Type:** Letter Grade Only  
**Not Repeatable.**  
**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; enrollment is limited to students accepted in the program.  
**FHGE: Non-GE Transferable: CSU**

**D A 53A INTRODUCTION TO RADIOGRAPHY I 3 Units**  
**Grade Type:** Letter Grade Only  
**Not Repeatable.**  
**2 hours lecture, 3 hours laboratory. (60 hours total per quarter)**  
 Introduction to dental radiology. 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; enrollment is limited to students accepted in the program.  
**FHGE: Non-GE Transferable: CSU**

**D A 53B DENTAL RADIOGRAPHY II 2 Units**  
**Grade Type:** Letter Grade Only  
**Not Repeatable.**  
**1 hour lecture, 3 hours laboratory. (48 hours total per quarter)**  
 Intraoral radiographic technique continued with evaluation of film quality, proficient parallelism with the XCP film holders, proper patient management, and a reduction in film errors. Introduction to direct digital panoramic radiographs and indirect intraoral images using PSP plates. Further identification of radiolucent and radiopaque landmarks of the head and neck using the panoramic image. Intended for students in the Dental Assisting Program; enrollment is limited to students accepted in the program.  
**FHGE: Non-GE Transferable: CSU**

## DENTAL ASSISTING

Biological and Health Sciences  
 (650) 949-7351 [foothill.edu/dentalasst/](http://foothill.edu/dentalasst/)

**D A 50 ORIENTATION TO DENTAL ASSISTING 2.5 Units**  
**Grade Type:** Letter Grade Only  
**Not Repeatable.**  
**2.5 hours lecture. (30 hours total per quarter)**  
 Introduction to Foothill College Dental Assisting Program for the incoming student. Preview of dental practice, including specialties, history, professional and legal responsibilities and the role of the dental auxiliary; HIPAA, patient privacy, Academic Honor Code, student rights and responsibilities, strategies for student success, stress and time management, record keeping, patient communication and office personnel relations. Intended for students in the Dental Assisting Program; enrollment is limited to students accepted in the program.  
**FHGE: Non-GE Transferable: CSU**

<b>D A 53C</b>	<b>DENTAL RADIOGRAPHY III</b>	<b>1 Unit</b>	<b>D A 62A</b>	<b>DENTAL SCIENCES I</b>	<b>2 Units</b>
<b>Grade Type: Letter Grade Only</b> <b>Not Repeatable.</b> <b>3 hours laboratory. (36 hours total per quarter)</b> Last in the three quarter series of dental radiography. Intraoral technique and film evaluation skills practiced on mannequins and performed on patients. Greater emphasis on time efficiency and patient management. Digital radiography is encouraged to be used for patient care. Intended for students in the Dental Assisting Program; enrollment is limited to students accepted in the program. <b>FHGE: Non-GE Transferable: CSU</b>			<b>Grade Type: Letter Grade Only</b> <b>Not Repeatable.</b> <b>2 hours lecture, 1 hour laboratory. (36 hours total per quarter)</b> 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; enrollment is limited to students accepted in the program. <b>FHGE: Non-GE Transferable: CSU</b>		
<b>D A 56</b>	<b>DENTAL HEALTH EDUCATION</b>	<b>1 Unit</b>	<b>D A 62B</b>	<b>DENTAL SCIENCES II</b>	<b>2 Units</b>
<b>Grade Type: Letter Grade Only</b> <b>Not Repeatable.</b> <b>1 hour lecture. (12 hours total per quarter)</b> 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; enrollment is limited to students accepted in the program. <b>FHGE: Non-GE Transferable: CSU</b>			<b>Grade Type: Letter Grade Only</b> <b>Not Repeatable.</b> <b>2 hours lecture. (24 hours total per quarter)</b> 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; enrollment is limited to students accepted in the program. <b>FHGE: Non-GE Transferable: CSU</b>		
<b>D A 57</b>	<b>OFFICE EMERGENCY PROCEDURES</b>	<b>2 Units</b>	<b>D A 62C</b>	<b>DENTAL SCIENCES III</b>	<b>2 Units</b>
<b>Grade Type: Letter Grade Only</b> <b>Not Repeatable.</b> <b>2 hours lecture. (24 hours total per quarter)</b> 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; enrollment is limited to students accepted in the program. <b>FHGE: Non-GE Transferable: CSU</b>			<b>Grade Type: Letter Grade Only</b> <b>Not Repeatable.</b> <b>2 hours lecture. (24 hours total per quarter)</b> 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; enrollment is limited to students accepted in the program. <b>FHGE: Non-GE Transferable: CSU</b>		
<b>D A 58</b>	<b>SPECIALTY PRACTICE PROCEDURES</b>	<b>1 Unit</b>	<b>D A 63</b>	<b>SPECIAL PATIENT POPULATIONS</b>	<b>1 Unit</b>
<b>Grade Type: Letter Grade Only</b> <b>Not Repeatable.</b> <b>1 hour lecture. (12 hours total per quarter)</b> 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; enrollment is limited to students accepted in the program. <b>FHGE: Non-GE Transferable: CSU</b>			<b>Grade Type: Letter Grade Only</b> <b>Not Repeatable.</b> <b>1 hour lecture. (12 hours total per quarter)</b> 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; enrollment is limited to students accepted in the program. <b>FHGE: Non-GE Transferable: CSU</b>		
<b>D A 60A</b>	<b>DENTAL OFFICE BUSINESS PRACTICES I</b>	<b>2 Units</b>	<b>D A 71</b>	<b>INFECTION CONTROL &amp; HAZARDOUS WASTE MANAGEMENT</b>	<b>1.5 Units</b>
<b>Grade Type: Letter Grade Only</b> <b>Not Repeatable.</b> <b>2 hours lecture. (24 hours total per quarter)</b> 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; enrollment is limited to students accepted in the program. <b>FHGE: Non-GE Transferable: CSU</b>			<b>Grade Type: Letter Grade Only</b> <b>Not Repeatable.</b> <b>1.5 hours lecture. (18 hours total per quarter)</b> 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; enrollment is limited to students accepted in the program. <b>FHGE: Non-GE Transferable: CSU</b>		
<b>D A 60B</b>	<b>DENTAL OFFICE BUSINESS PRACTICES II</b>	<b>3 Units</b>	<b>D A 73</b>	<b>DENTAL ASSISTING SUPERVISED CLINIC</b>	<b>5.5 Units</b>
<b>Grade Type: Letter Grade Only</b> <b>Not Repeatable.</b> <b>3 hours lecture, 1 hour laboratory. (48 hours total per quarter)</b> 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; enrollment is limited to students accepted in the program. <b>FHGE: Non-GE Transferable: CSU</b>			<b>Prerequisite: D A 51A.</b> <b>Grade Type: Letter Grade, the student may select Pass/No Pass</b> <b>Not Repeatable.</b> <b>17 hours clinic. (204 hours total per quarter)</b> 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; enrollment is limited to students accepted in the program. <b>FHGE: Non-GE Transferable: CSU</b>		

**D A 74 DENTAL ASSISTING CLINICAL PRACTICE 5.5 Units**  
**Grade Type: Letter Grade, the student may select Pass/No Pass Not Repeatable.**  
**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; enrollment is limited to students accepted in the program.  
**FHGE: Non-GE Transferable: CSU**

**D A 85 RDA REVIEW 2 Units**  
**Grade Type: Letter Grade Only Not Repeatable.**  
**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; enrollment is limited to students accepted in the program.  
**FHGE: Non-GE Transferable: CSU**

**D A 88 PIT & FISSURE SEALANTS 1.5 Units**  
**Grade Type: Letter Grade Only Not Repeatable.**  
**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; enrollment is limited to students accepted in the program.  
**FHGE: Non-GE Transferable: CSU**

**D H 200L INTRODUCTION TO DENTAL HYGIENE 1.5 Units**  
**Grade Type: Letter Grade Only Not Repeatable.**  
**1.5 hours lecture, 1 hour laboratory. (30 hours total per quarter)**  
 Introduction to the profession of dental hygiene. Emphasis on dental terminology, communication skills, legal and ethical aspects of dental hygiene practice and licensing requirements. An overview of dental hygiene clinical and lab technique including infection control and examination of the head and neck. This course is a prerequisite for the BS degree in Dental Hygiene and is intended for students in that program.  
**FHGE: Non-GE**

**D H 300A ORAL BIOLOGY I 3 Units**  
**Formerly: D H 52A**  
**Advisory: Not open to students with credit in D H 52A.**  
**Grade Type: Letter Grade Only Not Repeatable.**  
**3 hours lecture. (36 hours total per quarter)**  
 Comprehensive overview of anatomy of the skull, arteries, veins, and lymphatics, musculature and nervous structures of the head and neck. Identification of the teeth, the eruption sequence, normal occlusion, and classification of occlusion used in the dental profession. Intended for students in the Dental Hygiene Baccalaureate Degree Program; enrollment is limited to students accepted in the program.  
**FHGE: Non-GE Transferable: CSU**

**D H 300B ORAL BIOLOGY II 3 Units**  
**Formerly: D H 52B**  
**Advisory: Not open to students with credit in D H 52B.**  
**Grade Type: Letter Grade Only Not Repeatable.**  
**3 hours lecture. (36 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 Baccalaureate Degree Program; enrollment is limited to students accepted in the program.  
**FHGE: Non-GE Transferable: CSU**

**D H 302 ASSESSMENT PROCEDURES IN DENTAL HYGIENE 3 Units**  
**Formerly: D H 53**  
**Advisory: Not open to students with credit in D H 53.**  
**Grade Type: Letter Grade Only Not Repeatable.**  
**3 hours lecture. (36 hours total per quarter)**  
 The first in a three 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. Analysis of current evidence based literature related to the dental hygiene patient assessment procedures. Intended for students in the Dental Hygiene Baccalaureate Degree Program; enrollment is limited to students accepted in the program.  
**FHGE: Non-GE Transferable: CSU**

**DENTAL HYGIENE**  
 Biological and Health Sciences  
 (650) 949-7538 foothill.edu/dentalhygiene/

**D H 50 ORIENTATION TO DENTAL HYGIENE 1 Unit**  
**Prerequisite: D H 200L.**  
**Grade Type: Letter Grade Only Not Repeatable.**  
**1 hour lecture, 1 hour laboratory. (24 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. Introduces infectious diseases, control strategies, hazardous materials management and waste management in the dental environment. 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 Baccalaureate Degree Program; enrollment is limited to students accepted in the 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**  
**Grade Type: Letter Grade, the student may select Pass/No Pass Not Repeatable.**  
**3-12 hours laboratory 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 304 PRE-CLINICAL DENTAL HYGIENE 5 Units**

Formerly: D H 54

**Advisory: Not open to students with credit in D H 54.****Grade Type: Letter Grade, the student may select Pass/No Pass****Not Repeatable.****1 hour lecture, 12 hours laboratory. (156 hours total per quarter)**

The first in a series in dental hygiene clinical courses. Integrates the scientific and clinical principles underlying the practice of dental hygiene. Performance of 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 practice 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 Baccalaureate Degree Program; enrollment is limited to students accepted in the program.

**FHGE: Non-GE Transferable: CSU****D H 305A INTRODUCTION TO DENTAL RADIOGRAPHY I 2 Units**

Formerly: D H 60A

**Advisory: Not open to students with credit in D H 60A.****Grade Type: Letter Grade Only****Not Repeatable.****2 hours lecture. (24 hours total per quarter)**

The first in a series of four dental radiology courses for the dental hygiene student. 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 Baccalaureate Degree Program; enrollment is limited to students accepted in the program.

**FHGE: Non-GE Transferable: CSU****D H 305B DENTAL RADIOGRAPHY II 1 Unit**

Formerly: D H 60B

**Advisory: Not open to students with credit in D H 60B.****Grade Type: Letter Grade Only****Not Repeatable.****3 hours laboratory. (36 hours total per quarter)**

The second in a series of dental radiology courses. Introduction to the radiology laboratory. Emphasis on dental x-ray techniques, film development and mounting, digital radiography and scanning. 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 Baccalaureate Degree Program; enrollment is limited to students accepted in the program.

**FHGE: Non-GE Transferable: CSU****D H 305C DENTAL RADIOGRAPHY III 2 Units**

Formerly: D H 68A

**Advisory: Not open to students with credit in D H 68A.****Grade Type: Letter Grade Only****Not Repeatable.****2 hours lecture. (24 hours total per quarter)**

The third in a series of dental radiology courses. 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 Baccalaureate Degree Program; enrollment is limited to students accepted in the program.

**FHGE: Non-GE Transferable: CSU****D H 305D DENTAL RADIOGRAPHY IV 1 Unit**

Formerly: D H 60D

**Advisory: Not open to students with credit in D H 60D.****Grade Type: Letter Grade Only****Not Repeatable.****1 hour lecture. (12 hours total per quarter)**

This is the fourth and last in the series of dental radiology courses intended for second year dental hygiene students in the program. Emphasis is on the understanding of radiographic localization techniques and common technical, operator, processing errors. Continued application of digital radiography with use of sensors and scanners and alternative imaging techniques. Intended for students in the Dental Hygiene Baccalaureate Degree Program; enrollment is limited to students accepted in the program.

**FHGE: Non-GE Transferable: CSU****D H 308 CLINICAL TECHNIQUE 6 Units**

Formerly: D H 61A

**Advisory: Not open to students with credit in D H 61A.****Grade Type: Letter Grade Only****Not Repeatable.****3 hours lecture, 9 hours laboratory. (144 hours total per quarter)**

Continuation of dental hygiene clinical practice and instrumentation techniques including: instrumentation for scaling and root debridement and instrument 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. Evaluation of best practices through evidence based research. 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 308. Intended for students in the Dental Hygiene Baccalaureate Degree Program; enrollment is limited to students accepted in the program.

**FHGE: Non-GE Transferable: CSU****D H 310 DENTAL MATERIALS 3 Units**

Formerly: D H 72

**Advisory: Not open to students with credit in D H 72.****Grade Type: Letter Grade, the student may select Pass/No Pass****Not Repeatable.****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, MSDS and regulations related to dental materials. Intended for students in the Dental Hygiene Baccalaureate Degree Program; enrollment is limited to students accepted in the program.

**FHGE: Non-GE Transferable: CSU****D H 312 EMERGENCY PROCEDURES 1 Unit**

Formerly: D H 71

**Advisory: Not open to students with credit in D H 71.****Grade Type: Letter Grade Only****Not Repeatable.****1 hour lecture. (12 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 Baccalaureate Degree Program; enrollment is limited to students accepted in the program.

**FHGE: Non-GE Transferable: None**



**D H 314 DENTAL HEALTH EDUCATION 2 Units****Formerly: D H 73****Advisory: PSYC 1 or 1H; not open to students with credit in D H 73.****Grade Type: Letter Grade Only****Not Repeatable.****2 hours lecture. (24 hours total per quarter)**

Health communication and learning theories applied to patient education. Topics include: communication theory, health literacy, working with interpreters, development of client/clinician relationships, patient motivation with particular attention to psychological, social, and economic, cultural & life stage factors. Emphasis on prevention of dental diseases through effective patient education, such as: mechanical plaque removal techniques, antimicrobial therapies, nutritional counseling for dental hygiene, and smoking cessation counseling. Preventive dental products will be reviewed and analyzed using current evidence based literature. Intended for students in the Dental Hygiene Baccalaureate Degree Program; enrollment is limited to students accepted in the program.

**FHGE: Non-GE Transferable: CSU****D H 316A PERIODONTICS I 3 Units****Formerly: D H 57A****Advisory: Not open to students with credit in D H 57A.****Grade Type: Letter Grade Only****Not Repeatable.****3 hours lecture. (36 hours total per quarter)**

The first in a series of two courses in periodontics for the dental hygiene student. Examination of anatomy and physiology of periodontium, correlating of basic sciences with the clinical aspects of periodontal diseases. American Academy of Periodontics classification system, etiology and pathogenesis of periodontal diseases. Intended for students in the Dental Hygiene Baccalaureate Degree Program; enrollment is limited to students accepted in the program.

**FHGE: Non-GE Transferable: CSU****D H 316B PERIODONTICS II 2 Units****Formerly: D H 57B****Advisory: Not open to students with credit in D H 57B.****Grade Type: Letter Grade Only****Not Repeatable.****2 hours lecture. (24 hours total per quarter)**

The second in a series of two periodontics courses for the dental hygiene student. Focus on best practices in periodontics, decision making and treatment planning, implementation of nonsurgical periodontal therapy, interviewing and education to enhance patient motivation, and evidence based therapy for the treatment and care of periodontal disease. The course also covers periodontal surgical procedures, dental implants, periodontal emergencies, legal issues in documentation and reporting. Intended for students in the Dental Hygiene Baccalaureate Degree Program; enrollment is limited to students accepted in the program.

**FHGE: Non-GE Transferable: CSU****D H 318 INTRODUCTION TO CLINIC 5 Units****Formerly: D H 61B****Advisory: D H 300B and 308 with a grade of "C" or better; possession of a current CPR certificate; not open to students with credit in D H 61B.****Grade Type: Letter Grade Only****Not Repeatable.****3 hours lecture, 6 hours clinical laboratory. (108 hours total per quarter)**

First course a year long series of clinical dental hygiene practice. Emphasis on assessing, planning, and implementing comprehensive dental hygiene care for diverse patient populations and management of patients with special needs in a clinical setting. Students apply knowledge, critical thinking, and clinical skills acquired in previous completed dental hygiene courses. Development of progress in clinical performance with each successive academic period. Intended for students in the Dental Hygiene Baccalaureate Degree Program; enrollment is limited to students accepted in the program.

**FHGE: Non-GE Transferable: CSU****D H 320A CLINICAL DENTAL HYGIENE I 3 Units****Formerly: D H 62A****Advisory: Not open to students with credit in D H 62A.****Grade Type: Letter Grade Only****Not Repeatable.****9 hours clinic. (108 hours total per quarter)**

Continuation of dental hygiene clinical practice. Emphasis on assessing, planning, and implementing comprehensive dental hygiene care for diverse patient populations and management of patients with special needs in a clinical setting. Students apply knowledge, critical thinking, and clinical skills acquired in previous completed dental hygiene courses. Additional procedures include fluoride varnish application, placement of dental sealants and individualized oral hygiene instructions. Progress of development in clinical performance will be evaluated with each successive academic period including evaluation of periodontal probing with a passing grade of 75%. Intended for students in the Dental Hygiene Baccalaureate Degree Program; enrollment is limited to students accepted in the program.

**FHGE: Non-GE Transferable: CSU****D H 320B CLINICAL DENTAL HYGIENE II 8.5 Units****Formerly: D H 62B****Advisory: Not open to students with credit in D H 62B.****Grade Type: Letter Grade Only****Not Repeatable.****1 hour lecture, 23 hours clinic. (288 hours total per quarter)**

Continuation of clinical dental hygiene practice providing comprehensive dental hygiene care in a clinic setting on patients. Emphasis on assessing, planning, and implementing comprehensive dental hygiene care for diverse patient populations and management of patients with special needs in a clinical setting. Students apply knowledge, critical thinking, and clinical skills acquired in previous completed dental hygiene courses. Additional procedures include local anesthesia, advanced instrumentation techniques, and locally delivered antimicrobials. Progress of development in clinical performance will be evaluated with each successive academic period including evaluation of periodontal probing with a passing grade of 80%. Intended for students in the Dental Hygiene Baccalaureate Degree Program; enrollment is limited to students accepted in the program.

**FHGE: Non-GE Transferable: CSU****D H 320C CLINICAL DENTAL HYGIENE III 8.5 Units****Formerly: D H 62C****Advisory: Not open to students with credit in D H 62C.****Grade Type: Letter Grade Only****Not Repeatable.****1 hour lecture, 23 hours clinic. (288 hours total per quarter)**

Continuation of clinical dental hygiene practice providing comprehensive dental hygiene care in a clinic setting on patients. Emphasis on assessing, planning, and implementing comprehensive dental hygiene care for diverse patient populations and management of patients with special needs in a clinical setting. Students apply knowledge, critical thinking, and clinical skills acquired in previous completed dental hygiene courses. Additional procedures include soft tissue curettage, alternative fulcrums and operatory positioning and interim therapeutic restorations. Progress of development in clinical performance will be evaluated with each successive academic period including evaluation of periodontal probing with a passing grade of 84%. Intended for students in the Dental Hygiene Baccalaureate Degree Program; enrollment is limited to students accepted in the program.

**FHGE: Non-GE Transferable: CSU**

**D H 320D CLINICAL DENTAL HYGIENE IV 8.5 Units**

Formerly: D H 62D

Advisory: Not open to students with credit in D H 62D.

Grade Type: Letter Grade Only

Not Repeatable.

1 hour lecture, 23 hours clinic. (288 hours total per quarter)

Final course in the series of clinical dental hygiene practice providing comprehensive dental hygiene care in a clinic setting on patients. Emphasis on assessing, planning, and implementing comprehensive dental hygiene care for diverse patient populations and management of patients with special needs in a clinical setting. Students apply knowledge, critical thinking, and clinical skills acquired in previous completed dental hygiene courses. Additional procedures include administration of nitrous oxide/oxygen analgesia. Progress of development in clinical performance will be evaluated with each successive academic period including evaluation of periodontal probing with a passing grade of 92%. Intended for students in the Dental Hygiene Baccalaureate Degree Program; enrollment is limited to students accepted in the program.

FHGE: Non-GE Transferable: CSU

**D H 322 LOCAL ANESTHESIA 2.5 Units**

Formerly: D H 65

Advisory: Not open to students with credit in D H 65.

Grade Type: Letter Grade Only

Not Repeatable.

2 hours lecture, 1.5 hours laboratory. (42 hours total per quarter)

The study of local anesthesia administration in dental procedures, including the pharmacology, anatomy, physiology, patient management and emergency procedures associated with local anesthetic procedures. Laboratory and clinical experience in administration techniques for local infiltration, field block and nerve block. Intended for students in the Dental Hygiene Baccalaureate Degree Program; enrollment is limited to students accepted in the program.

FHGE: Non-GE Transferable: CSU

**D H 324 ORAL PATHOLOGY 2 Units**

Formerly: D H 55B

Advisory: Not open to students with credit in D H 55B.

Grade Type: Letter Grade Only

Not Repeatable.

2 hours lecture. (24 hours total per quarter)

The study of pathology of the head, neck, and oral structures. Developmental conditions and diseases of bacterial and viral origin, neoplasms of the oral cavity. Clinical aspects of recognizing deviations from normal, documentation, differential diagnosis and referral. The role of the dental hygienist in education and prevention, early detection and referral of lesions of the head and neck regions. Intended for students in the Dental Hygiene Baccalaureate Degree Program; enrollment is limited to students accepted in the program.

FHGE: Non-GE Transferable: CSU

**D H 326A COMMUNITY DENTAL HEALTH I 2 Units**

Formerly: D H 58A, 63C

Advisory: Not open to students with credit in D H 58A or 63C.

Grade Type: Letter Grade Only

Not Repeatable.

2 hours lecture, 1 hour laboratory. (36 hours total per quarter)

The first course in a year long series in the study of community dental health problems and disparities that exist in health care. The science of epidemiology, research and writing skills, and statistics will be discussed. 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 Baccalaureate Degree Program; enrollment is limited to students accepted in the program.

FHGE: Non-GE Transferable: CSU

**D H 326B COMMUNITY DENTAL HEALTH II 2 Units**

Formerly: D H 58B, 63D

Advisory: Not open to students with credit in D H 58B or 63D.

Grade Type: Letter Grade Only

Not Repeatable.

2 hours lecture, 1 hour laboratory. (36 hours total per quarter)

Continuation of D H 326A. 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 Baccalaureate Degree Program; enrollment is limited to students accepted in the program.

FHGE: Non-GE Transferable: CSU

**D H 326C COMMUNITY DENTAL HEALTH III 2 Units**

Formerly: D H 58C

Advisory: Not open to students with credit in D H 58C.

Grade Type: Letter Grade Only

Not Repeatable.

2 hours lecture, 1 hour laboratory. (36 hours total per quarter)

Continuation of D H 326B. Course includes 4 weeks of outside field work to assess and analyze a target group, design lesson plans/program activities and present to target group, and evaluation of program outcomes. Career options for registered dental hygienists and scientific communication formats will also be discussed. Intended for students in the Dental Hygiene Baccalaureate Degree Program; enrollment is limited to students accepted in the program.

FHGE: Non-GE Transferable: CSU

**D H 328A CLINICAL DENTAL HYGIENE THEORY I 2 Units**

Formerly: D H 75A

Advisory: Not open to students with credit in D H 75A.

Grade Type: Letter Grade Only

Not Repeatable.

1 hour lecture, 3 hours laboratory. (48 hours total per quarter)

Discussion and demonstration of advanced and supplemental dental hygiene functions: digital intraoral photography, dental hygiene instrumentation, ultrasonic scaling techniques, soft tissue curettage and locally delivered antimicrobials. Supportive course to reinforce and amplify the knowledge and skills needed to perform dental hygiene procedures in the clinical setting for D H 320B. Intended for students in the Dental Hygiene Baccalaureate Degree Program; enrollment is limited to students accepted in the program.

FHGE: Non-GE Transferable: CSU

**D H 328B CLINICAL DENTAL HYGIENE THEORY II 2 Units**

Formerly: D H 75B

Advisory: Not open to students with credit in D H 75B.

Grade Type: Letter Grade Only

Not Repeatable.

1 hour lecture, 3 hours laboratory. (48 hours total per quarter)

Discussion and demonstration of advanced and supplemental dental hygiene functions, interim therapeutic restorations, advanced instrumentation techniques, advanced local anesthesia techniques, dentinal desensitization, air polishing, implants in dentistry, orthodontic therapy and new technologies 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 320C. Intended for students in the Dental Hygiene Baccalaureate Degree Program; enrollment is limited to students accepted in the program.

FHGE: Non-GE Transferable: CSU

**D H 328C CLINICAL DENTAL HYGIENE THEORY III 2 Units**

Formerly: D H 75C

Advisory: Not open to students with credit in D H 75C.

Grade Type: Letter Grade Only

Not Repeatable.

1 hour lecture, 3 hours laboratory. (48 hours total per quarter)

Preparation for clinical licensing board examinations. Overview of exam criteria, identification an appropriate patient for clinical state and/or regional board licensing exam for Dental Hygienists. Strategies for exam preparation 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 Baccalaureate Degree Program; enrollment is limited to students accepted in the program.

FHGE: Non-GE Transferable: CSU

**D H 330 NITROUS OXIDE/OXYGEN ANALGESIA 1 Unit**

Formerly: D H 67

Advisory: Not open to students with credit in D H 67.

Grade Type: Letter Grade Only

Not Repeatable.

1 hour lecture, 1 hour 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 Baccalaureate Degree Program; enrollment is limited to students accepted in the program.

FHGE: Non-GE Transferable: CSU

**D H 332 ETHICS, LAW & BUSINESS PRACTICES 3 Units**

Formerly: D H 64

Advisory: Not open to students with credit in D H 64.

Grade Type: Letter Grade Only

Not Repeatable.

3 hours lecture. (36 hours total per quarter)

The study of ethics, jurisprudence, business practices, finance, management, and policy creation for oral health care professionals, programs and businesses. This course examines current societal and professional issues and their impact on dental hygiene business practices and management. The course will cover the following areas: planning, strategy and leadership, legal and ethical issues affecting businesses in the oral health care sector, financial statements, and personnel considerations. The course will prepare students to take the California Dental Hygiene Law & Ethics exam, required for licensing as a Registered Dental Hygienist. Intended for students in the Dental Hygiene Baccalaureate Degree Program; enrollment is limited to students accepted in the program.

FHGE: Non-GE Transferable: CSU

**D H 350A DENTAL HYGIENE RESEARCH & CAPSTONE PROJECT I 5 Units**

Grade Type: Letter Grade Only

Not Repeatable.

5 hours lecture. (60 hours total per quarter)

First in a series of three capstone courses. Introduction to the capstone project and evaluation of scientific evidence-based literature. Basic research design components and writing skills will be discussed. Analysis of career options for dental hygienists including public health, research, education, corporate sales and marketing, administration and advocacy. Dental workforce models will be explored. Intended for students in the Dental Hygiene Baccalaureate Degree Program; enrollment is limited to students accepted in the program.

FHGE: Non-GE Transferable: CSU

**D H 350B DENTAL HYGIENE RESEARCH & CAPSTONE PROJECT II 5 Units**

Grade Type: Letter Grade Only

Not Repeatable.

5 hours lecture. (60 hours total per quarter)

The second in a series of three capstone courses, continuation of D H 350A. Emphasis on development of capstone project proposal and implementation, including project description, assessment tools, project goals and objectives and activities. Field work to implement capstone project will be completed. Interprofessional practice within the health care profession will be discussed. Evidence-based research in health care decision making, the oral-systemic link and the importance of lifelong learning will be explored. Intended for students in the Dental Hygiene Baccalaureate Degree Program; enrollment is limited to students accepted in the program.

FHGE: Non-GE Transferable: CSU

**D H 350C DENTAL HYGIENE RESEARCH & CAPSTONE PROJECT III 5 Units**

Grade Type: Letter Grade Only

Not Repeatable.

5 hours lecture. (60 hours total per quarter)

The third course in a series of three capstone courses. Completion of capstone project including final field work to evaluate project outcomes and statistical analysis. The final version of the written literature review and project plan will be completed. Scientific communication methods with an emphasis on poster presentation techniques will be addressed. Contemporary issues in dental hygiene including aging populations, health care reform and access to care will be discussed. Intended for students in the Dental Hygiene Baccalaureate Degree Program; enrollment is limited to students accepted in the program.

FHGE: Non-GE Transferable: CSU

**D H 352 HEALTH COMMUNICATION & CULTURAL ISSUES 5 Units**

Grade Type: Letter Grade Only

Not Repeatable.

5 hours lecture. (60 hours total per quarter)

Health communication and multicultural issues unique to the dental and medical fields. Topics include intercultural communication; health literacy; interpersonal, small group, electronic, and nonverbal communication; listening; persuasion, caring for limited English proficient people; and working with interpreters. Intended for students in the Dental Hygiene Baccalaureate Degree Program; enrollment is limited to students accepted in the completion degree track.

FHGE: Non-GE Transferable: none

**D H 354 HEALTH CARE MANAGEMENT 5 Units**

Grade Type: Letter Grade Only

Not Repeatable.

5 hours lecture. (60 hours total per quarter)

An introduction to business practices, finance, management, and policy creation for oral health care programs and businesses. This course examines current societal and professional issues and their impact on dental hygiene business practices and management. The course will cover the following areas: planning, strategy and leadership, legal and ethical issues affecting businesses in the oral health care sector, financial statements, and personnel considerations. Intended for students in the Dental Hygiene Baccalaureate Degree Program; enrollment is limited to students accepted in the completion degree track.

FHGE: Non-GE Transferable: none

**D H 356 EDUCATION THEORY, PRACTICE & ADMINISTRATION 5 Units**

**Grade Type: Letter Grade Only  
Not Repeatable.**

**5 hours lecture. (60 hours total per quarter)**

The study of education theories and principles for didactic, lab and clinical courses. The faculty role in active teaching and learning, development of critical thinking and reflective writing, development of curriculum, outcomes and competencies, and course delivery methods. Theory and practices of clinical instruction and supervision, related to psychomotor skill development, competency-based evaluation, student mentoring and remediation. Examination of organizational and administrative philosophy and practice in curriculum planning, implementation and evaluation based on accreditation standards. Intended for students in the Dental Hygiene Baccalaureate Degree Program; enrollment is limited to students accepted in the completion degree track.

**FHGE: Non-GE Transferable: none**

**DMS 52A PHYSICAL PRINCIPLES OF DIAGNOSTIC MEDICAL SONOGRAPHY I 2 Units**

**Prerequisite: DMS 50A.**

**Grade Type: Letter Grade Only**

**Not Repeatable.**

**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; enrollment is limited to students accepted in the program.

**FHGE: Non-GE Transferable: CSU**

**DMS 52B PHYSICAL PRINCIPLES OF DIAGNOSTIC MEDICAL SONOGRAPHY II 2 Units**

**Prerequisite: DMS 52A.**

**Grade Type: Letter Grade Only**

**Not Repeatable.**

**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; enrollment is limited to students accepted in the program.

**FHGE: Non-GE Transferable: CSU**

**DMS 52C PHYSICAL PRINCIPLES OF DIAGNOSTIC MEDICAL SONOGRAPHY III 2 Units**

**Prerequisite: DMS 52B.**

**Grade Type: Letter Grade Only**

**Not Repeatable.**

**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; enrollment is limited to students accepted in the program.

**FHGE: Non-GE Transferable: CSU**

**DIAGNOSTIC MEDICAL SONOGRAPHY**

**Biological and Health Sciences**

**(650) 949-7538 foothill.edu/dms/**

**DMS 50A DIAGNOSTIC MEDICAL SONOGRAPHY PRINCIPLES & PROTOCOLS 4 Units**

**Prerequisites: BIOL 40A, 40B and 40C.**

**Corequisites: DMS 50B, 60A and 72A.**

**Grade Type: Letter Grade Only**

**Not Repeatable.**

**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; enrollment is limited to students accepted in the program.

**FHGE: Non-GE Transferable: CSU**

**DMS 50B SONOGRAPHY & PATIENT CARE 2 Units**

**Corequisites: DMS 50A, 60A and 72A.**

**Grade Type: Letter Grade Only**

**Not Repeatable.**

**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; enrollment is limited to students accepted in the program.

**FHGE: Non-GE Transferable: CSU**

**DMS 51A SECTIONAL ANATOMY 3 Units**

**Prerequisites: BIOL 40A, 40B and 40C or equivalent.**

**Grade Type: Letter Grade Only**

**Not Repeatable.**

**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; enrollment is limited to students accepted in the program.

**FHGE: Non-GE Transferable: CSU**

**DMS 53A DIAGNOSTIC MEDICAL SONOGRAPHY I 2 Units**

**Prerequisite: DMS 50A.**

**Grade Type: Letter Grade Only**

**Not Repeatable.**

**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; enrollment is limited to students accepted in the program.

**FHGE: Non-GE Transferable: CSU**

**DMS 53B DIAGNOSTIC MEDICAL SONOGRAPHY II 2 Units**

**Prerequisite: DMS 53A.**

**Grade Type: Letter Grade Only**

**Not Repeatable.**

**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; enrollment is limited to students accepted in the program.

**FHGE: Non-GE Transferable: CSU**

<b>DMS 53C</b>	<b>DIAGNOSTIC MEDICAL SONOGRAPHY III</b>	<b>2 Units</b>	<b>DMS 56A</b>	<b>VASCULAR SONOGRAPHY</b>	<b>3 Units</b>
<b>Prerequisite:</b> DMS 53B. <b>Grade Type:</b> Letter Grade Only <b>Not Repeatable.</b> <b>2 hours lecture, 1 hour laboratory. (36 hours total per quarter)</b> 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; enrollment is limited to students accepted in the program. <b>FHGE:</b> Non-GE <b>Transferable:</b> CSU			<b>Prerequisite:</b> DMS 50A. <b>Grade Type:</b> Letter Grade Only <b>Not Repeatable.</b> <b>3 hours lecture. (36 hours total per quarter)</b> 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; enrollment is limited to students accepted in the program. <b>FHGE:</b> Non-GE <b>Transferable:</b> CSU		
<b>DMS 54A</b>	<b>GYNECOLOGY</b>	<b>2 Units</b>	<b>DMS 56B</b>	<b>ADVANCED APPLICATIONS OF VASCULAR TECHNOLOGY</b>	<b>2 Units</b>
<b>Prerequisite:</b> DMS 50A. <b>Grade Type:</b> Letter Grade Only <b>Not Repeatable.</b> <b>2 hours lecture, 1 hour laboratory (laboratory meets every other week). (30 hours total per quarter)</b> 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; enrollment is limited to students accepted in the program. <b>FHGE:</b> Non-GE <b>Transferable:</b> CSU			<b>Prerequisite:</b> DMS 56A. <b>Grade Type:</b> Letter Grade Only <b>Not Repeatable.</b> <b>2 hours lecture. (24 hours total per quarter)</b> 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; enrollment is limited to students accepted in the program. <b>FHGE:</b> Non-GE <b>Transferable:</b> CSU		
<b>DMS 54B</b>	<b>GYNECOLOGY &amp; OBSTETRICS</b>	<b>2 Units</b>	<b>DMS 60A</b>	<b>CRITIQUE &amp; PATHOLOGY I</b>	<b>2 Units</b>
<b>Prerequisite:</b> DMS 54A. <b>Grade Type:</b> Letter Grade Only <b>Not Repeatable.</b> <b>2 hours lecture, 1 hour laboratory (laboratory meets every other week). (30 hours total per quarter)</b> 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; enrollment is limited to students accepted in the program. <b>FHGE:</b> Non-GE <b>Transferable:</b> CSU			<b>Prerequisites:</b> BIOL 40A, 40B and 40C. <b>Corequisites:</b> DMS 50A, 50B and 72A. <b>Grade Type:</b> Letter Grade Only <b>Not Repeatable.</b> <b>2 hours lecture. (24 hours total per quarter)</b> 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; enrollment is limited to students accepted in the program. <b>FHGE:</b> Non-GE <b>Transferable:</b> CSU		
<b>DMS 55A</b>	<b>OBSTETRICS I</b>	<b>2 Units</b>	<b>DMS 60B</b>	<b>CRITIQUE &amp; PATHOLOGY II</b>	<b>2 Units</b>
<b>Prerequisite:</b> DMS 54B. <b>Grade Type:</b> Letter Grade Only <b>Not Repeatable.</b> <b>2 hours lecture, 1 hour laboratory (laboratory meets every other week). (30 hours total per quarter)</b> 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; enrollment is limited to students accepted in the program. <b>FHGE:</b> Non-GE <b>Transferable:</b> CSU			<b>Prerequisite:</b> DMS 60A. <b>Grade Type:</b> Letter Grade Only <b>Not Repeatable.</b> <b>2 hours lecture. (24 hours total per quarter)</b> 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; enrollment is limited to students accepted in the program. <b>FHGE:</b> Non-GE <b>Transferable:</b> CSU		
<b>DMS 55B</b>	<b>OBSTETRICS II</b>	<b>2 Units</b>	<b>DMS 60C</b>	<b>CRITIQUE &amp; PATHOLOGY III</b>	<b>2 Units</b>
<b>Prerequisite:</b> DMS 55A. <b>Grade Type:</b> Letter Grade Only <b>Not Repeatable.</b> <b>2 hours lecture, 1 hour laboratory (laboratory meets every other week). (30 hours total per quarter)</b> 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; enrollment is limited to students accepted in the program. <b>FHGE:</b> Non-GE <b>Transferable:</b> CSU			<b>Prerequisite:</b> DMS 60B. <b>Grade Type:</b> Letter Grade Only <b>Not Repeatable.</b> <b>2 hours lecture. (24 hours total per quarter)</b> 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; enrollment is limited to students accepted in the program. <b>FHGE:</b> Non-GE <b>Transferable:</b> CSU		

**DMS 60D CRITIQUE & PATHOLOGY IV 2 Units****Prerequisite: DMS 60C.****Grade Type: Letter Grade Only****Not Repeatable.****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; enrollment is limited to students accepted in the program.

**FHGE: Non-GE Transferable: CSU****DMS 60E CRITIQUE & PATHOLOGY V 2 Units****Prerequisite: DMS 60D.****Grade Type: Letter Grade Only****Not Repeatable.****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; enrollment is limited to students accepted in the program.

**FHGE: Non-GE Transferable: CSU****DMS 60F CRITIQUE & PATHOLOGY VI 2 Units****Prerequisite: DMS 60E.****Grade Type: Letter Grade Only****Not Repeatable.****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; enrollment is limited to students accepted in the program.

**FHGE: Non-GE Transferable: CSU****DMS 70A CLINICAL PRECEPTORSHIP I 11.5 Units****Prerequisite: DMS 72A.****Grade Type: Letter Grade Only****Not Repeatable.****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; enrollment is limited to students accepted in the program.

**FHGE: Non-GE Transferable: CSU****DMS 70B CLINICAL PRECEPTORSHIP II 10.5 Units****Prerequisite: DMS 70A.****Grade Type: Letter Grade Only****Not Repeatable.****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; enrollment is limited to students accepted in the program.

**FHGE: Non-GE Transferable: CSU****DMS 70C CLINICAL PRECEPTORSHIP III 9.5 Units****Prerequisite: DMS 70B.****Grade Type: Letter Grade Only****Not Repeatable.****32 hours laboratory. This is an 11 week course. (352 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; enrollment is limited to students accepted in the program.

**FHGE: Non-GE Transferable: CSU****DMS 70D CLINICAL PRECEPTORSHIP IV 11.5 Units****Prerequisite: DMS 70C.****Grade Type: Letter Grade, the student may select Pass/No Pass****Not Repeatable.****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; enrollment is limited to students accepted in the program.

**FHGE: Non-GE Transferable: CSU****DMS 70E CLINICAL PRECEPTORSHIP V 10.5 Units****Prerequisite: DMS 70D.****Grade Type: Letter Grade Only****Not Repeatable.****32 hours laboratory. (384 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; enrollment is limited to students accepted in the program.

**FHGE: Non-GE Transferable: CSU**

<b>DMS 70R</b>	<b>INDEPENDENT STUDY IN</b>	<b>1 Unit</b>
<b>DMS 71R</b>	<b>DIAGNOSTIC MEDICAL</b>	<b>2 Units</b>
<b>DMS 72R</b>	<b>SONOGRAPHY</b>	<b>3 Units</b>
<b>DMS 73R</b>		<b>4 Units</b>

**Grade Type: Letter Grade, the student may select Pass/No Pass****Not Repeatable.****3-12 hours laboratory 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.  
**Grade Type:** Letter Grade Only  
**Not Repeatable.**  
**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; enrollment is limited to students accepted in the program.  
**FHGE: Non-GE**    **Transferable: CSU**

**DMS 80A**     **ADVANCED SONOGRAPHIC PRINCIPLES**     **4 Units**

**Prerequisite:** DMS 60D.  
**Grade Type:** Letter Grade Only  
**Not Repeatable.**  
**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; enrollment is limited to students accepted in the program.  
**FHGE: Non-GE**    **Transferable: CSU**

**DMS 200**     **INTRODUCTION TO DIAGNOSTIC MEDICAL SONOGRAPHY**     **2 Units**

**Non-degree applicable credit course.**  
**Advisory:** Previous completion of anatomy and physiology courses (e.g., BIOL 40A, 40B, 40C) and medical terminology course (e.g., AHS 52) strongly recommended to be successful in this course.  
**Grade Type:** Letter Grade Only  
**Not Repeatable.**  
**1.5 hours lecture, 1.5 hours laboratory. (36 hours total per quarter)**  
 Introduction to the profession of diagnostic medical sonography. Emphasis on terminology, communication skills, legal and ethical aspects of diagnostic medical sonography practice and credentialing requirements. An overview of the scope of diagnostic medical sonography, including ultrasound guided invasive procedures, infection control and correct equipment handling. Intended for students applying to the diagnostic medical sonography program.  
**FHGE: Non-GE**

**ECON 1B**     **PRINCIPLES OF MICROECONOMICS**     **5 Units**

**Prerequisite:** MATH 220.  
**Advisory:** Demonstrated proficiency in English by placement as determined by score on the English placement test OR through an equivalent placement process OR completion of ESLL 125 & ESLL 249; MATH 105.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**  
**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 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 as determined by score on the English placement test OR through an equivalent placement process OR completion of ESLL 125 & ESLL 249; not open to students with credit in ECON 9H, POLI 9 or POLI 9H.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**  
**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:** Not open to students with credit in ECON 9, POLI 9 or 9H.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**  
**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 25**     **THE GLOBAL ECONOMY**     **4 Units**

**Advisory:** ECON 1A and 1B.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**  
**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**

**Prerequisite:** Honors Institute participant.  
**Advisory:** Not open to students with credit in ECON 34 or 34H.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**  
**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**

## ECONOMICS

Business and Social Sciences  
 (650) 949-7322    [foothill.edu/economics/](http://foothill.edu/economics/)

**ECON 1A**     **PRINCIPLES OF MACROECONOMICS**     **5 Units**

**Prerequisite:** MATH 220.  
**Advisory:** Demonstrated proficiency in English by placement as determined by score on the English placement test OR through an equivalent placement process OR completion of ESLL 125 & ESLL 249; MATH 105.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**  
**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 and 1B may be taken in either order.  
**FHGE: Social & Behavioral Sciences**    **Transferable: UC/CSU**

ECON 70R	INDEPENDENT STUDY IN ECONOMICS	1 Unit
ECON 71R		2 Units
ECON 72R		3 Units
ECON 73R		4 Units

**Grade Type: Letter Grade, the student may select Pass/No Pass Not Repeatable.**

**3-12 hours laboratory 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**

## EDUCATION

**Business and Social Sciences**  
(650) 949-7322 [foothill.edu/bss/](http://foothill.edu/bss/)

EDUC 2	INTRODUCTION TO ELEMENTARY EDUCATION	4 Units
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**Advisory: One of the following: ENGL 1A, 1AH, or 1S & 1T strongly recommended.**

**Grade Type: Letter Grade Only Not Repeatable.**

**4 hours lecture. (48 hours total per quarter)**

This course provides an overview of the American education system for students interested in teaching in grades K-12. Educational philosophies, history of education in the United States, and major economic, political and social policies that have affected the school system will be explored. In addition, the structure of the K-12 school system, the teaching profession, the social and cultural contexts of schooling and an overview of curriculum design will be covered.

**FHGE: Non-GE Transferable: UC/CSU**

## EMERGENCY MEDICAL SERVICES (EMT/EMR/ PARAMEDIC)

Biological and Health Sciences  
(408) 745-8022 [foothill.edu/ems/](http://foothill.edu/ems/)

EMS 50	EMERGENCY MEDICAL RESPONSE	5 Units
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**Formerly: EMR 50, HLTH 55**  
**Advisory: Not open to students with credit in EMR 50, HLTH 5 or 55.**  
**Grade Type: Letter Grade, the student may select Pass/No Pass Not Repeatable.**

**4 hours lecture, 4 hours laboratory. (96 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**

EMS 52	EMERGENCY MEDICAL TECHNICIAN: BASIC PART A	5 Units
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**Formerly: EMT 50, 304**  
**Prerequisite: EMS 50 or 400, or First Responder Course, or equivalent work experience as determined by the instructor.**  
**Corequisite: EMS 52A.**

**Advisory: EMS 52 and 53 may not be taken concurrently; not open to students with credit in EMT 50 or 304.**

**Grade Type: Letter Grade, the student may select Pass/No Pass Not Repeatable.**

**4 hours lecture, 3 hours 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-1.

**FHGE: Non-GE Transferable: CSU**

EMS 52A	EMERGENCY MEDICAL TECHNICIAN SIMULATION LABORATORY I	0.5 Units
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**Corequisite: EMS 52.**  
**Advisory: EMS 52A and 53A may not be taken concurrently.**  
**Grade Type: Letter Grade Only Not Repeatable.**

**1.5 hours laboratory. (18 hours total per quarter)**

First in a two course series, which provides the student with hands on application of skills necessary to work as an emergency medical technician (EMT). Students will participate in patient assessment scenarios focused on medical complaints and treatments of various diseases, to build competence and prepare to sit for the state certification exam and enter into the EMT workforce.

**FHGE: Non-GE Transferable: CSU**



**EMS 53**      **EMERGENCY MEDICAL  
TECHNICIAN: BASIC PART B**      **5.5 Units**

Formerly: EMT 51, 305  
 Prerequisite: EMS 52.  
 Corequisite: EMS 53A.  
 Advisory: EMS 53 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-1; EMS 52 and 53 may not be taken concurrently; not open to students with credit in EMT 51 or 305.  
**Grade Type: Letter Grade, the student may select Pass/No Pass Not Repeatable.**  
**4 hours lecture, 3 hours 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-1. 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    Transferable: CSU**

**EMS 53A**      **EMERGENCY MEDICAL  
TECHNICIAN SIMULATION  
LABORATORY II**      **0.5 Units**

Corequisite: EMS 53.  
 Advisory: EMS 53A 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-1; EMS 52A and 53A may not be taken concurrently.  
**Grade Type: Letter Grade Only Not Repeatable.**  
**1.5 hours laboratory. (18 hours total per quarter)**  
 Second in a two course series, which provides the student with hands on application of skills necessary to work as an emergency medical technician (EMT). Students will participate in patient assessment scenarios focused on trauma and treatment of various mechanisms of injuries, to build competence and prepare to sit for the state certification exam and enter into the EMT workforce.  
**FHGE: Non-GE    Transferable: CSU**

**EMS 60A**      **PARAMEDIC COGNITIVE  
& AFFECTIVE IA**      **9 Units**

Formerly: EMTP 60A  
 Prerequisite: BIOL 40A or equivalent (with laboratory).  
 Corequisite: EMS 60B.  
 Advisory: Not open to students with credit in EMTP 60A or 100A.  
**Grade Type: Letter Grade Only Not Repeatable.**  
**9 hours lecture. (108 hours total per quarter)**  
 First of three modularized lecture series in 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; enrollment is limited to students accepted in the program.  
**FHGE: Non-GE    Transferable: CSU**

**EMS 60B**      **PARAMEDIC COGNITIVE,  
PSYCHOMOTOR & AFFECTIVE IB**      **3 Units**

Formerly: EMTP 60B  
 Corequisite: EMS 60A.  
 Advisory: Not open to students with credit in EMTP 60B.  
**Grade Type: Letter Grade, the student may select Pass/No Pass Not Repeatable.**  
**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, oropharyngeal 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; enrollment is limited to students accepted in the program.  
**FHGE: Non-GE    Transferable: CSU**

**EMS 61A**      **PARAMEDIC COGNITIVE  
& AFFECTIVE IIA**      **9 Units**

Formerly: EMTP 61A  
 Prerequisites: EMS 60A and 60B.  
 Corequisite: EMS 61B.  
 Advisory: Not open to students with credit in EMTP 61A or 100B.  
**Grade Type: Letter Grade Only Not Repeatable.**  
**9 hours lecture. (108 hours total per quarter)**  
 Continuation of EMS 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; enrollment is limited to students accepted in the program.  
**FHGE: Non-GE    Transferable: CSU**

**EMS 61B**      **PARAMEDIC COGNITIVE,  
AFFECTIVE & PSYCHOMOTOR IIB**      **3 Units**

Formerly: EMTP 61B  
 Prerequisites: EMS 60A and 60B.  
 Corequisite: EMS 61A.  
 Advisory: Not open to students with credit in EMTP 61B or 100B.  
**Grade Type: Letter Grade Only Not Repeatable.**  
**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; enrollment is limited to students accepted in the program.  
**FHGE: Non-GE    Transferable: CSU**

**EMS 62A**      **PARAMEDIC COGNITIVE & AFFECTIVE IIIA**      **9 Units**  
Formerly: EMTP 62A  
Prerequisites: EMS 61A and 61B.  
Advisory: Not open to students with credit in EMTP 62A or 100C.  
Grade Type: Letter Grade Only  
Not Repeatable.  
9 hours lecture. (108 hours total per quarter)  
Continuation of EMS 61A, and 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; enrollment is limited to students accepted in the program.  
FHGE: Non-GE    Transferable: CSU

**EMS 62B**      **PARAMEDIC COGNITIVE, AFFECTIVE & PSYCHOMOTOR IIIB**      **3 Units**  
Formerly: EMTP 62B  
Prerequisites: EMS 61A and 61B.  
Advisory: Not open to students with credit in EMTP 62B.  
Grade Type: Letter Grade Only  
Not Repeatable.  
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, oropharyngeal 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; enrollment is limited to students accepted in the program.  
FHGE: Non-GE    Transferable: CSU

**EMS 63A**      **PARAMEDIC HOSPITAL SPECIALTY ROTATIONS**      **2 Units**  
Formerly: EMTP 63A  
Prerequisites: EMS 60A and 60B.  
Corequisites: EMS 61A and 61B.  
Advisory: Not open to students with credit in EMTP 63A or 102.  
Grade Type: Letter Grade Only  
Not Repeatable.  
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; enrollment is limited to students accepted in the program.  
FHGE: Non-GE    Transferable: CSU

**EMS 63B**      **PARAMEDIC HOSPITAL EMERGENCY DEPARTMENT ROTATIONS**      **4.5 Units**  
Formerly: EMTP 63B  
Prerequisites: EMS 60A and 60B.  
Corequisite: Completion of or concurrent enrollment in EMS 63A.  
Advisory: Not open to students with credit in EMTP 63B or 102.  
Grade Type: Letter Grade Only  
Not Repeatable.  
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; enrollment is limited to students accepted in the program.  
FHGE: Non-GE    Transferable: CSU

**EMS 64A**      **PARAMEDIC AMBULANCE FIELD INTERNSHIP I**      **13 Units**  
Formerly: EMTP 64A  
Advisory: Not open to students with credit in EMTP 64A or 103A.  
Grade Type: Letter Grade Only  
Not Repeatable.  
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. Intended for students in the Paramedic Program; enrollment is limited to students accepted in the program.  
FHGE: Non-GE    Transferable: CSU

**EMS 64B**      **PARAMEDIC AMBULANCE FIELD INTERNSHIP II**      **13 Units**  
Formerly: EMTP 64B  
Advisory: Not open to students with credit in EMTP 64B or 103B.  
Grade Type: Letter Grade Only  
Not Repeatable.  
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. Intended for students in the Paramedic Program; enrollment is limited to students accepted in the program.  
FHGE: Non-GE    Transferable: CSU

**EMS 120**      **EMERGENCY MEDICAL SERVICES ACADEMY**      **8 Units**  
Formerly: EMT 120, 309  
Prerequisite: EMS 53.  
Advisory: Not open to students with credit in EMT 120 or 309.  
Grade Type: Letter Grade Only  
Not Repeatable.  
6 hours lecture, 6 hours laboratory. (144 hours total per quarter)  
Students will participate in physical training identical to that of EMTs employed by large private ambulance providers. Heavy emphasis is placed on training in patient moving and lifting, documentation, scenario practice, customer service and medical legal issues. Mock interviews will be conducted by job recruiters from local public and private agencies. Successful completion of the class will result in a stronger first time job applicant. Intended for students interested in a career as an Emergency Medical Technologist.  
FHGE: Non-GE

**EMS 200**      **PARAMEDIC ACADEMY**      **1.5 Units**  
Formerly: EMTP 200  
Prerequisite: Current CPR card; current EMT license; at least 2 years of experience as an EMT.  
Advisory: Not open to students with credit in EMTP 200.  
Grade Type: Letter Grade Only  
Not Repeatable.  
6 hours lecture, 36 hours laboratory. This is a 1 week course. (42 hours total per quarter)  
Introduction to the profession of paramedicine. Emphasis on paramedic terminology, communication skills, licensure, documentation, patient assessments, and skills proficiency. Discussion of the requirements for the paramedic program. Intended for students entering or considering to enter the paramedic program. This course is designed to prepare the student with the basic knowledge and skills necessary to succeed in the Paramedic Academy.  
FHGE: Non-GE

**EMS 203      EMERGENCY MEDICAL  
TECHNICIAN: BASIC  
CONTINUING EDUCATION      2.5 Units**

Non-degree applicable credit course.

Formerly: EMT 203, 303

**Advisory:** Students must possess either 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); students who have not fulfilled NREMT requirements within one year of EMT course completion may enroll; students must also possess current certification in American Red Cross CPR-BLS for the Professional Rescuer or American Heart Association CPR for the Healthcare Provider; students may repeat this course without petition when necessary to meet a legally mandated training requirement as a condition of volunteer or paid employment.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Unlimited Repeatability.**

**2 hours lecture, 1.5 hours laboratory. (42 hours total per quarter)**

This course 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) of 40 hours. 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. Students maintaining their National Registry of Emergency Technicians (NREMT) certification will meet the NREMT transition requirements with this course.

**FHGE: Non-GE**

**EMS 400      EMERGENCY MEDICAL  
RESPONSE NONCREDIT      0 Units**

Non-degree applicable non-credit course.

Formerly: EMR 400

**Grade Type:** Non-credit course that receives no grade  
**Unlimited Repeatability.**

**4 hours lecture, 4 hours laboratory. (96 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. Students must successfully pass this course to enter in the EMT course.

**FHGE: Non-GE**

**EMS 401      EMERGENCY MEDICAL  
TECHNICIAN: BASIC  
PART A NONCREDIT      0 Units**

Non-degree applicable non-credit course.

Formerly: EMT 401

**Prerequisite:** EMS 50 or 400, or First Responder Course, or equivalent work experience as determined by the instructor.

**Corequisite:** EMS 401A.

**Advisory:** EMS 401 and 402 may not be taken concurrently.

**Grade Type:** Non-credit course that receives no grade

**Unlimited Repeatability.**

**4 hours lecture, 3 hours 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-1.

**FHGE: Non-GE**

**EMS 401A      EMERGENCY MEDICAL  
TECHNICIAN SIMULATION  
LABORATORY I NONCREDIT      0 Units**

Non-degree applicable non-credit course.

**Corequisite:** EMS 401.

**Advisory:** EMS 401A and 402A may not be taken concurrently.

**Grade Type:** Non-credit course that receives no grade

**Unlimited Repeatability.**

**1.5 hours laboratory. (18 hours total per quarter)**

First in a two course series, which provides the student with hands on application of skills necessary to work as an emergency medical technician (EMT). Students will participate in patient assessment scenarios focused on medical complaints and treatments of various diseases, to build competence and prepare to sit for the state certification exam and enter into the EMT workforce.

**FHGE: Non-GE**

**EMS 402      EMERGENCY MEDICAL  
TECHNICIAN: BASIC  
PART B NONCREDIT      0 Units**

Non-degree applicable non-credit course.

Formerly: EMT 402

**Prerequisite:** EMS 401.

**Corequisite:** EMS 402A.

**Advisory:** EMS 402 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-1; EMS 401 and 402 may not be taken concurrently.

**Grade Type:** Non-credit course that receives no grade

**Unlimited Repeatability.**

**4 hours lecture, 3 hours 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-1. 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**

**EMS 402A      EMERGENCY MEDICAL  
TECHNICIAN SIMULATION  
LABORATORY II NONCREDIT      0 Units**

Non-degree applicable non-credit course.

**Corequisite:** EMS 402.

**Advisory:** EMS 402A 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-1; EMS 401A and 402A may not be taken concurrently.

**Grade Type:** Non-credit course that receives no grade

**Unlimited Repeatability.**

**1.5 hours laboratory. (18 hours total per quarter)**

Second in a two course series, which provides the student with hands on application of skills necessary to work as an emergency medical technician (EMT). Students will participate in patient assessment scenarios focused on trauma and treatment of various mechanisms of injuries, to build competence and prepare to sit for the state certification exam and enter into the EMT workforce.

**FHGE: Non-GE      Transferable: none**

## ENGINEERING

Physical Sciences, Mathematics & Engineering  
(650) 949-7259 foothill.edu/engineering/

### ENGR 6 ENGINEERING GRAPHICS 4 Units

**Advisory:** ENGL 110 or ESLL 125; MATH 220.

**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**

**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

**Prerequisite:** MATH 220.

**Advisory:** ENGL 110 or ESLL 125; UC will accept for transfer credit either ENGR 10 or ENGR 49, not both; not open to students with credit in ENGR 20.

**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**

**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 11 PROGRAMMING & PROBLEM-SOLVING IN MATLAB 5 Units

**Prerequisite:** MATH 1B or 1BH.

**Advisory:** ENGL 110.

**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**

**4 hours lecture, 3 hours laboratory. (84 hours total per quarter)**

This course utilizes the MATLAB environment to provide students with a working knowledge of computer-based problem-solving methods relevant to science and engineering. It introduces the fundamentals of procedural and object-oriented programming, numerical analysis, and data structures. Examples and assignments in the course are drawn from practical applications in engineering, physics, and mathematics.

**FHGE: Non-GE Transferable: UC/CSU**

### ENGR 35 STATICS 5 Units

**Prerequisites:** MATH 1B or 1BH; PHYS 4A.

**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**

**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 or 1BH; PHYS 4B.

**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**

**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:** Completion of or concurrent enrollment in ENGR 37.

**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**

**1 hour lecture, 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 40 INTRODUCTION TO CLEAN ENERGY TECHNOLOGY 5 Units

**Advisory:** CHEM 25 or equivalent; ability to do basic engineering calculations, including use of spreadsheets.

**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**

**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 or 1BH; MATH 1C.

**Corequisite:** Completion of or concurrent enrollment in PHYS 4B.

**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**

**4 hours lecture, 3 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 46 STRENGTH OF MATERIALS 5 Units

**Prerequisite:** ENGR 35.

**Grade Type:** Letter Grade Only  
**Not Repeatable.**

**5 hours lecture. (60 hours total per quarter)**

This course is for engineering majors planning to transfer to four-year institutions. This course is a study of stresses, strains, and deformations associated with axial, torsional, and flexural loading of bars, shafts, and beams, as well as pressure loading of thin-walled pressure vessels. The course also covers stress and strain transformation, Mohr's Circle, ductile and brittle failure theories, and the buckling of columns. Statically indeterminate systems may also be studied.

**FHGE: Non-GE Transferable: UC/CSU**

### ENGR 47 DYNAMICS 5 Units

**Prerequisite:** ENGR 35.

**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**

**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.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.  
**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 70R INDEPENDENT STUDY IN ENGINEERING 1 Unit**  
**ENGR 71R 2 Units**  
**ENGR 72R 3 Units**  
**ENGR 73R 4 Units**

**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.  
**3-12 hours laboratory 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**

**ENGL 1B COMPOSITION, CRITICAL READING & THINKING THROUGH LITERATURE 5 Units**

**Prerequisite:** One of the following: ENGL 1A, 1AH, or 1S & 1T.  
**Advisory:** Not open to students with credit in ENGL 1BH.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.  
**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 THROUGH LITERATURE 5 Units**

**Prerequisite:** Honors Institute participant.  
**Advisory:** Not open to students with credit in ENGL 1B.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.  
**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 ARGUMENTATIVE WRITING & CRITICAL THINKING 5 Units**

**Prerequisite:** One of the following: ENGL 1A, 1AH, or 1S & 1T.  
**Advisory:** Not open to students with credit in ENGL 1CH or 2.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.  
**5 hours lecture. (60 hours total per quarter)**  
 Advanced study and practice of argumentative writing with emphasis on critical analysis and evaluation of texts. Focus is on reading and writing assignments from across the disciplines to further improve and refine critical reading, writing, and thinking skills.  
**FHGE: Non-GE Transferable: UC/CSU**

**ENGL 1CH HONORS ARGUMENTATIVE WRITING & CRITICAL THINKING 5 Units**

**Prerequisite:** Honors Institute participant.  
**Advisory:** Not open to students with credit in ENGL 1C or 2.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.  
**5 hours lecture. (60 hours total per quarter)**  
 Advanced study and practice of argumentative writing with emphasis on critical analysis and evaluation of texts. Focus is on reading and writing assignments from across the disciplines to refine critical reading, writing, and 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**

## ENGLISH

**Language Arts**  
 (650) 949-7250 [foothill.edu/english/](http://foothill.edu/english/)

**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 OR completion of ESLL 125 & ESLL 249.  
**Advisory:** Not open to students with credit in ENGL 1AH; students may enroll in ENGL 1A or 1T, but not both, for credit.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.  
**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 OR completion of ESLL 125 & ESLL 249; Honors Institute participant.  
**Advisory:** Not open to students with credit in ENGL 1A or 1T.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.  
**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. 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 1S INTEGRATED COMPOSITION & READING 5 Units**

**Prerequisite:** Eligibility based on appropriate assessment information: CPT scores of at least 61 on the 1CRD Reading placement test AND at least 61 on 1CSS Sentence Skills placement test.

**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; not open to students with credit in ENGL 42S.

**Grade Type:** Letter Grade Only  
**Not Repeatable.**

**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 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**

**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; 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; the student may enroll in ENGL 1T or 1A, but not both, for credit; not open to students with credit in ENGL 42T.

**Grade Type:** Letter Grade Only  
**Not Repeatable.**

**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 1T, respectively. Over this two 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/1T.

**FHGE:** English **Transferable:** UC/CSU

**ENGL 5 LGBT LITERATURE 4 Units**

**Advisory:** Demonstrated proficiency in English by placement as determined by score on the English placement test OR through an equivalent placement process OR completion of ESLL 125 & ESLL 249.

**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**

**4 hours lecture. (48 hours total per quarter)**

Introduction to the history and development of LGBT 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 and queer gender identities, ranging from ancient Greek and Roman texts to contemporary American poetry, fiction, drama, and non-fiction prose. Emphasis on the emergence of contemporary LGBT 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 7 NATIVE AMERICAN LITERATURE 4 Units**

**Advisory:** Demonstrated proficiency in English by placement as determined by score on the English placement test OR through an equivalent placement process OR completion of ESLL 125 & ESLL 249; not open to students with credit in ENGL 7H.

**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**

**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:** Amer, Human **Transferable:** UC/CSU

**ENGL 8 CHILDREN'S LITERATURE 4 Units**

**Advisory:** Demonstrated proficiency in English by placement as determined by score on the English placement test OR through an equivalent placement process OR completion of ESLL 125 & ESLL 249.

**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**

**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**

**Advisory:** Demonstrated proficiency in English by placement as determined by score on the English placement test OR through an equivalent placement process OR completion of ESLL 125 & ESLL 249; not open to students with credit in ENGL 11H.

**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**

**4 hours lecture. (48 hours total per quarter)**

Students will be introduced to the forms, techniques, meanings, and history of poetry. Because poetry, since the mid-nineteenth century has turned internationally toward a more communicative and social form of literary expression, emphasis relies on modern examples in English and translation to develop the student's ability to read, understand, and evaluate a poem in the context of the modern world.

**FHGE:** Non-GE **Transferable:** UC/CSU

**ENGL 11H HONORS INTRODUCTION TO POETRY 4 Units**

**Prerequisite:** Honors Institute participant.

**Advisory:** Not open to students with credit in ENGL 11.

**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**

**4 hours lecture. (48 hours total per quarter)**

The honors section offers rigorous preparation in discussion and analysis of poetic forms, techniques, meanings, and history of poetry for students intending to transfer to a four-year college or university. Because poetry, since the mid-nineteenth century, has turned internationally toward a more communicative and social form of literary expression, emphasis relies on modern examples in English and translation to develop the student's ability to read, understand, and evaluate a poem in the context of the modern world. Honors students will have the opportunity to engage in deeper critical analysis and evaluation of poetry and its social, historical, and literary contexts to through the application of higher level, student-generated, student-centered discussion and creative assessments.

**FHGE:** Non-GE **Transferable:** UC/CSU

**ENGL 12 AFRICAN AMERICAN LITERATURE 4 Units**  
Advisory: Demonstrated proficiency in English by placement as determined by score on the English placement test OR through an equivalent placement process OR completion of ESLL 125 & ESLL 249.  
Grade Type: Letter Grade, the student may select Pass/No Pass  
Not Repeatable.

**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: Amer, Human Transferable: UC/CSU**

**ENGL 14 TRAVELING THE WORLD THROUGH CONTEMPORARY LITERATURE 4 Units**

Advisory: Demonstrated proficiency in English by placement as determined by score on the English placement test OR through an equivalent placement process OR completion of ESLL 125 & ESLL 249.  
Grade Type: Letter Grade, the student may select Pass/No Pass  
Not Repeatable.

**4 hours lecture. (48 hours total per quarter)**

Selected fiction written between 1950 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, or 1S & 1T.  
Grade Type: Letter Grade Only  
Not Repeatable.

**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**

Advisory: Demonstrated proficiency in English by placement as determined by score on the English placement test OR through an equivalent placement process OR completion of ESLL 125 & ESLL 249.  
Grade Type: Letter Grade, the student may select Pass/No Pass  
Not Repeatable.

**4 hours lecture. (48 hours total per quarter)**

Introduction to selected plays and sonnets of Shakespeare. Focus on detailed analysis of representative tragic, comedic, romance, history plays, and sonnets of Shakespeare. Also includes critical theory and secondary source research. Intended as an introductory course for English majors and students across the curriculum.

**FHGE: Humanities Transferable: UC/CSU**

**ENGL 18A VAMPIRE LITERATURE: MULTICULTURAL REPRESENTATIONS OF THE BLOODSUCKER 4 Units**

Advisory: Demonstrated proficiency in English by placement as determined by score on the English placement test OR through an equivalent placement process OR completion of ESLL 125 & ESLL 249.  
Grade Type: Letter Grade Only  
Not Repeatable.

**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 as determined by score on the English placement test OR through an equivalent placement process OR completion of ESLL 125 & ESLL 249.  
Grade Type: Letter Grade, the student may select Pass/No Pass  
Not Repeatable.

**4 hours lecture. (48 hours total per quarter)**

An examination of the works of multicultural women poets, novelists, dramatists, and essayists and their aesthetic and sociopolitical contribution to English and American literature. Literary discussions of gender as relevant to race, ethnicity, socioeconomic class, sexual orientation, and other constructs of identity and power.

**FHGE: Humanities Transferable: UC/CSU**

**ENGL 24 UNMASKING COMICS: THE DAWN OF THE GRAPHIC NOVEL 4 Units**

Advisory: Demonstrated proficiency in English by placement as determined by score on the English placement test OR through an equivalent placement process OR completion of ESLL 125 & ESLL 249.  
Grade Type: Letter Grade, the student may select Pass/No Pass  
Not Repeatable.

**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 as determined by score on the English placement test OR through an equivalent placement process OR completion of ESLL 125 & ESLL 249.  
Grade Type: Letter Grade, the student may select Pass/No Pass  
Not Repeatable.

**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 34C LITERATURE INTO FILM 4 Units**  
Advisory: Demonstrated proficiency in English by placement as determined by score on the English placement test OR through an equivalent placement process OR completion of ESLL 125 & ESLL 249.  
Grade Type: Letter Grade, the student may select Pass/No Pass Not Repeatable.

**4 hours lecture. (48 hours total per quarter)**  
Examination of the ways great world literature throughout world history has been adapted for the modern day movie going audience, from one medium to the other - from text to film or television series. Consideration of: 1. how film makers adapt literature to film, considering the conventions of each medium; 2. how film and literature may evoke similar or different meanings, considering historical, cultural and other contexts for creation and reception; 3. how one medium may inform the other.  
FHGE: Humanities Transferable: UC/CSU

**ENGL 37 SCIENCE FICTION LITERATURE: REIMAGINEERING REALITY 4 Units**

Advisory: Demonstrated proficiency in English by placement as determined by score on the English placement test OR through an equivalent placement process OR completion of ESLL 125 & ESLL 249.  
Grade Type: Letter Grade, the student may select Pass/No Pass Not Repeatable.

**4 hours lecture. (48 hours total per quarter)**  
Introduction to the evolution of science fiction, emphasizing analysis of literature and artwork in or after the age of reason, exploring how new scientific insights and technologies hypothetically shape reality through: poems, short stories, novels, plays, film, comics, paintings, or other artistic expressions. Examine how the history and evolution of this distinct literary field has inspired many different modes of art and genres of literature. 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 40 ASIAN AMERICAN LITERATURE 4 Units**

Advisory: Demonstrated proficiency in English by placement as determined by score on the English placement test OR through an equivalent placement process OR completion of ESLL 125 & ESLL 249; not open to students with credit in ENGL 40H.

Grade Type: Letter Grade, the student may select Pass/No Pass Not Repeatable.

**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: Amer, Human Transferable: UC/CSU

**ENGL 41 LITERATURE OF MULTICULTURAL AMERICA 4 Units**

Advisory: Demonstrated proficiency in English by placement as determined by score on the English placement test OR through an equivalent placement process OR completion of ESLL 125 & ESLL 249.

Grade Type: Letter Grade Only Not Repeatable.

**4 hours lecture. (48 hours total per quarter)**  
An exploration of American identity, focusing on ethnic, cultural, and national affiliations. Analysis of literary works by (including among others) Native American, European American, African American, Latino/a, Arab American, Asian American, and mixed race writers. Readings selected represent a variety of historical periods and literary genres. Emphasis on issues of identity politics, immigration, internally and externally imposed borders, cultural and linguistic power, assimilation, acculturation, and cultural pluralism as expressed through diverse voices.

FHGE: Humanities Transferable: UC/CSU

**ENGL 43A SURVEY OF BRITISH LITERATURE I: BEOWULF TO THE LATE 18TH CENTURY 5 Units**

Prerequisite: Eligibility for college-level composition (ENGL 1A or 1AH), as determined by college assessment or other appropriate method.  
Advisory: Successful completion of college-level composition (ENGL 1A, 1AH or 1S & 1T) or equivalent; not open to students with credit in ENGL 43AH, 46A or 46B.

Grade Type: Letter Grade, the student may select Pass/No Pass Not Repeatable.

**5 hours lecture. (60 hours total per quarter)**  
A survey of canonical literature spanning the earliest Old English texts, Middle English period, Early Modern period, ending with Neoclassicism. Texts discussed and analyzed within historical, sociocultural, philosophical, and aesthetic contexts.

FHGE: Humanities Transferable: UC/CSU

**ENGL 43AH HONORS SURVEY OF BRITISH LITERATURE I: BEOWULF TO THE LATE 18TH CENTURY 5 Units**

Prerequisites: Eligibility for college-level composition (ENGL 1A or 1AH), as determined by college assessment or other appropriate method; Honors Institute participant.

Advisory: Successful completion of college-level composition (ENGL 1A, 1AH or 1S & 1T) or equivalent; not open to students with credit in ENGL 43A, 46A or 46B.

Grade Type: Letter Grade, the student may select Pass/No Pass Not Repeatable.

**5 hours lecture. (60 hours total per quarter)**  
A survey of canonical literature spanning the earliest Old English texts, Middle English period, Early Modern period, ending with Neoclassicism. Texts discussed and analyzed within historical, sociocultural, philosophical, and aesthetic contexts. Specific to this honors course: A higher level of sophisticated scholarship through extensive research and literature review, critical essays, and opportunities for scholarly presentation, student-generated discussions, and self-directed projects. Rigorous application and analysis of theoretical paradigms as applied across these contexts in analysis of canonical literary texts.

FHGE: Humanities Transferable: UC/CSU

**ENGL 43B SURVEY OF BRITISH LITERATURE II: THE ROMANTIC PERIOD TO THE PRESENT 5 Units**

Prerequisite: Eligibility for college-level composition (ENGL 1A or 1AH), as determined by college assessment or other appropriate method.

Advisory: Successful completion of college-level composition (ENGL 1A, 1AH or 1S & 1T) or equivalent; not open to students with credit in ENGL 43BH, 46B or 46C.

Grade Type: Letter Grade, the student may select Pass/No Pass Not Repeatable.

**5 hours lecture. (60 hours total per quarter)**  
A survey of canonical literature beginning with the 1798 publication of Lyrical Ballads, through the Romantic Period, Victorian Period, twentieth-century Modernism and Postmodernism, to the present. Texts discussed and analyzed within historical, sociocultural, philosophical, and aesthetic contexts.

FHGE: Humanities Transferable: UC/CSU



**ENGL 43BH HONORS SURVEY OF BRITISH LITERATURE II: THE ROMANTIC PERIOD TO THE PRESENT 5 Units**

**Prerequisites:** Eligibility for college-level composition (ENGL 1A or 1AH), as determined by college assessment or other appropriate method; Honors Institute participant.

**Advisory:** Successful completion of college-level composition (ENGL 1A, 1AH or 1S & 1T) or equivalent; not open to students with credit in ENGL 43B, 46B or 46C.

**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**

**5 hours lecture. (60 hours total per quarter)**

A survey of canonical literature spanning the Romantic Period, Victorian Period, through Modernism and Postmodernism, to the present. Texts discussed and analyzed within historical, sociocultural, philosophical, and aesthetic contexts. Specific to this honors course: A higher level of sophisticated scholarship through extensive research and literature review, critical essays, and opportunities for scholarly presentation, student-generated discussions, and self-directed projects. Rigorous application and analysis of theoretical paradigms as applied across these contexts in analysis of canonical works.

**FHGE: Humanities Transferable: UC/CSU**

**ENGL 45A SURVEY OF AMERICAN LITERATURE I: BEGINNINGS TO 1865 5 Units**

**Prerequisite:** Eligibility for college-level composition (ENGL 1A or 1AH), as determined by college assessment or other appropriate method.

**Advisory:** Successful completion of college-level composition (ENGL 1A, 1AH or 1S & 1T) or equivalent; not open to students with credit in ENGL 45AH, 48A or 48B.

**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**

**5 hours lecture. (60 hours total per quarter)**

The first in a two-course sequence that surveys the history of American literature from its beginnings to the present. Introduces students to works of American literature from its beginnings through the Civil War, focusing on the evolution of literary traditions, genres, cultural voices, and ecological landscapes within historical, philosophical, social, political, and aesthetic contexts. Special emphasis on the contributions of diverse cultures in forging a distinctively American literature, landscape, and identity.

**FHGE: Amer, Human Transferable: UC/CSU**

**ENGL 45AH HONORS SURVEY OF AMERICAN LITERATURE I: BEGINNINGS TO 1865 5 Units**

**Prerequisites:** Eligibility for college-level composition (ENGL 1A or 1AH), as determined by college assessment or other appropriate method; Honors Institute participant.

**Advisory:** Successful completion of college-level composition (ENGL 1A, 1AH or 1S & 1T) or equivalent; not open to students with credit in ENGL 45A, 48A or 48B.

**Grade Type:** Letter Grade Only  
**Not Repeatable.**

**5 hours lecture. (60 hours total per quarter)**

The first in a two-course sequence that surveys the history of American literature from its beginnings to the present. Introduces students to works of American literature from its beginnings through the Civil War, focusing on the evolution of literary traditions, genres, cultural voices, and ecological landscapes within historical, philosophical, social, political, and aesthetic contexts. Special emphasis on the contributions of diverse cultures in forging a distinctively American literature, landscape, and identity. Specific to this honors course: A higher level of sophisticated scholarship through extensive research and literature review, critical essays, and opportunities for scholarly presentation, student-generated discussions, and self-directed projects. Rigorous application and analysis of theoretical paradigms as applied across these contexts in analysis of canonical literary texts.

**FHGE: Amer, Human Transferable: UC/CSU**

**ENGL 45B SURVEY OF AMERICAN LITERATURE II: 1865 TO THE PRESENT 5 Units**

**Prerequisite:** Eligibility for college-level composition (ENGL 1A or 1AH), as determined by college assessment or other appropriate method.

**Advisory:** Successful completion of college-level composition (ENGL 1A, 1AH or 1S & 1T) or equivalent; not open to students with credit in ENGL 45BH, 48B or 48C.

**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**

**5 hours lecture. (60 hours total per quarter)**

Introduces students to multicultural American Literature from the end of the Civil War in 1865 to the present, focusing on the evolution of literary traditions, genres, cultural voices, and ecological landscapes within historical, philosophical, social, political, and aesthetic contexts. Special emphasis on the role of diverse writers in redefining the nature of American literature from the late nineteenth century through the 21st century, and thereby reshaping American national identity as the United States becomes a global superpower.

**FHGE: Amer, Human Transferable: UC/CSU**

**ENGL 45BH HONORS SURVEY OF AMERICAN LITERATURE II: 1865 TO THE PRESENT 5 Units**

**Prerequisites:** Eligibility for college-level composition (ENGL 1A or 1AH), as determined by college assessment or other appropriate method; Honors Institute participant.

**Advisory:** Successful completion of college-level composition (ENGL 1A, 1AH or 1S & 1T) or equivalent; not open to students with credit in ENGL 45B, 48B or 48C.

**Grade Type:** Letter Grade Only  
**Not Repeatable.**

**5 hours lecture. (60 hours total per quarter)**

Introduces students to multicultural American Literature from the end of the Civil War in 1865 to the present, focusing on the evolution of literary traditions, genres, cultural voices, and ecological landscapes within historical, philosophical, social, political, and aesthetic contexts. Special emphasis on the role of diverse writers in redefining the nature of American literature from the late nineteenth century through the 21st century, and thereby reshaping American national identity as the United States becomes a global superpower. Specific to this honors course: A higher level of sophisticated scholarship through extensive research and literature review, critical essays, and opportunities for scholarly presentation, student-generated discussions, and self-directed projects. Rigorous application and analysis of theoretical paradigms as applied across these contexts in analysis of canonical literary texts.

**FHGE: Amer, Human Transferable: UC/CSU**

**ENGL 47A WORLD LITERATURE I 5 Units**

**Prerequisite:** Eligibility for college-level composition (ENGL 1A or 1AH), as determined by college assessment or other appropriate method.

**Advisory:** Successful completion of college-level composition (ENGL 1A, 1AH or 1S & 1T) or equivalent; not open to students with credit in ENGL 47AH.

**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**

**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: Humanities Transferable: UC/CSU**

**ENGL 47AH HONORS WORLD LITERATURE I 5 Units**  
Prerequisites: Eligibility for college-level composition (ENGL 1A or 1AH), as determined by college assessment or other appropriate method; Honors Institute participant.  
Advisory: Successful completion of college-level composition (ENGL 1A, 1AH or 1S & 1T) or equivalent; not open to students with credit in ENGL 47A.

**Grade Type: Letter Grade Only**  
**Not Repeatable.**

**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. The honors section provides a higher level of sophisticated scholarship through extensive research and literature review, critical essays, and opportunities for scholarly presentation, student-generated discussions, and self-directed projects. Rigorous application and analysis of theoretical paradigms as applied across these contexts in analysis of canonical works.

**FHGE: Humanities Transferable: UC/CSU**

**ENGL 47B WORLD LITERATURE II 5 Units**

Prerequisite: Eligibility for college-level composition (ENGL 1A or 1AH), as determined by college assessment or other appropriate method.

Advisory: Successful completion of college-level composition (ENGL 1A, 1AH or 1S & 1T) or equivalent; not open to students with credit in ENGL 47BH.

**Grade Type: Letter Grade, the student may select Pass/No Pass**  
**Not Repeatable.**

**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: Humanities Transferable: UC/CSU**

**ENGL 47BH HONORS WORLD LITERATURE II 5 Units**

Prerequisites: Eligibility for college-level composition (ENGL 1A or 1AH), as determined by college assessment or other appropriate method; Honors Institute participant.

Advisory: Successful completion of college-level composition (ENGL 1A, 1AH or 1S & 1T) or equivalent; not open to students with credit in ENGL 47B.

**Grade Type: Letter Grade Only**  
**Not Repeatable.**

**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. The honors section provides a higher level of sophisticated scholarship through extensive research and literature review, critical essays, and opportunities for scholarly presentation, student-generated discussions, and self-directed projects. Rigorous application and analysis of theoretical paradigms as applied across these contexts in analysis of canonical literary texts.

**FHGE: Humanities Transferable: UC/CSU**

**ENGL 49 CALIFORNIA LITERATURE: GOLDEN STATE CULTURES, GEOGRAPHIES & HISTORIES 4 Units**

Advisory: Demonstrated proficiency in English by placement as determined by score on the English placement test OR through an equivalent placement process OR completion of ESLL 125 & ESLL 249.

**Grade Type: Letter Grade, the student may select Pass/No Pass**  
**Not Repeatable.**

**4 hours lecture. (48 hours total per quarter)**

Introduction to literature written by and about Californians, from pre-contact California Indian creation myths to contemporary poetry, fiction, drama, essays, and autobiographical narratives. Emphasis on important literary contributions by authors from a range of ethnic, socio-economic, and regional communities representing the cultural complexity of California. Emphasis on the influence of ecology, geography, political and social developments, ethnicity, gender, and class on the formation of distinctive yet interconnected California cultures, as represented in literary works.

**FHGE: Humanities Transferable: UC/CSU**

**ENGL 50C TECHNICAL WRITING 5 Units**

Advisory: Demonstrated proficiency in English by placement as determined by score on the English placement test OR through an equivalent placement process OR completion of ESLL 125 & ESLL 249; not open to students with credit in ENGL 3.

**Grade Type: Letter Grade, the student may select Pass/No Pass**  
**Not Repeatable.**

**5 hours lecture. (60 hours total per quarter)**

An introductory course in technical and workplace communication. Focus on the strategic implementation of technical writing process, including assessment of context, purpose, and audience; evaluation and production of effective verbal and visual communication, including sentence clarity, document design, and use of visuals; and production of written texts for business and industry, including correspondence, technical definitions and descriptions, instructions, proposals and applications, reports, and websites.

**FHGE: Communication & Analytical Thinking Transferable: CSU**

**ENGL 70R INDEPENDENT STUDY IN ENGLISH 1 Unit**  
**ENGL 71R 2 Units**  
**ENGL 72R 3 Units**  
**ENGL 73R 4 Units**

**Grade Type: Letter Grade Only**  
**Not Repeatable.**

**3-12 hours laboratory per week. (36-144 hours total per quarter)**

Provides an opportunity for the student to expand their studies in English 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**

**ENGL 80 INTRODUCTION TO TRAVEL WRITING 4 Units**

Advisory: Demonstrated proficiency in English by placement as determined by score on the English placement test OR through an equivalent placement process OR completion of ESLL 125 & ESLL 249.

**Grade Type: Letter Grade, the student may select Pass/No Pass**  
**Not Repeatable.**

**4 hours lecture. (48 hours total per quarter)**

An introductory course in travel writing. Focus on recognizing, evaluating, and producing the characteristics of travel writing in a range of travel writing genres. Practice in skills of observation, research, and reflection to understand aspects of place and draw meaning from travel experiences. Recognition and evaluation of publishing options.

**FHGE: Non-GE 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.  
Grade Type: Letter Grade, the student may select Pass/No Pass  
Not Repeatable.  
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  
Non-degree applicable basic skills-2 course.  
Advisory: Not open to students with credit in ENGL 100 or 108.  
Grade Type: Letter Grade, the student may select Pass/No Pass  
Not Repeatable.  
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  
Non-degree applicable basic skills course.  
Corequisite: ENGL 1S.  
Grade Type: Letter Grade, the student may select Pass/No Pass  
Not Repeatable.  
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  
Non-degree applicable basic skills course.  
Prerequisite: ENGL 242A.  
Corequisite: ENGL 1T.  
Grade Type: Letter Grade, the student may select Pass/No Pass  
Not Repeatable.  
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

## ENGLISH FOR SECOND-LANGUAGE LEARNERS

Language Arts  
(650) 949-7250 foothill.edu/esl/

**ESLL 125 COMPOSITION & READING** 5 Units  
Formerly: ESLL 25  
Prerequisite: Appropriate placement test score or a grade of "C" or better in ESLL 236 and 237.  
Advisory: Concurrent enrollment in ESLL 249; if not taken concurrently, ESLL 249 should be taken prior to ESLL 125; completion of or concurrent enrollment in ESLL 235 strongly recommended; designed for students whose native language is not English; not open to students with credit in ESL 25, 257, or ESLL 25.  
Grade Type: Letter Grade, the student may select Pass/No Pass  
Not Repeatable.  
5 hours lecture. (60 hours total per quarter)  
Explicit instruction in critical reading and composition skills. Detailed analysis of selected readings that present a range of cultural experiences and perspectives. Instruction in writing expository essays based on personal experience, observations, and class readings with a review of acceptable English sentence structure. Does not fulfill the associate degree requirement for English composition.  
FHGE: Non-GE

**ESLL 226 HIGH-INTERMEDIATE GRAMMAR** 5 Units  
Non-degree applicable basic skills-3 course.  
Advisory: Concurrent enrollment in ESLL 227 recommended; designed for students whose native language is not English; not open to students with credit in ESL 156.  
Grade Type: Letter Grade, the student may select Pass/No Pass  
Not Repeatable.  
5 hours lecture. (60 hours total per quarter)  
A high-intermediate English course focusing on verb tenses, gerunds, infinitives, modal verbs in present, past, real present and future conditionals.  
FHGE: Non-GE

**ESLL 227 HIGH-INTERMEDIATE READING SKILLS** 5 Units  
Non-degree applicable basic skills-3 course.  
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.  
Grade Type: Letter Grade, the student may select Pass/No Pass  
Not Repeatable.  
5 hours lecture. (60 hours total per quarter)  
An upper intermediate-level reading course focusing on developing comprehension skills and strategies for processing pre-college-level readings. In addition to developing vocabulary, students will demonstrate understanding of main ideas of texts by composing single- and multi-sentence writings in response to questions about the given texts.  
FHGE: Non-GE

**ESLL 228 DEVELOPING LANGUAGE SKILLS FOR ESL STUDENTS** 10 Units  
Non-degree applicable basic skills-4 course.  
Prerequisite: TOEFL score of 475 to 499 or appropriate placement test score.  
Advisory: Designed for students whose native language is not English; not open to students with credit in ESL 158.  
Grade Type: Letter Grade, the student may select Pass/No Pass  
Not Repeatable.  
10 hours lecture. (120 hours total per quarter)  
An adaptive level course for intermediate-to-advanced students who use English as a second language. Designed to improve grammar, writing, reading, and speaking skills in order to handle the challenges of using English in college academic programs.  
FHGE: Non-GE

**ESLL 235 LISTENING/SPEAKING FOR ACADEMIC PURPOSES 5 Units**  
Non-degree applicable basic skills-2 course.  
Prerequisite: Appropriate placement test score.  
Advisory: Successful completion of ESLL 226 and 227 strongly recommended; intended for students whose native language is not English; not open to students with credit in ESL 165.  
Grade Type: Letter Grade, the student may select Pass/No Pass  
Not Repeatable.  
5 hours lecture. (60 hours total per quarter)  
A listening/speaking course focusing on preparing students for listening to authentic lectures and participating in classroom discussions and presentations.  
FHGE: Non-GE

**ESLL 236 ADVANCED GRAMMAR 5 Units**  
Non-degree applicable basic skills-2 course.  
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.  
Grade Type: Letter Grade, the student may select Pass/No Pass  
Not Repeatable.  
5 hours lecture. (60 hours total per quarter)  
Continuation of ESLL 226. An advanced English grammar course focusing on clause and phrase structures.  
FHGE: Non-GE

**ESLL 237 BASIC COMPOSITION SKILLS 5 Units**  
Non-degree applicable basic skills-2 course.  
Prerequisite: Appropriate placement test score or a grade of "C" or better in ESLL 226 and 227.  
Advisory: Concurrent enrollment in ESLL 236; designed for students whose native language is not English; not open to students with credit in ESL 167.  
Grade Type: Letter Grade, the student may select Pass/No Pass  
Not Repeatable.  
5 hours lecture. (60 hours total per quarter)  
A basic course for non-native speakers focusing on college-level reading and writing skills. Development of readings skills through analysis of assigned readings. Production of short multi-paragraph compositions that develop focused main ideas using a variety of standard English sentences. Lecture, discussion, and individualized instruction. Does not meet the graduation requirement in composition.  
FHGE: Non-GE

**ESLL 246 APPLIED GRAMMAR & EDITING SKILLS 3 Units**  
Non-degree applicable basic skills course.  
Prerequisite: ESLL 236 or an appropriate score on the ESL placement test.  
Corequisite: Concurrent enrollment in ESLL 125, ENGL 1A, 1AH, 1B, 1BH, or 110.  
Advisory: Not open to students with credit in ESL 176.  
Grade Type: Letter Grade, the student may select Pass/No Pass  
Not Repeatable.  
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 248 ADVANCED GRAMMAR REVIEW 3 Units**  
Non-degree applicable basic skills course.  
Prerequisite: ESLL 236 or an appropriate score on the ESL placement test.  
Advisory: Not open to students with credit in ESL 186.  
Grade Type: Letter Grade, the student may select Pass/No Pass  
Not Repeatable.  
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 5 Units**  
Non-degree applicable basic skills course.  
Prerequisites: ESLL 236 and 237 or appropriate placement test score.  
Advisory: Concurrent enrollment in ESLL 125; if not taken concurrently, ESLL 249 should be taken prior to ESLL 125; designed for students whose native language is not English.  
Grade Type: Letter Grade, the student may select Pass/No Pass  
Not Repeatable.  
5 hours lecture. (60 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 will learn to comprehend text holistically, identifying and expressing critical rhetorical elements. 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**  
Non-degree applicable basic skills course.  
Prerequisites: ESLL 236 and 237 or appropriate placement test score for ESLL 125.  
Advisory: Concurrent enrollment in ESLL 125, ENGL 1A, 1AH, 1B, 1BH, 1C, 1CH, or 1T.  
Grade Type: Letter Grade, the student may select Pass/No Pass  
Not Repeatable.  
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 [foothill.edu/hort/](http://foothill.edu/hort/)

**HORT 10 ENVIRONMENTAL HORTICULTURE & THE URBAN LANDSCAPE 5 Units**

Grade Type: Letter Grade Only  
Not Repeatable.  
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 the Environmental Horticulture & Design degree and certificate, 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 CSU GE Area B-2.  
FHGE: Natural Sciences Transferable: UC/CSU

**HORT 15      ORIENTATION TO ENVIRONMENTAL HORTICULTURE      4 Units**

**Advisory:** Not open to students with credit in HORT 50A.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**

**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**

**Advisory:** Completion of or concurrent enrollment in HORT 15 strongly recommended; not open to students with credit in HORT 51A.

**Grade Type:** Letter Grade Only  
**Not Repeatable.**

**3 hours lecture. (36 hours total per quarter)**

Identification, taxonomy, habits of growth, cultural and environmental requirements of plants grown in California. Emphasis on the identification, use and maintenance of plants commonly used in the landscaping and gardening industry. Plants are observed on campus and at off-site locations. This is the first of two plants courses covering the master plant list.

**FHGE: Non-GE    Transferable: UC/CSU**

**HORT 22      PLANT MATERIALS II      3 Units**

**Advisory:** Completion of or concurrent enrollment in HORT 15 strongly recommended; not open to students with credit in HORT 51B.

**Grade Type:** Letter Grade Only  
**Not Repeatable.**

**3 hours lecture. (36 hours total per quarter)**

Identification, taxonomy, habits of growth, cultural and environmental requirements of plants grown in California. Emphasis on the identification, use and maintenance of plants commonly used in the landscaping and gardening industry. Plants are observed on campus and at off-site locations. This is the second of two plant courses covering the master plant list.

**FHGE: Non-GE    Transferable: UC/CSU**

**HORT 23      PLANT MATERIALS: CALIFORNIA NATIVE PLANTS      2 Units**

**Advisory:** Completion of or concurrent enrollment in HORT 15 strongly recommended; not open to students with credit in HORT 51D.

**Grade Type:** Letter Grade Only  
**Not Repeatable.**

**2 hours lecture. (24 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 via media and physical observation.

**FHGE: Non-GE    Transferable: UC/CSU**

**HORT 24      PLANT MATERIALS: GROUND COVERS & VINES      2 Units**

**Advisory:** Completion of or concurrent enrollment in HORT 15 strongly recommended; not open to students with credit in HORT 51E.

**Grade Type:** Letter Grade Only  
**Not Repeatable.**

**2 hours lecture. (24 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 class, on campus, and at off-site locations.

**FHGE: Non-GE    Transferable: UC/CSU**

**HORT 25      PLANT MATERIALS: BAMBOOS & PALMS      2 Units**

**Advisory:** Completion of or concurrent enrollment in HORT 15 strongly recommended; not open to students with credit in HORT 51F.

**Grade Type:** Letter Grade Only  
**Not Repeatable.**

**2 hours lecture. (24 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 via media and physical observation.

**FHGE: Non-GE    Transferable: UC/CSU**

**HORT 26      PLANT MATERIALS: PERENNIALS & ANNUALS      2 Units**

**Advisory:** Completion of or concurrent enrollment in HORT 15 strongly recommended; not open to students with credit in HORT 51H.

**Grade Type:** Letter Grade Only  
**Not Repeatable.**

**2 hours lecture. (24 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 via media and physical observation.

**FHGE: Non-GE    Transferable: UC/CSU**

**HORT 30      HORTICULTURAL PRACTICES: SOILS      3 Units**

**Advisory:** Completion of or concurrent enrollment in HORT 15 recommended; not open to students with credit in HORT 52A.

**Grade Type:** Letter Grade Only  
**Not Repeatable.**

**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**

**Advisory:** Completion of or concurrent enrollment in HORT 15 strongly recommended.

**Grade Type:** Letter Grade Only  
**Not Repeatable.**

**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**

**Advisory:** Not open to students with credit in HORT 60A.

**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**

**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  
**Grade Type: Letter Grade Only**  
**Not Repeatable.**  
**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 VECTORWORKS FOR LANDSCAPE DESIGNERS** 3 Units  
**Advisory: HORT 40 and a basic understanding of the operation of computers is strongly recommended; not open to students with credit in HORT 60E.**  
**Grade Type: Letter Grade Only**  
**Not Repeatable.**  
**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** 4 Units  
**Advisory: Completion of or concurrent enrollment in HORT 15 strongly recommended.**  
**Grade Type: Letter Grade Only**  
**Not Repeatable.**  
**3 hours lecture, 3 hours laboratory. (72 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. Managing pests in the landscape. Troubleshooting irrigation equipment. Surveying requirements for landscape maintenance business.  
**FHGE: Non-GE Transferable: CSU**

**HORT 52E HORTICULTURAL PRACTICES: GREENHOUSE & NURSERY MANAGEMENT** 3 Units  
**Advisory: Completion of or concurrent enrollment in HORT 15.**  
**Grade Type: Letter Grade Only**  
**Not Repeatable.**  
**2 hours lecture, 3 hours laboratory. (60 hours total per quarter)**  
Commercial greenhouse and nursery management as related to the production of plants in California. Emphasis is on greenhouse and nursery operations. Class will focus on organization, management, and production practices used in large and small-scale commercial greenhouse plant production and nursery operations of all sizes. Retail outlets will be addressed as part of the nursery production sequence. 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 52G HORTICULTURAL PRACTICES: TURFGRASS MANAGEMENT** 3 Units  
**Advisory: Completion of or concurrent enrollment in HORT 15 strongly recommended.**  
**Grade Type: Letter Grade Only**  
**Not Repeatable.**  
**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.**  
**Grade Type: Letter Grade, the student may select Pass/No Pass**  
**Not Repeatable.**  
**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 54A LANDSCAPE CONSTRUCTION: GENERAL PRACTICES** 5 Units  
**Grade Type: Letter Grade, the student may select Pass/No Pass**  
**Not Repeatable.**  
**4 hours lecture, 3 hours laboratory. (84 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, masonry, decks, and related wood structures. Basics of installation of water features, landscape lighting and plant material. Overview of cost estimating. Review of safety practices, careers in landscape construction, and contractor licensing.  
**FHGE: Non-GE Transferable: CSU**

**HORT 54B LANDSCAPE CONSTRUCTION: TECHNICAL PRACTICES** 3 Units  
**Grade Type: Letter Grade, the student may select Pass/No Pass**  
**Not Repeatable.**  
**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  
**Grade Type: Letter Grade, the student may select Pass/No Pass**  
**Not Repeatable.**  
**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.**  
**Grade Type: Letter Grade Only**  
**Not Repeatable.**  
**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 54J HORTICULTURAL PRACTICES: INSECT IDENTIFICATION 2 Units**

**Grade Type: Letter Grade, the student may select Pass/No Pass Not Repeatable.**

**2 hours lecture. (24 hours total per quarter)**

Identification, morphology, physiology and management of common agricultural and horticultural insects. Course will review the impacts of common insects on the plant production and landscape industries and review their identification throughout the life cycle of the insect.

**FHGE: Non-GE Transferable: CSU**

**HORT 54K HORTICULTURAL PRACTICES: WEED IDENTIFICATION 2 Units**

**Grade Type: Letter Grade, the student may select Pass/No Pass Not Repeatable.**

**2 hours lecture. (24 hours total per quarter)**

Identification, morphology, physiology and management of common agricultural and horticultural weedy plants. Course will review the impacts of common weeds on the plant production and landscape industries and review their identification throughout the life cycle of the plant.

**FHGE: Non-GE Transferable: CSU**

**HORT 54L HORTICULTURAL PRACTICES: DISEASE IDENTIFICATION 2 Units**

**Grade Type: Letter Grade, the student may select Pass/No Pass Not Repeatable.**

**2 hours lecture. (24 hours total per quarter)**

Identification, morphology, physiology and management of common agricultural and horticultural diseases. Course will review the impacts of common diseases on the plant production and landscape industries and review their identification throughout the life cycle of the disease.

**FHGE: Non-GE Transferable: CSU**

**HORT 55A GREEN INDUSTRY MANAGEMENT: BUSINESS PRACTICES 3 Units**

**Grade Type: Letter Grade Only Not Repeatable.**

**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 60B LANDSCAPE DESIGN: THEORY 3 Units**

**Advisory: HORT 40 and/or drafting skills strongly recommended.**

**Grade Type: Letter Grade, the student may select Pass/No Pass Not Repeatable.**

**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.**

**Grade Type: Letter Grade, the student may select Pass/No Pass Not Repeatable.**

**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 and 26 strongly recommended.**

**Grade Type: Letter Grade Only**

**Not Repeatable.**

**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.**

**Grade Type: Letter Grade, the student may select Pass/No Pass Not Repeatable.**

**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 recommended; CADD experience or training and knowledge of computer operation strongly recommended.**

**Grade Type: Letter Grade Only**

**Not Repeatable.**

**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 60J SKETCHUP FOR LANDSCAPE DESIGNERS 3 Units**

**Advisory: HORT 40.**

**Grade Type: Letter Grade Only**

**Not Repeatable.**

**2.5 hours lecture, 1.5 hours laboratory. (48 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 Sketchup Make and Sketchup Pro will be included in the instruction. Intended for students seeking a landscape design career or professionals upgrading their skills.

**FHGE: Non-GE Transferable: CSU**

**HORT 80A ENVIRONMENTAL HORTICULTURE FALL SKILLS 2 Units**

**Advisory: Not open to students with credit in HORT 80.**

**Grade Type: Letter Grade Only**

**Not Repeatable.**

**1 hour lecture, 3 hours 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 2 Units**  
**WINTER SKILLS**

**Grade Type: Letter Grade Only**  
**Not Repeatable.**

**1 hour lecture, 3 hours 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 2 Units**  
**SPRING SKILLS**

**Grade Type: Letter Grade Only**  
**Not Repeatable.**

**1 hour lecture, 3 hours 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 2 Units**  
**SUMMER SKILLS**

**Grade Type: Letter Grade Only**  
**Not Repeatable.**

**1 hour lecture, 3 hours 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 1 Unit**  
**IN THE LANDSCAPE**

**Grade Type: Letter Grade, the student may select Pass/No Pass**  
**Not Repeatable.**

**12 hours lecture 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**

**Grade Type: Letter Grade, the student may select Pass/No Pass**  
**Not Repeatable.**

**12 hours lecture 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, 1 Unit**  
**USE & FOLKLORE**

**Grade Type: Letter Grade, the student may select Pass/No Pass**  
**Not Repeatable.**

**12 hours lecture 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 1 Unit**  
**PHOTOGRAPHY**

**Grade Type: Letter Grade, the student may select Pass/No Pass**  
**Not Repeatable.**

**12 hours lecture 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: 1 Unit**  
**BASIC PRINCIPLES**

**Grade Type: Letter Grade Only**  
**Not Repeatable.**

**12 hours lecture 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**

**Grade Type: Letter Grade, the student may select Pass/No Pass**  
**Not Repeatable.**

**12 hours lecture 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**

**Grade Type: Letter Grade, the student may select Pass/No Pass**  
**Not Repeatable.**

**12 hours lecture 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 1 Unit**  
**PRACTICES**

**Grade Type: Letter Grade, the student may select Pass/No Pass**  
**Not Repeatable.**

**12 hours lecture 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**

**Grade Type: Letter Grade, the student may select Pass/No Pass**  
**Not Repeatable.**

**12 hours lecture 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: 1 Unit**  
**BASIC SKILLS**

**Grade Type: Letter Grade, the student may select Pass/No Pass**  
**Not Repeatable.**

**12 hours lecture 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**

**Grade Type: Letter Grade Only  
Not Repeatable.**

**12 hours lecture 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**

**Grade Type: Letter Grade, the student may select Pass/No Pass  
Not Repeatable.**

**12 hours lecture total per quarter.**

Identification, taxonomy, habits of growth, cultural and environmental requirements of plants which exhibit noticeable fall color. Color characteristics include stems, foliage, flowers, and fruit. Plants are observed in class, on campus, and at off-site locations.

**FHGE: Non-GE Transferable: CSU**

**HORT 90P PRUNING: BASIC SKILLS 1 Unit**

**Grade Type: Letter Grade, the student may select Pass/No Pass  
Not Repeatable.**

**12 hours lecture 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**

**Grade Type: Letter Grade, the student may select Pass/No Pass  
Not Repeatable.**

**12 hours lecture 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 90S SUSTAINABLE INTEGRATED PEST MANAGEMENT (IPM) 1 Unit**

**Grade Type: Letter Grade, the student may select Pass/No Pass  
Not Repeatable.**

**12 hours lecture 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 2 Units**

**Grade Type: Letter Grade Only  
Not Repeatable.**

**24 hours lecture 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**

**Grade Type: Letter Grade, the student may select Pass/No Pass  
Not Repeatable.**

**12 hours lecture 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**

**Grade Type: Letter Grade, the student may select Pass/No Pass  
Not Repeatable.**

**12 hours lecture 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**

**Grade Type: Letter Grade Only  
Not Repeatable.**

**12 hours lecture 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 via media and physical observation.

**FHGE: Non-GE Transferable: CSU**

**HORT 90Z ORNAMENTAL GRASSES 1 Unit**

**Grade Type: Letter Grade Only  
Not Repeatable.**

**12 hours lecture 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 via media and physical observation.

**FHGE: Non-GE Transferable: CSU**

**HORT 91A COMPOSTING THEORY & TECHNIQUES 1 Unit**

**Grade Type: Letter Grade Only  
Not Repeatable.**

**12 hours lecture 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 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 91C CONSTRUCTION COST ESTIMATING 1 Unit**

**Grade Type: Letter Grade Only  
Not Repeatable.**

**12 hours lecture total per quarter.**

Evaluation of project designs for the purpose of measuring material quantities, estimating labor requirements to install, and calculating overhead and related costs. Techniques for measuring, compiling, and interpreting data, and generating project cost estimates will be addressed.

**FHGE: Non-GE Transferable: CSU**

## FIRE SCIENCE

Biological and Health Sciences  
(650) 949-7249

### JFS 100 FIRE FIGHTER I ACADEMY 20 Units

Formerly: JFS 307

**Advisory:** The student will be required to pass a physical agility test; further information to be provided to the student upon enrollment; not open to students with credit in JFS 307.

**Grade Type:** Letter Grade Only

**Not Repeatable.**

**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 101A FIRE CONTINUED PROFESSIONAL TRAINING (CPT) 1.5 Units

Formerly: JFS 308A

**Prerequisite:** JFS 100 or equivalent.

**Advisory:** Not open to students with credit in JFS 308A.

**Grade Type:** Pass/No Pass Only

**Not Repeatable.**

**44 hours total: 6 hours lecture, 38 hours laboratory.**

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 fewer laboratory hours than JFS 101B.

**FHGE: Non-GE**

### JFS 101B FIRE CONTINUED PROFESSIONAL TRAINING 2 (CPT) 2 Units

Formerly: JFS 308B

**Prerequisite:** JFS 100 or equivalent.

**Advisory:** Not open to students with credit in JFS 308B.

**Grade Type:** Pass/No Pass Only

**Not Repeatable.**

**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 [foothill.edu/geography/](http://foothill.edu/geography/)

### GEOG 1 PHYSICAL GEOGRAPHY 5 Units

**Advisory:** Demonstrated proficiency in English by placement as determined by score on the English placement test OR through an equivalent placement process OR completion of ESLL 125 & ESLL 249; MATH 220.

**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**

**4 hours lecture, 3 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 as determined by score on the English placement test OR through an equivalent placement process OR completion of ESLL 125 & ESLL 249.

**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**

**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 as determined by score on the English placement test OR through an equivalent placement process OR completion of ESLL 125 & ESLL 249.

**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**

**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 10 WORLD REGIONAL GEOGRAPHY 4 Units

**Advisory:** Demonstrated proficiency in English by placement as determined by score on the English placement test OR through an equivalent placement process OR completion of ESLL 125 & ESLL 249.

**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**

**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.

**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**

**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.

**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**

**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 20 INTRODUCTION TO EARTH SCIENCE 4 Units**

**Advisory:** One of the following: ENGL 1A, 1AH, or 1S & 1T.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**

**4 hours lecture. (48 hours total per quarter)**

An introduction to the essentials of Earth science, including the structure of the earth and its internal processes, the atmosphere, the hydrosphere, and solar system. This course focuses on the interactions between physical and chemical systems of the Earth, such as the plate tectonics, the rock cycle, the hydrologic cycle, weather and climate. Topics are aligned with the California State Science Standards for K-12 and will prepare pre-service teachers to teach these subjects.

**FHGE: Non-GE Transferable: UC/CSU**

**GEOG 70R INDEPENDENT STUDY IN GEOGRAPHY 1 Unit**

**GEOG 71R 2 Units**  
**GEOG 72R 3 Units**  
**GEOG 73R 4 Units**

**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**

**3-12 hours laboratory 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 foothill.edu/gis/**

**GIST 11 INTRODUCTION TO MAPPING & SPATIAL REASONING 4 Units**

**Advisory:** MATH 220; not open to students with credit in GEOG 11.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**

**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.

**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**

**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**

**Advisory:** Successful completion of GEOG 11 or GIST 11 and GEOG 12 or GIST 12; not open to students with credit in GEOG 52.

**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**

**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:** GEOG 11 or GIST 11; GIST 52.

**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**

**2 hours lecture, 6 hours laboratory. (96 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**

**Advisory:** Not open to students with credit in GEOG 54A.

**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**

**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**

**Advisory:** Not open to students with credit in GEOG 58.

**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**

**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**

**Advisory:** Not open to students with credit in GEOG 59.

**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**

**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**

## GRAPHICS & INTERACTIVE DESIGN

Fine Arts and Communication  
(650) 949-7571 foothill.edu/gid/

Foothill offers art activity courses in seven 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. Please refer to the De Anza College Catalog for the corresponding families and courses.

Printmaking Family: ART 39 or GID 46 & ART 40 or GID 38

### GID 1 HISTORY OF GRAPHIC DESIGN 4 Units

**Advisory:** Not open to students with credit in ART 36 or GRDS 36.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**

**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**

### GID 31 GRAPHIC DESIGN DRAWING 4 Units

Formerly: GID 70

**Advisory:** Not open to students with credit in GID 70 or GRDS 60.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**

**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: UC/CSU**

### GID 33 GRAPHIC DESIGN STUDIO I 4 Units

**Advisory:** Not open to students with credit in GID 50 or GRDS 53.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**

**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

**Advisory:** Not open to students with credit in GID 51.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**

**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

**Advisory:** Not open to students with credit in GID 52.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**

**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, website, and package design. Creative ideas are explored in sketches, rough layouts, comps, and final presentations. Students learn Adobe CC software and industry standard software to complete the graphic design activities in this course.  
**FHGE: Non-GE Transferable: UC/CSU**

### GID 36 TYPOGRAPHY 4 Units

**Advisory:** ART 14D or GID 41, and GID 33, or proficiency using Illustrator software; not open to students with credit in GID 54 or GRDS 62.

**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**

**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 CARTOON & COMIC ILLUSTRATION I 4 Units

**Advisory:** Not open to students with credit in GID 72 or GRDS 73A.

**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**

**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 INTRODUCTION TO PRINTMAKING 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 40, 69 or GRDS 69.

**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**

**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 41 DIGITAL ART & GRAPHICS 4 Units

**Advisory:** Familiarity with computer operating systems; ART 4A or GID 31; ART 5A; PHOT 1; not open to students with credit in ART 14D, GID 74, or GRDS 56.

**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**

**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 43 ILLUSTRATION & DIGITAL IMAGING 4 Units

**Advisory:** ART 4A or GID 31; ART 14D or GID 41 or familiarity with painting and drawing software; not open to students with credit in GID 76 or GRDS 90.

**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**

**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 44A FUNDAMENTALS OF 3-D ANIMATION 4 Units**

**Grade Type: Letter Grade, the student may select Pass/No Pass Not Repeatable.**

**3 hours lecture, 3 hours laboratory. (72 hours total per quarter)**

Introduction on how to create believable movement by applying the traditional principles of animation to the 3-D digital environment, and using the computer as a tool to animate characters, creatures, and simple props related to live-action and animation film. A wide variety of current industry standard software, and traditional principles of animation will be used to animate simple 3-D animation art assets and characters. Topics include an overview of the traditional principles of animation, and how to apply them to basic 3-D digital animation. Emphasis on body mechanics, with attention on the building blocks of an animated scene, and the workflow from planning phase to final animation for live-action and animation film, will also be explored.

**FHGE: Non-GE Transferable: UC/CSU**

**GID 45 DIGITAL SOUND, VIDEO & ANIMATION 4 Units**

**Advisory: Not open to students with credit in ART 88, DRAM 86, GID 80, GRDS 86, MUS 12 or VART 86.**

**Grade Type: Letter Grade, the student may select Pass/No Pass Not Repeatable.**

**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.**

**Grade Type: Letter Grade, the student may select Pass/No Pass Not Repeatable.**

**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**

**Advisory: Not open to students with credit in GID 84, GRDS 87, MDIA 32 or VART 87.**

**Grade Type: Letter Grade, the student may select Pass/No Pass Not Repeatable.**

**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 49 GAME ART & DESIGN 4 Units**

**Grade Type: Letter Grade, the student may select Pass/No Pass Not Repeatable.**

**3 hours lecture, 3 hours laboratory. (72 hours total per quarter)**

This course introduces the creative and technical aspects of computer and video game art and design. Students will learn conceptual and practical skills for bringing a comprehensive artistic vision to the creation of computer and video games, including concept art, character design, interface design, storytelling, and gameplay. Projects will emphasize creative design processes and digital prototyping of art for 2-D and 3-D computer and video games.

**FHGE: Non-GE Transferable: UC/CSU**

**GID 53A BEGINNING T-SHIRT DESIGN & GARMENT PRINTING 4 Units**

**Advisory: Not open to students with credit in GID 53.**

**Grade Type: Letter Grade, the student may select Pass/No Pass Not Repeatable.**

**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**

**Grade Type: Letter Grade, the student may select Pass/No Pass Not Repeatable.**

**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**

**Grade Type: Letter Grade, the student may select Pass/No Pass Not Repeatable.**

**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 55 USER EXPERIENCE (UI/UX) DESIGN 4 Units**

**Grade Type: Letter Grade, the student may select Pass/No Pass Not Repeatable.**

**3 hours lecture, 3 hours laboratory. (72 hours total per quarter)**

Design and develop successful user experiences (UI/UX) for mobile devices. Identify users and analyze their needs and behaviors. Organize content, create pathways, design media, and produce reusable elements. Appreciate the significance of branding. Conduct usability testing and collect data. Design iterations based on data findings. Explore issues in mobile design for multiple devices. Develop proficiency with professional software for mobile development.

**FHGE: Non-GE Transferable: CSU**

**GID 56 WEBSITE DESIGN 4 Units**

**Advisory: not open to students with credit in GRDS 94.**

**Grade Type: Letter Grade, the student may select Pass/No Pass Not Repeatable.**

**3 hours lecture, 3 hours laboratory. (72 hours total per quarter)**

Basic instruction using the computer for website 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.**

**Grade Type: Letter Grade, the student may select Pass/No Pass Not Repeatable.**

**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.**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.****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.**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.****2 hours lecture. (24 hours total per quarter)**

Exploring the field of visual arts including commercial arts, graphic design, photography, video arts, website 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.**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.****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 67 MOBILE GAME DESIGN 4 Units****Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.****3 hours lecture, 3 hours laboratory. (72 hours total per quarter)**

Learn how to design games for smart phones and mobile devices. This course explores the design and development processes for mobile games. The course introduces the concepts of character design, scene design, and asset creation for mobile games. Students will use mobile game design tools and techniques, including animation, game mechanics, scalable vector graphics, and sound effects, to build interactive game experiences. Professional techniques for game design planning and rapid prototyping, distribution and promotion of mobile games will be presented. Students will develop proficiency with professional software for mobile game design.

**FHGE:** Non-GE **Transferable:** CSU**GID 68A INTRODUCTION TO VIRTUAL REALITY DESIGN 4 Units****Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.****3 hours lecture, 3 hours laboratory. (72 hours total per quarter)**

Introduction to the core principles and foundations of design for virtual reality (VR) and immersive experiences. Students will learn theory, techniques and processes for design and development of successful VR and immersive experiences. Hands-on projects provide opportunities for creating VR animation, 3-D objects, environments and interfaces while exploring issues in design and development for VR and immersive devices. Students will develop proficiency with professional software for VR design and development.

**FHGE:** Non-GE **Transferable:** CSU**GID 68B VIRTUAL REALITY GAME DESIGN 4 Units****Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.****3 hours lecture, 3 hours laboratory. (72 hours total per quarter)**

Learn how to design virtual reality (VR) games and immersive experiences. Students will be introduced to conceptual theory, design techniques, and project management skills for building successful VR games and immersive experiences. Topics include ideation, concept development, character design, environment design, 3-D animation, and sound and lighting design for VR games and immersive experiences. Students will complete hands-on projects that progress through the phases of designing VR games and immersive experiences, from ideation through to final production while developing proficiency with professional software for VR game and immersive experience design.

**FHGE:** Non-GE **Transferable:** CSU**GID 71 STORYBOARDING 4 Units****Advisory:** GID 31; not open to students with credit in GRDS 76.**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.****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 77 ADVANCED WEBSITE DESIGN & DEVELOPMENT 4 Units****Advisory:** GID 56 and 57.**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.****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.**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.****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 92 LETTERPRESS PRINTING 4 Units****Advisory:** ART 14D or GID 41; GID 33; not open to students with credit in GRDS 40.**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.****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.**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.****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**HLTH 23 DRUGS, HEALTH & SOCIETY 4 Units****Advisory:** One of the following: ENGL 1A, 1AH or 1S & 1T.**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.****4 hours lecture. (48 hours total per quarter)**

This course explores the world-wide crisis and challenge of substance abuse, including its historical effects on various societies and cultures. In addition to examining this from a social perspective, students will receive an overview of the epidemiology and toxicology of substance abuse and its relevance to personal and public health. Students will be introduced to the concept of substance abuse and dependence, the definition of licit and illicit drugs, and the pharmacologic, neurologic and physiologic effects of selected substances on the human brain. Political, social and economic factors involved in the supply and demand for drugs will be discussed. Epidemiologic data on the prevalence, incidence, and trends of smoking, alcohol, prescription and other drug dependencies globally will be covered, as well as risk factors associated with the use and abuse of these substances. Current options for recovery will be reviewed.

**FHGE:** Lifelong Learning **Transferable:** UC/CSU**HLTH 60 HEALTH ASPECTS OF AGING 4 Units****Advisory:** One of the following: ENGL 1A, 1AH, or 1S & 1T, or equivalent.**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.****4 hours lecture. (48 hours total per quarter)**

Introduction to the biology, physiology and pathology of aging. Each body system will be explored focusing on how age changes can relate to disorders and diseases in later life. The course will employ a multidisciplinary perspective to include information on the sociological and psychological aspects of aging. Health promotion and disease prevention strategies will be discussed.

**FHGE:** Non-GE **Transferable:** CSU**HLTH 70 GERIATRIC HEALTH CARE 3 Units****Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.****3 hours lecture. (36 hours total per quarter)**

Introduction to geriatric health care for all students interested in our increasing older population's health care. The course will examine the health issues in our aging population. Topics include demographics of aging, pharmacology, nutrition, dental health, and information on dementia, sleep disorders, and medication therapy management. Future concerns for an aging society that encourages all health care professionals to embrace patient advocacy will also be addressed.

**FHGE:** Non-GE **Transferable:** CSU**HLTH 75 CLINICAL ROTATION IN GERIATRIC HEALTH CARE SETTINGS 3 Units****Prerequisite:** HLTH 70.**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.****9 hours laboratory. (108 hours total per quarter)**

Supervised hands-on introductory training in age-related facilities. Clinical rotations in settings that include senior residences, assisted living programs, nursing homes, private residences, and senior day health centers.

**FHGE:** Non-GE **Transferable:** CSU**HEALTH****Biological and Health Sciences****(650) 949-7249** [foothill.edu/bhs/](http://foothill.edu/bhs/)**HLTH 20 INTRODUCTION TO PUBLIC HEALTH 5 Units****Advisory:** One of the following: ENGL 1A, 1AH, or 1S & 1T.**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.****5 hours lecture. (60 hours total per quarter)**

Introduction to and an overview of public health. It covers: identifying and addressing population health challenges; determinants of health; and an overview of the health system. The basic concepts and terminologies of public health along with the history and accomplishments of public health officials and agencies will be reviewed. An overview of the functions of various public health professions and institutions, and an in-depth examination of the core public health disciplines is covered. Key topics include the epidemiology of infectious and chronic disease; prevention and control of diseases in the community including the analysis of the social determinants of health and strategies for eliminating disease, illness and health disparities among various populations; community organizing and health promotion programming; environmental health and safety; global health; and health care policy and management.

**FHGE:** Lifelong Learning **Transferable:** UC/CSU**HLTH 21 CONTEMPORARY HEALTH CONCERNS 4 Units****Advisory:** One of the following: ENGL 1A, 1AH, or 1S & 1T.**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.****4 hours lecture. (48 hours total per quarter)**

This course focuses on the exploration of major health issues and behaviors in the various dimensions of health. Emphasis is placed on individual responsibility for personal health and the promotion of informed, positive health behaviors. Topics include nutrition, exercise, weight control, mental health, stress management, violence, substance abuse, reproductive health, disease prevention, aging, health care, and environmental hazards and safety.

**FHGE:** Lifelong Learning **Transferable:** UC/CSU**HLTH 22 HEALTH & SOCIAL JUSTICE 4 Units****Advisory:** One of the following: ENGL 1A, 1AH or 1S & 1T.**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.****4 hours lecture. (48 hours total per quarter)**

This course provides an introduction to the health inequities in the United States that stem from unequal living conditions. Students will explore how education, socioeconomic status, racism and gender shape health epidemics and policy development. The basic skills necessary for advocating for health and social justice will be theoretically demonstrated.

**FHGE:** Lifelong Learning **Transferable:** UC/CSU

**HLTH 300 HEALTH ACROSS THE LIFESPAN 5 Units**  
**Grade Type: Letter Grade Only**  
**Not Repeatable.**  
**5 hours lecture. (60 hours total per quarter)**  
 Examines the basic principles that guide growth, development and the health of individuals across the lifespan, from the prenatal period through senescence. Presents methodological, conceptual and substantive issues necessary for understanding and evaluating empirically based information about growth, development and health at different stages of life and from a public health perspective. Course covers several themes, including contributions of biological and environmental factors to health and human development, measuring the health of individuals in communities, understanding determinants and consequences of health and development across the lifespan, measuring population health and assessing the implications of health disparities. This is an upper division General Education course, intended for students in the Dental Hygiene Baccalaureate Degree Program; enrollment is limited to students accepted in the program.  
**FHGE: Upper Division Transferable: CSU**

**HIST 4A HISTORY OF WESTERN CIVILIZATION TO 800 CE 4 Units**  
**Advisory: Demonstrated proficiency in English by placement as determined by score on the English placement test OR through an equivalent placement process OR completion of ESLL 125 & ESLL 249.**  
**Grade Type: Letter Grade, the student may select Pass/No Pass**  
**Not Repeatable.**  
**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, A1800 4 Units**  
**Advisory: Demonstrated proficiency in English by placement as determined by score on the English placement test OR through an equivalent placement process OR completion of ESLL 125 & ESLL 249.**  
**Grade Type: Letter Grade, the student may select Pass/No Pass**  
**Not Repeatable.**  
**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, A1PRESENT 4 Units**  
**Advisory: Demonstrated proficiency in English by placement as determined by score on the English placement test OR through an equivalent placement process OR completion of ESLL 125 & ESLL 249; not open to students with credit in HIST 4CH.**  
**Grade Type: Letter Grade, the student may select Pass/No Pass**  
**Not Repeatable.**  
**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, A1PRESENT 4 Units**  
**Prerequisite: Honors Institute participant.**  
**Advisory: Not open to students with credit in HIST 4C.**  
**Grade Type: Letter Grade, the student may select Pass/No Pass**  
**Not Repeatable.**  
**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 as determined by score on the English placement test OR through an equivalent placement process OR completion of ESLL 125 & ESLL 249.**  
**Grade Type: Letter Grade, the student may select Pass/No Pass**  
**Not Repeatable.**  
**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**

## HISTORY

**Business and Social Sciences**  
 (650) 949-7322 [foothill.edu/history/](http://foothill.edu/history/)

**HIST 3A WORLD HISTORY FROM PREHISTORY TO 750 CE 4 Units**  
**Advisory: Demonstrated proficiency in English by placement as determined by score on the English placement test OR through an equivalent placement process OR completion of ESLL 125 & ESLL 249.**  
**Grade Type: Letter Grade, the student may select Pass/No Pass**  
**Not Repeatable.**  
**4 hours lecture. (48 hours total per quarter)**  
 Survey of the world's ancient peoples, cultures and civilizations from Africa, Asia, Europe and the Americas and Oceania. Focus on the interactions between peoples and cultures in broad regions and the similarities and difference between civilizations.  
**FHGE: Social & Behavioral Sciences Transferable: UC/CSU**

**HIST 3B WORLD HISTORY FROM 750 CE TO 1750 CE 4 Units**  
**Advisory: Demonstrated proficiency in English by placement as determined by score on the English placement test OR through an equivalent placement process OR completion of ESLL 125 & ESLL 249.**  
**Grade Type: Letter Grade, the student may select Pass/No Pass**  
**Not Repeatable.**  
**4 hours lecture. (48 hours total per quarter)**  
 Survey of world civilizations focusing on the increasing encounters between the world's peoples, cultures, and civilizations. Focus on the constructive and destructive impacts of interactions of civilizations in Europe, Africa, Asia, the Americas and Oceania.  
**FHGE: Social & Behavioral Sciences Transferable: UC/CSU**

**HIST 3C WORLD HISTORY FROM 1750 CE TO THE PRESENT 4 Units**  
**Advisory: Demonstrated proficiency in English by placement as determined by score on the English placement test OR through an equivalent placement process OR completion of ESLL 125 & ESLL 249.**  
**Grade Type: Letter Grade, the student may select Pass/No Pass**  
**Not Repeatable.**  
**4 hours lecture. (48 hours total per quarter)**  
 Survey of world civilizations as they transition from colonial to modern times. Focus on the increasing interdependency of human societies through revolution, war, globalization, and global environmental changes.  
**FHGE: Social & Behavioral Sciences Transferable: UC/CSU**



**HIST 9 HISTORY OF CONTEMPORARY EUROPE 4 Units**

**Advisory:** Demonstrated proficiency in English by placement as determined by score on the English placement test OR through an equivalent placement process OR completion of ESLL 125 & ESLL 249; not open to students with credit in HIST 9H.

**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.

**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:** Not open to students with credit in HIST 9.

**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.

**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 as determined by score on the English placement test OR through an equivalent placement process OR completion of ESLL 125 & ESLL 249.

**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.

**4 hours lecture. (48 hours total per quarter)**

History of California emphasizing the interaction of peoples of different ethnicities from the Native period up to the present day. Emphasis on periods of significant cultural transition, the Spanish mission period, American conquest and dominance, and multicultural movements of the twentieth century. Analysis of class and gender as well as race and ethnicity in the development of California history and culture.

**FHGE:** Amer, SocBeh **Transferable:** UC/CSU

**HIST 16 INTRODUCTION TO ANCIENT ROME 4 Units**

**Advisory:** HIST 4A or equivalent; demonstrated proficiency in English by placement as determined by score on the English placement test OR through an equivalent placement process OR completion of ESLL 125 & ESLL 249; not open to students with credit in HIST 16H.

**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.

**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; not open to students with credit in HIST 16.

**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.

**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 as determined by score on the English placement test OR through an equivalent placement process OR completion of ESLL 125 & ESLL 249.

**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.

**4 hours lecture. (48 hours total per quarter)**

History of North 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 as determined by score on the English placement test OR through an equivalent placement process OR completion of ESLL 125 & ESLL 249.

**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.

**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 as determined by score on the English placement test OR through an equivalent placement process OR completion of ESLL 125 & ESLL 249; not open to students with credit in HIST 17CH.

**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.

**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 17CH HONORS HISTORY OF THE UNITED STATES FROM 1914 TO THE PRESENT 4 Units**

**Prerequisite:** Honors Institute participant.  
**Advisory:** Not open to students with credit in HIST 17C.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.  
**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. 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 18 INTRODUCTION TO MIDDLE EASTERN CIVILIZATION 4 Units**

**Advisory:** Demonstrated proficiency in English by placement as determined by score on the English placement test OR through an equivalent placement process OR completion of ESLL 125 & ESLL 249.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.  
**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 as determined by score on the English placement test OR through an equivalent placement process OR completion of ESLL 125 & ESLL 249.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.  
**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 as determined by score on the English placement test OR through an equivalent placement process OR completion of ESLL 125 & ESLL 249.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.  
**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**

**Prerequisite:** Honors Institute participant.  
**Advisory:** Not open to students with credit in HIST 34 or 34H.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.  
**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 in consultation with the individual student.  
**FHGE: Non-GE Transferable: CSU**

**HUMANITIES**

**Business and Social Sciences**  
(650) 949-7322 foothill.edu/humanities/

**HUMN 1 CULTURES, CIVILIZATIONS & IDEAS: THE ANCIENT WORLD 4 Units**

**Formerly:** HUMN 1A  
**Advisory:** One of the following: ENGL 1A, 1AH, or 1S & 1T; not open to students with credit in HUMN 1A.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.  
**4 hours lecture. (48 hours total per quarter)**  
An interdisciplinary and thematic approach to the history of human culture and ideas. Major eras covered include Mesopotamia, Egypt, China's Han and Tang Dynasties, India's Gupta Empire, Japan's Nara Period, Ancient Greece, Ancient Rome and the Flowering of World Religions. Class discussions, projects and lectures address the development of worldviews, moral and ethical values and the arts in civilizations across the globe and throughout time.  
**FHGE: Humanities Transferable: UC/CSU**

**HUMN 2 CULTURES, CIVILIZATIONS & IDEAS: OF EMPIRES & CONFLICT 4 Units**

**Formerly:** HUMN 1B  
**Advisory:** One of the following: ENGL 1A, 1AH, or 1S & 1T; not open to students with credit in HUMN 1B.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.  
**4 hours lecture. (48 hours total per quarter)**  
An interdisciplinary and thematic approach to the history of human culture and ideas. Major eras covered include India's Pala Empire, China's Song and Ming Dynasty, the Mongol Empire, Japan's Muromachi Period, Culture, the people and empires of North, Central and South America, the Islamic Golden Age and the European Middle Ages. Class discussions, projects and lectures address the development of worldviews, moral and ethical values and the arts in civilizations across the globe and throughout time.  
**FHGE: Humanities Transferable: UC/CSU**

**HUMN 3 WORLD MYTHS IN LITERATURE ARTS & FILM 4 Units**

**Advisory:** One of the following: ENGL 1A, 1AH, or 1S & 1T strongly recommended; not open to students with credit in HUMN 3H.  
**Grade Type:** Letter Grade Only Not Repeatable.  
**4 hours lecture. (48 hours total per quarter)**  
An in-depth study of myths and legends, including, but not limited to, those from ancient Mesopotamia, classical Greece and Rome, Asia, India, Africa, Europe, and the indigenous 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**

**Prerequisite:** Honors Institute participant.  
**Advisory:** Not open to students with credit in HUMN 3.  
**Grade Type:** Letter Grade Only Not Repeatable.  
**4 hours lecture. (48 hours total per quarter)**  
An in-depth study of myths and legends, including, but not limited to, those from ancient Mesopotamia, classical Greece and Rome, Asia, India, Africa, Europe, and the indigenous 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: UC/CSU**

**HUMN 4 TRAUMA & THE ARTS 4 Units**

**Advisory:** One of the following: ENGL 1A, 1AH, or 1S & 1T strongly recommended; not open to students with credit in HUMN 4H.

**Grade Type:** Letter Grade Only

**Not Repeatable.**

**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**

**Prerequisite:** Honors Institute participant.

**Advisory:** Not open to students with credit in HUMN 4.

**Grade Type:** Letter Grade Only

**Not Repeatable.**

**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. 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 5 CULTURES, CIVILIZATIONS & IDEAS: THE MODERN WORLD 4 Units**

**Advisory:** One of the following: ENGL 1A, 1AH, or 1S & 1T.

**Grade Type:** Letter Grade, the student may select Pass/No Pass

**Not Repeatable.**

**4 hours lecture. (48 hours total per quarter)**

An interdisciplinary and thematic approach to the history of human culture and ideas. Major eras covered include the Renaissance, the Age of Encounters, the Enlightenment, the Romantic Period, the Industrial Revolution and the dark legacy of Colonialism. Class discussions, projects and lectures address the development of worldviews, moral and ethical values and the arts in civilizations across the globe and throughout time.

**FHGE:** Humanities **Transferable:** UC/CSU

**HUMN 6 THE SHOCK OF THE NEW: FROM THE MODERN TO THE CONTEMPORARY 4 Units**

**Advisory:** One of the following: ENGL 1A, 1AH, or 1S & 1T.

**Grade Type:** Letter Grade, the student may select Pass/No Pass

**Not Repeatable.**

**4 hours lecture. (48 hours total per quarter)**

An interdisciplinary and thematic approach to the history of human culture and ideas. Major eras covered include: Modernity (from cubism and expressionism to jazz and film), the Soviet Union and Nazi Germany, the Atomic Age, Post-Colonialism (India, Africa, Latin America, the Middle East), Post Modernity, and the Digital Age. Class discussions, projects and lectures address the development of worldviews, moral and ethical values and the arts in Asia, Europe, the Americas and Africa throughout the 20th Century and beyond.

**FHGE:** Humanities **Transferable:** UC/CSU

**HUMN 7 GLOBAL RELIGIONS: CONTEMPORARY PRACTICES & PERSPECTIVES 4 Units**

**Advisory:** One of the following: ENGL 1A, 1AH, or 1S & 1T; not open to students with credit in HUMN 7H.

**Grade Type:** Letter Grade, the student may select Pass/No Pass

**Not Repeatable.**

**4 hours lecture. (48 hours total per quarter)**

Interdisciplinary course that explores how religions shape our understanding of diverse topics such as human rights, war, peace, globalization and science as well as music, sport, humor, film and the visual arts. Course eschews a focus on a specific tradition (i.e. Western or Eastern religions), and instead examines the inter-relationship between religion and human meaning creation through the specific lenses of ethics, aesthetics and politics.

**FHGE:** Humanities **Transferable:** UC/CSU

**HUMN 7H HONORS GLOBAL RELIGIONS: CONTEMPORARY PRACTICES & PERSPECTIVES 4 Units**

**Prerequisite:** Honors Institute participant.

**Advisory:** Not open to students with credit in HUMN 7.

**Grade Type:** Letter Grade Only

**Not Repeatable.**

**4 hours lecture. (48 hours total per quarter)**

Interdisciplinary course that explores how religions shape our understanding of diverse topics such as human rights, war, peace, globalization and science as well as music, sport, humor, film and the visual arts. Course eschews a focus on a specific tradition (e.g., Western or Eastern religions), and instead examines the inter-relationship between religion and human meaning creation through the specific lenses of ethics, aesthetics and politics. 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 9 ONCE UPON A TIME? THE IMMORTAL LURE OF FAIRY TALES 4 Units**

**Advisory:** One of the following: ENGL 1A, 1AH, or 1S & 1T strongly recommended.

**Grade Type:** Letter Grade Only

**Not Repeatable.**

**4 hours lecture. (48 hours total per quarter)**

Interdisciplinary exploration of the origins, structure and function of fairy tales and their enduring influence on contemporary art, film, and gaming. Examines how the fairy tale and its multi-cultural variants dynamically give voice to the universally shared human experience. Interdisciplinary strategies are employed to trace the impact of fairy tales on science fiction, fantasy, dystopia, and horror.

**FHGE:** Humanities **Transferable:** UC/CSU

**HUMN 44H HONORS ART & TRANSGRESSION: THE HOLOCAUST IN THE LITERARY IMAGINATION 2 Units**

**Prerequisite:** Honors Institute participant.

**Grade Type:** Letter Grade Only

**Not Repeatable.**

**2 hours lecture. (24 hours total per quarter)**

When Theodor Adorno claimed that 'Writing Poetry after Auschwitz is barbaric,' he challenged us to reflect upon the dangers that come with artistic representation. This course traces how art mediates our encounters with history by examining the role of art in shaping our understanding of the Holocaust. Specifically the course examines art's complicity in utilizing the Holocaust for national and political interests and art's ability to provide a space that affords us to behold a realm beyond reason.

**FHGE:** Non-GE **Transferable:** UC/CSU

**HUMN 54H HONORS INSTITUTE SEMINAR IN HUMANITIES** 1 Unit  
**Prerequisite:** Honors Institute participant.  
**Advisory:** Not open to students with credit in HUMN 34 or 34H.  
**Grade Type:** Letter Grade Only  
**Not Repeatable.**  
**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**

**HUMN 58 EX MACHINA: THE PARADOX OF BEING HUMAN IN THE DIGITAL AGE** 4 Units  
**Advisory:** Demonstrated proficiency in English by placement as determined by score on the English placement test OR through an equivalent placement process OR completion of ESLL 125 & ESLL 249.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**  
**4 hours lecture. (48 hours total per quarter)**  
An inquiry into reality and human culture as a co-construct between technology and art. Through the study of film, video games and other cultural products, the course traces how social media and artificial intelligence challenge our understanding of what it means to be human and how social engagement in the digital age is altered by the acceleration of time and the collapse of space.  
**FHGE: Humanities Transferable: CSU**

**ITRN 51 INTERNSHIP** 2 Units  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**  
**6 hours laboratory. (72 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**

**ITRN 52 INTERNSHIP** 3 Units  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**  
**9 hours laboratory. (108 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**

**ITRN 53 INTERNSHIP** 4 Units  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**  
**12 hours laboratory. (144 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**

**ITRN 54 INTERNSHIP** 5 Units  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**  
**15 hours laboratory. (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**

## INTERDISCIPLINARY STUDIES

### Biological and Health Sciences

**IDS 300 RESEARCH METHODOLOGY FOR HEALTH PROFESSIONALS** 5 Units  
**Grade Type:** Letter Grade Only  
**Not Repeatable.**  
**5 hours lecture. (60 hours total per quarter)**  
This course is designed to introduce students to the research process and how it applies to evidence-based patient care. Emphasis on research design and methods, scientific databases and evidence-based resources. Application of research methods and statistical techniques to the critical evaluation of current scientific literature. Evidence-based decision making and development of critical thinking skills will be discussed. This is an upper division General Education course, intended for students in the Dental Hygiene Baccalaureate Degree Program; enrollment is limited to students accepted in the program.  
**FHGE: Upper Division Transferable: CSU**

## INTERNSHIP

### Business and Social Sciences (650) 949-7793

**ITRN 50 INTERNSHIP** 1 Unit  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**  
**3 hours laboratory. (36 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 foothill.edu/japanese/

For information on clearing a foreign language prerequisite, please contact the Language Arts division office at (650) 949-7250.

### JAPN 1 ELEMENTARY JAPANESE I 5 Units

**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**

**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.

**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**

**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.

**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**

**5 hours lecture. (60 hours total per quarter)**

Further development of material presented in JAPN 1 & 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.

**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**

**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.

**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**

**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.

**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**

**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.

**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**

**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.

**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**

**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.

**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**

**4 hours lecture. (48 hours total per quarter)**

Development of fluency in the oral/aural language, and cultural skills required in socio-linguistic functions, e.g., 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.**Grade Type:** Letter Grade, the student may select Pass/No Pass**Not Repeatable.****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 101A JAPANESE LANGUAGE 4 Units****PROFICIENCY TEST PREPARATION I****Advisory:** JAPN 3 or equivalent.**Grade Type:** Letter Grade, the student may select Pass/No Pass**Not Repeatable.****4 hours lecture. (48 hours total per quarter)**

This course is designed to help prepare students for the Japanese Language Proficiency Test (JLPT) N4 level and aims at enabling students to pass the JLPT N4 level. Students will comprehensively expand their proficiency in Japanese and increase ability to use the knowledge in actual communication. Covers vocabulary, Kanji, grammar, reading comprehension and listening comprehension related to the JLPT N4 level. Special emphasis is placed on reading and listening comprehension. Students will also learn a strategy to pass the JLPT N4 level.

**FHGE:** Non-GE**JAPN 101B JAPANESE LANGUAGE 4 Units****PROFICIENCY TEST PREPARATION II****Advisory:** JAPN 101A or equivalent.**Grade Type:** Letter Grade, the student may select Pass/No Pass**Not Repeatable.****4 hours lecture. (48 hours total per quarter)**

Continuation of JAPN 101A, this course aims at enabling students to pass the Japanese Language Proficiency Test (JLPT) N4 level. Development of intermediate level of reading and listening skills by understanding a more complex range of information. Reading and listening skills and ability to use the knowledge in actual communication are to be developed through classroom activities and homework assignments. Special emphasis is placed on rapidity of correct perception and acquaintance with a variety of native dialects, and familiarity with oral idioms and grammar. Students will also learn a strategy to pass the JLPT N4 level.

**FHGE:** Non-GE**JAPN 101C JAPANESE LANGUAGE 4 Units****PROFICIENCY TEST PREPARATION III****Advisory:** JAPN 101B or equivalent.**Grade Type:** Letter Grade, the student may select Pass/No Pass**Not Repeatable.****4 hours lecture. (48 hours total per quarter)**

Continuation of JAPN 101B, this course aims at enabling students to pass the Japanese Language Proficiency Test (JLPT) N4 level. Further development of intermediate level of reading and listening by increasing vocabulary and by understanding socio-linguistic features, such as honorific verbs and extra-modest expressions. Reading and listening experience in an environment of increasingly challenging language situations. Students will gain a high level of communicative competence and continue to learn Kanji. Students will also learn a strategy to pass the JLPT N4 level.

**FHGE:** Non-GE**JAPN 101D JAPANESE LANGUAGE 4 Units****PROFICIENCY TEST PREPARATION IV****Advisory:** JAPN 101C or equivalent.**Grade Type:** Letter Grade, the student may select Pass/No Pass**Not Repeatable.****4 hours lecture. (48 hours total per quarter)**

Continuation of JAPN 101C, this course aims at enabling students to pass the Japanese Language Proficiency Test (JLPT) N4 level, as well as helps prepare students for the JLPT N3 level. Development of advanced level of reading and listening skills by understanding a more abstract range of information relating to high-frequency situations and by exploring various forms of authentic materials, such as current news media and drama. Students will gain a high level of communicative competence and continue to learn Kanji. Students will also learn a strategy to pass the JLPT N3 level and N4 level.

**FHGE:** Non-GE**JAPN 192 COMMUNITY SERVICE 1 Unit****LEARNING FOR JAPANESE****Advisory:** Completion of JAPN 6 or equivalent.**Grade Type:** Letter Grade, the student may select Pass/No Pass**Not Repeatable.****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**JOURNALISM****Fine Arts and Communication****650.949.7262****JRNL 2 MASS COMMUNICATION 5 Units****Advisory:** Demonstrated proficiency in English by placement as determined by score on the English placement test OR through an equivalent placement process OR completion of ESLL 125 & ESLL 249.**Grade Type:** Letter Grade, the student may select Pass/No Pass**Not Repeatable.****5 hours lecture. (60 hours total per quarter)**

The study of mass media and media technology as applied to society. Includes a study of media functions, responsibilities, practices, and influences, as well as a study of media history, development, and impact in shaping modern culture.

**FHGE:** Non-GE **Transferable:** UC/CSU**JRNL 22A INTRODUCTION TO REPORTING 5 Units****& NEWSWRITING****Formerly:** JRNL 52A**Advisory:** ENGL 1A, 1AH, or 1S & 1T; not open to students with credit in JRNL 52A.**Grade Type:** Letter Grade, the student may select Pass/No Pass**Not Repeatable.****4 hours lecture, 3 hours laboratory. (84 hours total per quarter)**

An introduction to gathering, synthesizing/organizing and writing news in journalistic style across multiple platforms. Includes role of the journalist and related legal and ethical issues, including instruction and practice in reporting and the fundamentals of news writing for media, with analysis of typical news stories. Concentration on the language and style of news writing; organization and structure of news stories; the lead and the basic story types. Students will report and write based on their original interviews and research to produce news content. Experiences may include covering speeches, meetings, and other events, writing under deadline and use of AP Style.

**FHGE:** Non-GE **Transferable:** UC/CSU

**JRNL 22B INTERMEDIATE REPORTING/  
NEWSWRITING 5 Units**

Formerly: JRNL 21A

Advisory: ENGL 1A, 1AH, or 1S & 1T; not open to students with credit in JRNL 21A.

Grade Type: Letter Grade, the student may select Pass/No Pass Not Repeatable.

4 hours lecture, 3 hours laboratory. (84 hours total per quarter)

This course is a continuation of the introductory newswriting/reporting course (JRNL 22A) and focuses on coverage of public affairs beats, including local and regional government, police, courts, and school and city boards. Fundamentals in feature writing for newspapers, magazines and other media with instruction and practice in profile, human interest, consumer and interpretive news features. It includes both on- and off-campus reporting and writing/news presentation for a variety of news purposes and through multiple platforms with practical experience in interviewing, writing special story types and revising.

FHGE: Non-GE Transferable: UC/CSU

**JRNL 53A STUDENT MEDIA PRACTICUM I 5 Units**

Formerly: JRNL 49

Advisory: ENGL 1A, 1AH, or 1S & 1T; not open to students with credit in JRNL 49.

Grade Type: Letter Grade, the student may select Pass/No Pass Not Repeatable.

3 hours lecture, 6 hours laboratory. (108 hours total per quarter)

Provides practical experience in creating basic news and feature content as members of the college newspaper, magazine or online media staff, which includes a lab that regularly produces a news or feature non-fiction product with a journalism emphasis by and for students and distributed to a campus or community audience. Must include weekly news assignments. May include a variety of student media across multiple platforms, including print, broadcast, and online. Includes practical experience in design/layout, visual, online, multimedia journalism, and emerging technologies. Must be student-produced with student leadership.

FHGE: Non-GE Transferable: CSU

**JRNL 53B STUDENT MEDIA PRACTICUM II 5 Units**

Formerly: JRNL 25

Advisory: ENGL 1A, 1AH, or 1S & 1T; not open to students with credit in JRNL 25.

Grade Type: Letter Grade, the student may select Pass/No Pass Not Repeatable.

2 hours lecture, 9 hours laboratory. (132 hours total per quarter)

This course provides practical experience in creating longer and complex news, feature and visual content as a member of the college newspaper, magazine or online media staff, requiring higher skill level and/or leadership/management involvement than JRNL 53A. Intermediate student media practicum includes a lab that regularly produces a news or feature non-fiction product with a journalism emphasis by and for students and distributed to a campus or community audience. Must include weekly news assignments. May include a variety of student media across multiple platforms, including print, broadcast, and online. Includes practical experience in design/layout, visual, online, multimedia journalism, emerging technologies and leadership/management. Must be student-produced with student leadership.

FHGE: Non-GE Transferable: CSU

**JRNL 60 EDITORIAL LEADERSHIP FOR  
STUDENT NEWS MEDIA 2 Units**

Grade Type: Letter Grade, the student may select Pass/No Pass Not Repeatable.

6 hours laboratory. (72 hours total per quarter)

Practical experience in planning, assigning, editing and placing print, video and/or web content as members of the college newspaper, magazine or media staff.

FHGE: Non-GE Transferable: CSU

**JRNL 61 REPORTING FOR STUDENT  
NEWS MEDIA 2 Units**

Grade Type: Letter Grade, the student may select Pass/No Pass Not Repeatable.

6 hours laboratory. (72 hours total per quarter)

Practical experience contributing as a reporter to the college newspaper and/or digital media as a reporter.

FHGE: Non-GE Transferable: CSU

**JRNL 62 DIGITAL PRODUCTION  
FOR STUDENT MEDIA 2 Units**

Grade Type: Letter Grade, the student may select Pass/No Pass Not Repeatable.

6 hours laboratory. (72 hours total per quarter)

Practical experience contributing as a digital content producer to the college news media.

FHGE: Non-GE Transferable: CSU

**JRNL 64 PHOTOGRAPHY FOR  
STUDENT MEDIA 2 Units**

Grade Type: Letter Grade, the student may select Pass/No Pass Not Repeatable.

6 hours laboratory. (72 hours total per quarter)

Practical experience contributing as a photographer to the college newspaper and/or digital media as a reporter.

FHGE: Non-GE Transferable: CSU

**JRNL 70R INDEPENDENT STUDY  
IN JOURNALISM 1 Unit**

**JRNL 71R 2 Units**  
**JRNL 72R 3 Units**  
**JRNL 73R 4 Units**

Grade Type: Letter Grade Only Not Repeatable.

3-12 hours laboratory per week. (36-144 hours total per quarter)

Provides an opportunity for the student to expand their studies in Journalism 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

## JOURNEYPERSONS

Apprenticeship

(650) 949-7142 [foothill.edu/apprenticeships/](http://foothill.edu/apprenticeships/)

**JRYM 100 BUILDING TRADES TEACHER  
DEVELOPMENT 5 Units**

Grade Type: Letter Grade, the student may select Pass/No Pass Not Repeatable.

60 hours lecture 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** 3 Units

**Prerequisite:** Completion of recognized sheet metal apprenticeship or equivalent and recent employment as a journeyperson in the sheet metal industry.

**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.

**108 hours total: 6 hours lecture, 102 hours laboratory.**

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 CONDITIONING SERVICE** 3 Units

**Prerequisite:** Completion of recognized sheet metal apprenticeship or equivalent and recent employment as a journeyperson in the sheet metal industry.

**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.

**108 hours total: 6 hours lecture, 102 hours laboratory.**

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** 3 Units

**Prerequisite:** Completion of recognized sheet metal apprenticeship or equivalent and recent employment as a journeyperson in the sheet metal industry.

**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.

**108 hours total: 6 hours lecture, 102 hours laboratory.**

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** 3 Units

**Prerequisite:** Completion of recognized sheet metal apprenticeship or equivalent and recent employment as a journeyperson in the sheet metal industry.

**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.

**108 hours total: 6 hours lecture, 102 hours laboratory.**

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** 3 Units

**Prerequisite:** Completion of recognized sheet metal apprenticeship or equivalent and recent employment as a journeyperson in the sheet metal industry.

**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.

**108 hours total: 6 hours lecture, 102 hours laboratory.**

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** 3 Units

**Prerequisite:** Completion of recognized sheet metal apprenticeship or equivalent and recent employment as a journeyperson in the sheet metal industry.

**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.

**108 hours total: 6 hours lecture, 102 hours laboratory.**

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** 1.5 Units

**Prerequisite:** Completion of recognized sheet metal apprenticeship or equivalent and recent employment as a journeyperson in the sheet metal industry.

**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.

**54 hours total: 6 hours lecture, 48 hours laboratory.**

Introduction to the latest methods and technology required in the sheet metal industry. Topics will include plastics, layout, plasma (fitting input), new devices for the industry, fiberglass duct and architectural sheet metal innovations.

**FHGE: Non-GE**

**JRYM 152A HVAC BASIC SYSTEMS FOR SHEET METAL JOURNEYPERSONS** 3 Units

**Prerequisite:** Completion of recognized sheet metal apprenticeship or equivalent and recent employment as a journeyperson in the sheet metal industry.

**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.

**108 hours total: 6 hours lecture, 102 hours laboratory.**

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)** 1.5 Units

**Prerequisite:** Completion of recognized sheet metal apprenticeship or equivalent and recent employment as a journeyperson in the sheet metal industry.

**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.

**54 hours total: 6 hours lecture, 48 hours laboratory.**

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)** 1.5 Units

**Prerequisite:** Completion of recognized sheet metal apprenticeship or equivalent and recent employment as a journeyperson in the sheet metal industry.

**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.

**54 hours total: 6 hours lecture, 48 hours laboratory.**

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 3 Units**  
**Prerequisite:** Completion of recognized sheet metal apprenticeship or equivalent and recent employment as a journeyperson in the sheet metal industry.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**  
**108 hours total: 6 hours lecture, 102 hours laboratory.**  
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 3 Units**  
**Prerequisite:** Completion of recognized sheet metal apprenticeship or equivalent and recent employment as a journeyperson in the sheet metal industry.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**  
**108 hours total: 6 hours lecture, 102 hours laboratory.**  
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 1 Unit**  
**Prerequisite:** Completion of recognized sheet metal apprenticeship or equivalent and recent employment as a journeyperson in the sheet metal industry.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**  
**40 hours total: 4 hours lecture, 36 hours laboratory.**  
This is a course leading to hazardous material awareness and certification. Students discuss identification, labeling, handling and hazard information. Students practice protocol for hazardous material situations, including use of personal protective equipment.  
**FHGE: Non-GE**

**JRYM 158 HAZARDOUS MATERIALS RECERTIFICATION FOR THE TRADES .5 Units**  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**  
**8 hours total: 6 hours lecture, 2 hours laboratory.**  
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 1.5 Units**  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**  
**54 hours total: 6 hours lecture, 48 hours laboratory.**  
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 1.5 Units**  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**  
**54 hours total: 6 hours lecture, 48 hours laboratory.**  
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 1.5 Units**  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**  
**54 hours total: 6 hours lecture, 48 hours laboratory.**  
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 1.5 Units**  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**  
**54 hours total: 6 hours lecture, 48 hours laboratory.**  
Provide training in the fundamentals of HVAC and hydronic system measurements and adjustments.  
**FHGE: Non-GE**

**JRYM 168B JOURNEY-LEVEL DIGITAL SYSTEMS II 1.5 Units**  
**Prerequisite:** Completion of recognized sheet metal apprenticeship or equivalent and recent employment as a journeyperson in the sheet metal industry.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**  
**54 hours total: 6 hours lecture, 48 hours laboratory.**  
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 1.5 Units**  
**Prerequisite:** Completion of recognized sheet metal apprenticeship or equivalent and recent employment as a journeyperson in the sheet metal industry.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**  
**54 hours total: 6 hours lecture, 48 hours laboratory.**  
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 methods of layout.  
**FHGE: Non-GE**

**JRYM 170A ADVANCED SHEET METAL SERVICE I 3 Units**  
**Prerequisite:** Completion of recognized sheet metal apprenticeship or equivalent and recent employment as a journeyperson in the sheet metal industry.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**  
**108 hours total: 6 hours lecture, 102 hours laboratory.**  
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 3 Units**  
**Prerequisite:** Completion of recognized sheet metal apprenticeship or equivalent and recent employment as a journeyperson in the sheet metal industry.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**  
**108 hours total: 6 hours lecture, 102 hours laboratory.**  
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 1.5 Units**  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**  
**54 hours total: 6 hours lecture, 48 hours laboratory.**  
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 1.5 Units**  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**  
**54 hours total: 6 hours lecture, 48 hours laboratory.**  
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 1.5 Units**  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**  
**54 hours total: 6 hours lecture, 48 hours laboratory.**  
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 1.5 Units**  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**  
**54 hours total: 6 hours lecture, 48 hours laboratory.**  
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) 1.5 Units**  
**Prerequisite:** Completion of recognized sheet metal apprenticeship or equivalent and recent employment as a journeyperson in the sheet metal industry.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**  
**54 hours total: 6 hours lecture, 48 hours laboratory.**  
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) 1.5 Units**  
**Prerequisite:** Completion of recognized sheet metal apprenticeship or equivalent and recent employment as a journeyperson in the sheet metal industry.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**  
**54 hours total: 6 hours lecture, 48 hours laboratory.**  
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) 1.5 Units**  
**Prerequisite:** Completion of recognized sheet metal apprenticeship or equivalent and recent employment as a journeyperson in the sheet metal industry.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**  
**54 hours total: 6 hours lecture, 48 hours laboratory.**  
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) 1.5 Units**  
**Prerequisite:** Completion of recognized sheet metal apprenticeship or equivalent and recent employment as a journeyperson in the sheet metal industry.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**  
**54 hours total: 6 hours lecture, 48 hours laboratory.**  
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 3 Units**  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**  
**108 hours total: 6 hours lecture, 102 hours laboratory.**  
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 [foothill.edu/kinesiology/](http://foothill.edu/kinesiology/)

### KINS 1 INTRODUCTION TO KINESIOLOGY 5 Units

**Advisory:** Not open to students with credit in PHED 1.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**  
**5 hours lecture. (60 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 5 Units

**Advisory:** Maximum UC credit awarded for any or all of the following courses combined is 12 units: KINS 2, 3, 8A, 8B; not open to students with credit in H P 1B or PHED 2.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**  
**5 hours lecture. (60 hours total per quarter)**  
Students examine the history of sports and its significance in economics, politics, and the role of race, ethnicity, culture and gender in sport and society. Students also examine specific issues such as the emergence of professional and collegiate sports in the United States, questions of ethics, commercialization, the relationship between sports and media, the internationalization of sports, and the Olympic movement. Students will also examine youth sport and the current status of youth sport in the United States.  
**FHGE:** Social & Behavioral Sciences **Transferable:** UC/CSU

### KINS 3 THEORIES & TECHNIQUES OF COACHING SPORTS 4 Units

**Advisory:** Maximum UC credit awarded for any or all of the following courses combined is 12 units: KINS 2, 3, 8A, 8B; not open to students with credit in H P 37 or PHED 3.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**  
**4 hours lecture. (48 hours total per quarter)**  
Instruction to 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

**Advisory:** Not open to students with credit in PHED 4.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**  
**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 5 Units

**Advisory:** Maximum UC credit awarded for any or all of the following courses combined is 12 units: KINS 2, 3, 8A, 8B; not open to students with credit in PHED 8.  
**Grade Type:** Letter Grade Only  
**Not Repeatable.**  
**5 hours lecture. (60 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; cardiorespiratory function; neural and hormonal control; energy systems, expenditure, and fatigue; adaptations to resistance, aerobic and anaerobic training; body composition and nutrition; and principles of training for sport.  
**FHGE:** Non-GE **Transferable:** UC/CSU

### KINS 8B THEORY & CONCEPTS OF EXERCISE PHYSIOLOGY II 5 Units

**Advisory:** Maximum UC credit awarded for any or all of the following courses combined is 12 units: KINS 2, 3, 8A, 8B.  
**Grade Type:** Letter Grade Only  
**Not Repeatable.**  
**5 hours lecture. (60 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, including physiological responses to exercise in the heat, cold, and at altitude; optimizing performance in sport, overtraining and detraining; body composition and nutrition; use of ergogenic aids; age and sex considerations in sport and exercise; and the implications of physical activity for health and fitness.  
**FHGE:** Non-GE **Transferable:** UC/CSU

### KINS 9 BASIC NUTRITION FOR SPORTS & FITNESS 5 Units

**Advisory:** Not open to students with credit in PHED 9.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**  
**5 hours lecture. (60 hours total per quarter)**  
Practical application of the basic principles of nutrition and how food choices affect health and fitness. This course will provide the student with a basic understanding of how nutrition can be optimized to enhance physical performance potential and sport. 'Dietary Guidelines for Americans' will be utilized to inform selection of foods that would maximize individual health.  
**FHGE:** Non-GE **Transferable:** UC/CSU

### KINS 10 WOMEN IN SPORTS 5 Units

**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**  
**5 hours lecture. (60 hours total per quarter)**  
This course provides students with a chronological history, analysis and interpretation of people, events, and issues that affect women in sport, in past and present day society. Physiological, sociological and psychological aspects of female athletes as related to sports, history, and education will be covered. Students will gain an understanding of the significant events of women in athletics from the past to the present and how their significance will determine the future of women in sports.  
**FHGE:** Social & Behavioral Sciences **Transferable:** UC/CSU

### KINS 15 FIRST AID & CPR/AED 1 Unit

**Advisory:** UC transfer credit is limited for some KINS courses, please see ASSIST.org for details; not open to students with credit in PHED 15 or 66.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**  
**1 hour lecture, 1 hour 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, CPR/AED for the Professional Rescuer, or Basic Life Support for the Healthcare Provider.  
**FHGE:** Non-GE **Transferable:** UC/CSU

### KINS 16A PREVENTION OF ATHLETIC INJURIES 3 Units

**Advisory:** Internet access to complete quizzes, discussions and assignments; not open to students with credit in H P 67A, PHED 16A or 67A.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**  
**2 hours lecture, 3 hours 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**  
**Advisory:** Internet access to complete quizzes, discussions and assignments; not open to students with credit in H P 67B, PHED 16B or 67B.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**  
**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**  
**Advisory:** Internet access to complete quizzes, discussions and assignments; not open to students with credit in H P 67C, PHED 16C or 67C.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**  
**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 48 FITNESS ASSESSMENT TECHNIQUES FOR THE PERSONAL TRAINER 4 Units**  
**Formerly:** KINS 52  
**Advisory:** This is a Physical Education activity course, so UC transfer credit is limited--please visit a counselor for details; not open to students with credit in KINS 52.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**  
**4 hours lecture. (48 hours total per quarter)**  
The mechanics of fitness training, including strength, endurance and flexibility; 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 51 PERFORMANCE ENHANCING SUBSTANCES IN SPORT & EXERCISE 4 Units**  
**Advisory:** Not open to students with credit in PHED 51.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**  
**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: Social & Behavioral Sciences Transferable: CSU**

**KINS 53 CURRENT TOPICS IN PERSONAL TRAINING 2 Units**  
**Advisory:** KINS 8A and 9.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**  
**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 54 INTRODUCTION TO SPORTS MANAGEMENT 4 Units**  
**Grade Type:** Letter Grade Only  
**Not Repeatable.**  
**4 hours lecture. (48 hours total per quarter)**  
Introduction to the field of sports management. Career opportunities, human resources management, leadership, strategic planning, teamwork, ethics and values, marketing and advertising, finance, managing facilities, sports and the law, economics of sport and community impact.  
**FHGE: Non-GE Transferable: CSU**

**KINS 55 INTRODUCTION TO AQUATIC EXERCISE 3 Units**  
**Advisory:** Some laboratory hours will be spent in the pool; not open to students with credit in SPED 73.  
**Grade Type:** Letter Grade Only  
**Not Repeatable.**  
**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**  
**Advisory:** Not open to students with credit in H P 52A or PHED 62A.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**  
**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**  
**Prerequisite:** KINS 62A.  
**Advisory:** Not open to students with credit in H P 52A or PHED 62B.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**  
**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**  
**Prerequisite:** KINS 62B.  
**Advisory:** Not open to students with credit in H P 52B or PHED 62C.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**  
**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**

**Prerequisite:** KINS 62C.

**Advisory:** Not open to students with credit in PHED 62D.

**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**

**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**

**Prerequisite:** KINS 62D.

**Advisory:** Not open to students with credit in PHED 62E.

**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**

**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 complement the on-campus Athletic Treatment Center.

**FHGE:** Non-GE **Transferable:** CSU

**KINS 65A PNF: INTRODUCTION TO THE UPPER EXTREMITY 3 Units**

**Advisory:** Internet access to complete quizzes, discussions and assignments; not open to students with credit in H P 52F or PHED 65A.

**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**

**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**

**Advisory:** Internet access to complete quizzes, discussions and assignments; not open to students with credit in H P 52G or PHED 65B.

**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**

**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.

**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**

**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**

**3-12 hours laboratory 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**

**Advisory:** Not open to students with credit in SPED 50.

**Grade Type:** Letter Grade Only

**Not Repeatable.**

**4 hours lecture. (48 hours total per quarter)**

Introduces 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**

**Advisory:** Not open to students with credit in SPED 54.

**Grade Type:** Letter Grade Only

**Not Repeatable.**

**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 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**

**Advisory:** Not open to students with credit in SPED 57B.

**Grade Type:** Letter Grade Only

**Not Repeatable.**

**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**

**Advisory:** Not open to students with credit in SPED 56.

**Grade Type:** Letter Grade Only

**Not Repeatable.**

**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 ADAPTIVE WATER EXERCISE 2 Units**

**Advisory:** Laboratory hours in pool; not open to students with credit in SPED 74.

**Grade Type:** Letter Grade Only

**Not Repeatable.**

**2 hours lecture, 1 hour laboratory. (36 hours total per quarter)**

Provides the essential information needed for adaptive aquatics exercise instruction. Student will develop an understanding of how water training principles can be used with individuals including with chronic conditions using adaptive teaching techniques. The applications of deep and shallow water fitness will be studied. 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 foothill.edu/la/

**L A 61A TUTOR TRAINING I 1 Unit**  
Formerly: L A 111A  
Advisory: An earned "A" or "B+" grade with instructor recommendation in one of the following courses: ENGL 1A, 1AH, 1B, 1BH, 1C, 1CH, 1S & 1T, ESLL 125; not open to students with credit in L A 111A.  
Grade Type: Letter Grade, the student may select Pass/No Pass  
Not Repeatable.  
1 hour lecture. (12 hours total per quarter)  
Training in team leading skills necessary for tutoring, 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 tutee's instructor. Ideal for students intending to tutor the first time in English, ESLL, or other reading and/or composition based courses.  
FHGE: Non-GE Transferable: CSU

**L A 61B TUTOR TRAINING II 1 Unit**  
Formerly: L A 111B  
Prerequisite: L A 61A.  
Advisory: An earned "A" or "B+" grade with instructor recommendation in one of the following courses: ENGL 1A, 1AH, 1B, 1BH, 1C, 1CH, 1S & 1T, ESLL 125; not open to students with credit in L A 111B.  
Grade Type: Letter Grade, the student may select Pass/No Pass  
Not Repeatable.  
1 hour lecture. (12 hours total per quarter)  
Advanced training in team leading skills necessary for tutoring. 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 tutee's instructor. Ideal for students intending to tutor for the second time.  
FHGE: Non-GE Transferable: CSU

**L A 251 ENGLISH READING & COMPOSITION STUDY TEAM SKILLS FOR PASS THE TORCH MEMBERS .5 Units**  
Non-degree applicable credit course.  
Grade Type: Letter Grade, the student may select Pass/No Pass  
Not Repeatable.  
1 hour lecture. This is a 6 week course. (6 hours total per quarter)  
Individualized guidance to support students in the Pass the Torch Program. Topics include program expectations for English and ESLL study teams, utilizing campus resources, understanding how the brain learns, selecting a study environment, metacognition and learning styles, test/essay preparation, and coping with test anxiety. Intended for students matched in Pass the Torch English/ESLL study teams as a member for the first time.  
FHGE: Non-GE

## LEARNING IN NEW MEDIA CLASSROOMS

Business and Social Sciences  
(650) 949-7498 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.  
Grade Type: Letter Grade, the student may select Pass/No Pass  
Not Repeatable.  
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 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 255S.  
Grade Type: Letter Grade, the student may select Pass/No Pass  
Not Repeatable.  
6 hours lecture. This course meets 1 time per quarter. (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 Units**  
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.  
Grade Type: Letter Grade, the student may select Pass/No Pass  
Not Repeatable.  
6 hours lecture. This course meets 1 time per quarter. (6 hours total per quarter)  
Deepens the student's knowledge of topics covered in LINC 50A 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.

**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.

**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 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.

**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.

**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 textbooks, 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, 7 & 8 .5 Units**

**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.

**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.

**6 hours lecture. This course meets 1 time per quarter. (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 textbooks, 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.

**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.

**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.

**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.

**2 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.

**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.

**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 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.

**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.

**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.

**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.

**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 CLOUD-BASED WORD PROCESSING TOOLS 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.

**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.

**1 hour lecture. (12 hours total per quarter)**

Provides hands-on experience using cloud-based word processing programs like Microsoft Word, Google Docs and Apple Pages. Topics include: formatting techniques for reports, letters, or creative projects (e.g., 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 63 CLOUD-BASED DATA ANALYSIS TOOLS 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.

**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.

**1 hour lecture. (12 hours total per quarter)**

This course covers a variety of powerful cloud-based data analysis tools (e.g., Microsoft Excel, Google Sheets, and Apple Numbers) that can support educators, students, and business professionals in myriad tasks, including analyzing performance data, tracking expenditures, budget development, meeting planning, workflow processes, and database management.

**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.

**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.

**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 such as 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.

**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.

**1 hour lecture. (12 hours total per quarter)**

This overview course explores the educational, personal, professional, and social benefits of the Internet. Participants will develop information literacy skills by examining current Internet trends, tools, and technologies for information, communication, and collaboration.

**FHGE: Non-GE Transferable: CSU**

**LINC 66A INTRODUCTION TO THE INTERNET I .5 Units**

**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.

**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.

**6 hours lecture. This course meets 1 time per quarter. (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 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.

**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.

**2 hours lecture. (24 hours total per quarter)**

Intermediate course for those who use the Internet for personal research and 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 websites for credibility, understand the legitimacy of search results, and use search findings ethically.

**FHGE: Non-GE Transferable: CSU**

**LINC 66E CLOUD-BASED PUBLISHING TOOLS 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 283S.

**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.

**1 hour lecture. (12 hours total per quarter)**

This introductory, hands-on learning class will compare the relative advantages and disadvantages of using a variety of cloud- (Internet-) based publishing tools for the purpose of group collaboration, an e-portfolio, a social networking space, or information sharing. Emphasis is given to creating a basic collaboration space 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.

**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.

**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 Units**  
**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.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**  
**6 hours lecture. This course meets 1 time per quarter. (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.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**  
**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 website. No knowledge of HTML is required.  
**FHGE: Non-GE Transferable: CSU**

**LINC 70A WEB PAGE DESIGN I .5 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 200S.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**  
**6 hours lecture. This course meets 1 time per quarter. (6 hours total per quarter)**  
An introduction to design and creation of webpages for educational, social, or business purposes using online website authoring software, such as Google Sites, Wix, WordPress, that provide a visual interface to website 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 70A; not open to students with credit in LINC 211; students may enroll in LINC 70 or 70B, but not both, for credit.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**  
**1 hour lecture. (12 hours total per quarter)**  
Continues the content of LINC 70A 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 72B ADOBE INDESIGN 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 72B or 72D, but not both, for credit; not open to students with credit in LINC 234.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**  
**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, websites, 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 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 234S.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**  
**6 hours lecture. This course meets 1 time per quarter. (6 hours total per quarter)**  
Adobe InDesign is desktop publishing software. Students will learn to arrange text in a variety of formats to design layouts that are easy and beautiful for readers to enjoy. Emphasis is given to creating student-centered projects or activities using InDesign 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 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.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**  
**1 hour lecture. (12 hours total per quarter)**  
Explore digital imaging with hands-on experiences that integrate image media 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 work-flow. Learn to communicate with compelling layouts.  
**FHGE: Non-GE Transferable: CSU**

**LINC 73A ADOBE PHOTOSHOP I .5 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 230S.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**  
**6 hours lecture. This course meets 1 time per quarter. (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 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.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**  
**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. Learn basic procedures of vector drawing to create moderately complex illustrations that can be transferred to collateral design.  
**FHGE: Non-GE Transferable: CSU**

**LINC 73I ADOBE ILLUSTRATOR I .5 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 233S.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**  
**6 hours lecture. This course meets 1 time per quarter. (6 hours total per quarter)**  
This course provides hands-on experience with the basic elements and tools of Adobe Illustrator, a software drawing tool, to produce simple vector illustrations. Includes methods of illustration that contribute to digital storytelling.  
**FHGE: Non-GE Transferable: CSU**

**LINC 75A INTRODUCTION TO INSTRUCTIONAL DESIGN & TECHNOLOGY 3 Units**  
**Advisory:** Basic skills using standard computer systems and internet-based technologies.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**  
**3 hours lecture. (36 hours total per quarter)**  
This introductory course in instructional design and technology is for students, teachers, educators, and trainers who want to know how to create technology-based educational or training materials and resources for school, college, or business settings. Students will develop foundational knowledge and skills in systematic design processes that guide writing learning objectives, developing learning activities, applying best practices for using technology in instructional settings, and assessing learning outcomes. This is the first course in the Instructional Design & Technology program sequence.  
**FHGE: Non-GE Transferable: CSU**

**LINC 75B INSTRUCTIONAL TECHNOLOGY STRATEGIES 3 Units**  
**Advisory:** It is advised, but not required, that students have the background knowledge and skill taught in LINC 75A; basic skills using standard computer systems and internet-based technologies.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**  
**3 hours lecture. (36 hours total per quarter)**  
This instructional design and technology course builds on the coursework of LINC 75A and focuses on the specific strategies for using technology in the education or training environment. Students develop instructional plans that use technology to meet the needs of a variety of learners; plan for effective use and management of technology for teaching and learning (i.e., laptop carts, mobile devices, Bring Your Own Device [BYOD], classroom audio-visual, online technologies and learning systems); and learn to manage instructional design projects. This course is part of the Instructional Design & Technology program sequence.  
**FHGE: Non-GE Transferable: CSU**

**LINC 75C DESIGNING ONLINE INSTRUCTION 3 Units**  
**Prerequisite:** LINC 75A or 75B.  
**Advisory:** Basic skills using standard computer systems and internet-based technologies.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**  
**3 hours lecture. (36 hours total per quarter)**  
This course advances the knowledge of instructional design and technology taught in LINC 75A and LINC 75B while focusing on the unique design challenges and delivery options of online education or training. Students apply the methods of instruction with web-based technologies to design online learning courses, lessons, activities, and resources. Special emphasis is provided for creating multimedia resources (e.g., screen casting and instructional videos) and for designing online learning with video conferencing, threaded discussions, shared documents and online collaboration used in learning management systems. This course is part of the Instructional Design & Technology program sequence.  
**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.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**  
**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 cloud-based tools to make a website interactive and learning focused. Topics include presentation, audio, video, and embedding social media tools into a site. Elements of good website design and ideas for creating engaging websites will be addressed.  
**FHGE: Non-GE Transferable: CSU**

**LINC 77 DESIGN THINKING OVERVIEW 2 Units**  
**Advisory:** Experience with internet software tools, browsers, hyperlinks, online media resources, and basic skills using a computer.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**  
**2 hours lecture. (24 hours total per quarter)**  
Students learn an overview of the design thinking methodology and its applications in education, business, industry and government. Focus is on introducing all aspects of the design cycle through inquiry-based facilitation and engaging immersive activities to develop understanding of the design thinking process.  
**FHGE: Non-GE Transferable: CSU**

**LINC 77A DESIGN THINKING PROCESS 2 Units**  
**Advisory:** Experience with internet software tools, browsers, hyperlinks, online media resources, and basic skills using a computer.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**  
**2 hours lecture. (24 hours total per quarter)**  
Students delve deeper into design thinking to hone skills in facilitating the design thinking methodology when working in groups. Special attention is given to using the design thinking process for exploring how to bring positive disruptions and shifts in mindsets in order to arrive at innovative solutions.  
**FHGE: Non-GE Transferable: CSU**

**LINC 77B DESIGN THINKING & TINKERING 2 Units**  
**Advisory:** Experience with internet software tools, browsers, hyperlinks, online media resources, and basic skills using a computer.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**  
**2 hours lecture. (24 hours total per quarter)**  
Student participants from community, business, and education practice design thinking, a process that innovators, designers, policy makers, and educators are using to develop innovative and collaborative solutions to real world challenges. Participants will use the design thinking process as they build low resolution prototype models using both physical materials and a 3-D rendering program. Focus is on working individually and in teams, to hone skills of defining problems, collecting information, brainstorming and developing solutions.  
**FHGE: Non-GE Transferable: CSU**

**LINC 77C DESIGN THINKING FOR TEACHERS 2 Units**  
**Advisory:** Experience with internet software tools, browsers, hyperlinks, online media resources, and basic skills using a computer.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**  
**2 hours lecture. (24 hours total per quarter)**  
Student-participants who are familiar with the design thinking process, originally created by the d.school at Stanford University, will develop innovative and collaborative solutions to real world challenges in education. Focus is on developing a project that would be easy to implement in a school environment and allow for immediate engagement in the design process by making and doing.  
**FHGE: Non-GE Transferable: CSU**

**LINC 77D DESIGN THINKING CHALLENGES 2 Units**  
**Advisory:** Experience with internet software tools, browsers, hyperlinks, online media resources, and basic skills using a computer.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**  
**2 hours lecture. (24 hours total per quarter)**  
Student-participants who are familiar with the design thinking process, originally created by the d.school at Stanford University, will work in groups to select a real world challenge project and create solutions. Focus is on working through the design thinking principles to develop and present prototype solutions for challenges that emerge from a wide variety of areas.  
**FHGE: Non-GE Transferable: CSU**

**LINC 78A COMPUTATIONAL THINKING FOR EDUCATORS 2 Units**  
**Advisory:** Experience with internet software tools, browsers, hyperlinks, online media resources, and basic skills using a computer.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**  
**2 hours lecture. (24 hours total per quarter)**  
Computational thinking is an essential problem solving skill in the digital age. This course, which is designed for educators, provides instruction in components of computational thinking, including: data analysis, abstraction, and algorithms. A variety of tools will be used to demonstrate coding and debugging experiences. Students will learn how to add computational thinking concepts into many content areas with a special emphasis on related NGSS and Common Core Math computational thinking practices, including opportunities to integrate these concepts into instructional practices in multiple and interdisciplinary areas within education.  
**FHGE: Non-GE Transferable: CSU**

**LINC 78B BLOCK BASED CODING CONCEPTS 2 Units**  
**Advisory:** Experience with internet software tools, browsers, hyperlinks, online media resources, and basic skills using a computer.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**  
**2 hours lecture. (24 hours total per quarter)**  
This course, designed for educators, provides the foundational computer science concepts using block based computer programming languages, such as Scratch, Blockly, Logo and others. These concepts illustrate the use of scripts, loops, and arrays in computer science, without the need to type or master the syntax of higher level programming languages.  
**FHGE: Non-GE Transferable: CSU**

**LINC 78C PROJECT BASED TECHNOLOGY PROJECTS 2 Units**  
**Advisory:** Experience with internet software tools, browsers, hyperlinks, online media resources, and basic skills using a computer.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**  
**2 hours lecture. (24 hours total per quarter)**  
Intended for educators and others, this course will provide opportunities to integrate technology into project based learning. Use of Arduinos, Raspberry Pi, Microbit or other micro-controllers, and control of these devices using code in text based languages, such as C or Python, to enhance project based learning will be covered.  
**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.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**  
**2 hours lecture. (24 hours total per quarter)**  
This hands-on, project production course demonstrates how to integrate online multimedia production tools and resources (music, audio, images, video, animation) to produce a variety of artistic or communicative media 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.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**  
**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.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**  
**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. 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. Course content is appropriate for students, entrepreneurs, media designers, and educators.  
**FHGE: Non-GE Transferable: CSU**

**LINC 80B MULTIMEDIA IN THE CLASSROOM II .5 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 252S.

**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**

**6 hours lecture. This course meets 1 time per quarter. (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 and resources for audio, video, music, animation, and images, 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.

**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**

**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 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 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 257S.

**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**

**6 hours lecture. This course meets 1 time per quarter. (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 82A INTRODUCTION TO DESIGNING INSTRUCTIONAL TECHNOLOGY PROJECTS 3 Units**

**Advisory:** Basic skills using standard computer systems and internet-based technologies.

**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**

**3 hours lecture. (36 hours total per quarter)**

This introductory course in designing and developing instructional projects is for students, educators, and trainers interested in the planning of instructional design and technology projects. Students will acquire the knowledge and technology skills needed to lead the design, creation, and iteration of instructional materials, specifically, basic project management, applying instructional technology principles, and using rapid prototyping models to efficiently design, make, and evaluate instructional projects for education or business learning contexts. This course is part of the Instructional Design & Technology program sequence.

**FHGE: Non-GE Transferable: CSU**

**LINC 82B DEVELOPING INSTRUCTIONAL MATERIALS 3 Units**

**Advisory:** It is advised, but not required that students have the background knowledge and skill taught in LINC 82A; basic skills using standard computer systems and internet-based technologies.

**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**

**3 hours lecture. (36 hours total per quarter)**

This instructional design and development course builds on the coursework of LINC 82A and focuses on refining the skills needed for making digital media for education or business learning contexts. Students interested in the study of instructional design will rapidly design, develop, and evaluate presentations, infographics, posters, digital resources, multimedia, and web sites for particular learning styles. Special emphasis is given for using collaborative tools to facilitate and manage group projects. This course is part of the Instructional Design & Technology program sequence.

**FHGE: Non-GE Transferable: CSU**

**LINC 82C CREATING INTERACTIVE MEDIA FOR INSTRUCTION 3 Units**

**Prerequisite:** LINC 82A or 82B.

**Advisory:** Basic skills using standard computer systems and internet-based technologies.

**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**

**3 hours lecture. (36 hours total per quarter)**

This advanced course in creating interactive media for instruction continues the coursework of LINC 82A and LINC 82B and provides the depth of skills and knowledge needed for making online learning media that includes interactive components, such as instructional video, multimedia, game-based learning, graphical user interface design, interactive tutorials, embedding collaborative elements in web sites or learning management systems. Students interested in the study of instructional design and technology will develop a project for either education or business learning contexts. This course is part of the Instructional Design & Technology program sequence.

**FHGE: Non-GE Transferable: CSU**

**LINC 83A ADOBE PREMIERE 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.

**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**

**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 83C IMOVIE 1 Unit**

**Advisory:** Familiarity with Macintosh computers or iOS devices (iPhone/iPad); not open to students with credit in LINC 241.

**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**

**1 hour lecture. (12 hours total per quarter)**

This course, which is designed for educators and others, will provide the basics of video production using the software application iMovie, which is available on both Macintosh computers and iOS (iPad/iPhone) devices. Students will produce a finished/edited video using video and audio content recorded from a variety of digital devices: tablets, camcorders, smart phones, etc. The finished video should contain all or some of the following video production/editing techniques: background audio, "Ken Burns Effect," voice-over narrations, sound effects, transitions and titles.

**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.

**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.

**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, internet-based, 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 84A 3-D DESIGN CONCEPTS 2 Units**

**Advisory:** Experience with internet software tools, browsers, hyperlinks, online media resources, and basic skills using a computer.

**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.

**2 hours lecture. (24 hours total per quarter)**

Intended for educators and others, this course will provide the basics to move designs from concepts to finished learning projects. Throughout the course, there will be a focus on application of finished products to meet a specific need or learning outcome. Within the course, troubleshooting and basic maintenance concepts will be covered to allow educators to operate and manage 3-D printers in their schools.

**FHGE: Non-GE Transferable: CSU**

**LINC 84B 3-D DESIGN & FABRICATION 2 Units**

**Advisory:** Experience with internet software tools, browsers, hyperlinks, online media resources, and basic skills using a computer.

**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.

**2 hours lecture. (24 hours total per quarter)**

Intended for educators and others, this course will provide the fundamentals of 3-D design and fabrication concepts. The use of basic design software and online libraries will be used to assist in developing and designing 3-D projects for learning projects by students in grades K-12, business, industry, and/or governmental. An emphasis will be placed on design concepts to meet a specific educational/instructional/project need.

**FHGE: Non-GE Transferable: CSU**

**LINC 85A ADOBE FLASH I .5 Units**

**Advisory:** Proficiency in a Mac or Windows operating system, software conventions and internet technologies; familiarity with Photoshop or similar photo editing software; not open to students with credit in LINC 238S.

**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.

**6 hours lecture. This course meets 1 time per quarter. (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, students learn basic Flash drawing tools, animation basics, tweening, and export options. Skills are delivered from a project-based framework.

**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 webpage 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.

**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.

**1 hour lecture. (12 hours total per quarter)**

In this extended Adobe Flash course, create dynamic content and animations for the 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 SCREENCASTING 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.

**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.

**1 hour lecture. (12 hours total per quarter)**

Overview course about video and screencast production. Intended to help educators, students, or hobbyists produce screencasts for Internet distribution using free (e.g., Screencast-o-Matic, Screencastify) and industry-standard (e.g., Garageband) editing software. Topics include: features of multimedia, attributes of internet-delivered media, evaluating media, evaluating different screencasting tools, copyright, and media distribution channels. Students will create a screencast of a presentation, webinar, or how-to tutorial.

**FHGE: Non-GE Transferable: CSU**

**LINC 86A VIDEO PODCASTING I .5 Units**

**Advisory:** Basic computer skills and knowledge of Macintosh or Windows operating systems; familiarity using Web browsers, email, bookmarking, searching and downloading.

**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.

**6 hours lecture. This course meets 1 time per quarter. (6 hours total per quarter)**

Introductory course on video podcast production. Using free online or industry-standard editing software, participants will create a basic video podcast or screencast that is for instructional, informative, or persuasive purposes in education, professional, or personal contexts.

**FHGE: Non-GE Transferable: CSU**

**LINC 86B SCREENCASTING II .5 Units**

**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.

**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.

**6 hours lecture. This course meets 1 time per quarter. (6 hours total per quarter)**

Continuation of LINC 86A, introducing more advanced skills and techniques for creating screencast tutorials that explain and demonstrate "how-to" topics. Uses free (e.g., Screencast-o-Matic or Screencastify) or industry-standard (e.g., Garageband) software. 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.

**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.

**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.

**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.

**3 hours lecture, 3 hours laboratory. (72 hours total per quarter)**

Introductory course covers computer operating systems such as Microsoft Windows 7, Windows 8, Windows 10 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.

**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.

**3 hours lecture, 3 hours 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.

**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.

**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.

**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.

**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. Aims to build participant's knowledge and skills to find, adapt, repurpose 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.

**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.

**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 91A INTRODUCTION TO ASSESSING INSTRUCTIONAL TECHNOLOGY 3 Units**

**Advisory:** Basic skills using standard computer systems and internet-based technologies.

**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.

**3 hours lecture. (36 hours total per quarter)**

This introductory course in assessing instructional technologies is for students, educators, and trainers interested in instructional design and technology. Students develop critical thinking skills and use evaluation processes, resources, and instruments to select and evaluate instructional materials, technologies, resources, and programs that meet specific learning outcomes for educational and training contexts. Coursework includes using technology to conduct survey research and basic data analysis. This course is part of the Instructional Design & Technology program sequence.

**FHGE: Non-GE Transferable: CSU**

**LINC 91B EVALUATING TECHNOLOGY-BASED LEARNING OUTCOMES 3 Units**

**Advisory:** It is advised, but not required that students have the background knowledge and skill taught in LINC 91A; basic skills using standard computer systems and internet-based technologies.

**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.

**3 hours lecture. (36 hours total per quarter)**

This instructional design and technology course builds on the coursework of LINC 91A and focuses on evaluating learning outcomes in educational and business training contexts. Students will design and develop technology-based authentic and performance-based assessments, rubrics, needs assessment plans, learner analysis instruments, adaptive testing, and surveys. Coursework includes managing data collection, analyzing results, and reporting findings. This course is part of the Instructional Design & Technology program sequence.

**FHGE: Non-GE Transferable: CSU**

**LINC 91C EVALUATING INSTRUCTIONAL PROGRAMS 3 Units**

**Prerequisite:** LINC 91A or 91B.

**Advisory:** Basic skills using standard computer systems and internet-based technologies.

**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.

**3 hours lecture. (36 hours total per quarter)**

This advanced course in evaluating instructional technology programs continues the coursework of LINC 91A and LINC 91B and further develops the skills and knowledge students need to measure and evaluate the effectiveness of educational curriculum or training programs. Using analysis skills, students examine the entire process from program design to implementation. Students interested in the study of instructional design and technology will determine and report on the effectiveness of an instructional program or curriculum for either online or classroom delivery in terms of instructor preparation, planning, delivery medium, and effective use of technology. Skill development includes effective use of technology tools for writing, conducting, analyzing, and reporting an instructional program evaluation plan. This course is part of the Instructional Design & Technology program sequence.

**FHGE: Non-GE Transferable: CSU**

**LINC 92 SEMINAR IN INSTRUCTIONAL DESIGN & TECHNOLOGY 3 Units**

**Prerequisites:** Completion of LINC 75A and (LINC 75B or 75C); LINC 82A and (LINC 82B or 82C); and LINC 91A and (LINC 91B or 91C).

**Advisory:** Basic skills using standard computer systems and internet-based technologies.

**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.

**3 hours lecture. (36 hours total per quarter)**

This seminar course is for teachers, educators, and trainers who have completed the pre-requisite coursework in the Instructional Design and Technology program sequence. Students demonstrate ability to apply knowledge, skills, and dispositions acquired through program coursework to the design, development, evaluation, and implementation of technology-based instructional and training projects in a "real-world" scenario. The seminar experience provides students the opportunity to act as consultants in a real, client-based case study to apply theories, concepts, and principles of instructional technology to solve an instructional or a training problem in authentic education or business settings.

**FHGE: Non-GE Transferable: CSU**

**LINC 93B ASSISTIVE TECHNOLOGY & UNIVERSAL ACCESS 1 Unit**

**Advisory:** Familiarity with PC or Mac; basic internet skills; not open to students with credit in LINC 221.

**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.

**1 hour lecture. (12 hours total per quarter)**

This course will review current issues and legislation in assistive technology and universal access. Issues of efficacy and appropriateness of accommodations required for parity with peers in an education setting will be reviewed and discussed. Tools and issues of design and compliance will be demonstrated. Internet resources will be explored.

**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.

**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.

**3 hours lecture, 3 hours laboratory. (72 hours total per quarter)**

Covers 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. 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 95B TECHNOLOGY ETHICS & EDUCATIONAL 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.

**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.

**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.

**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.

**1 hour lecture. (12 hours total per quarter)**

The effectiveness of technology integration for teaching and learning. 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 State Standards, and ISTE NETS standards.

**FHGE: Non-GE Transferable: CSU**

**LINC 96B HANDHELD DIGITAL MEDIA DEVICES I .5 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 292A.

**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.

**6 hours lecture. This course meets 1 time per quarter. (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 Units**

**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.

**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.

**6 hours lecture. This course meets 1 time per quarter. (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 Units**

**Advisory:** Appropriate skills and abilities with mobile computer systems and internet technologies.

**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.

**6 hours lecture. This course meets 1 time per quarter. (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 97A IPADS FOR TEACHING & LEARNING 1 Unit**

**Advisory:** Basic technology skills and knowledge of iPad and Mac iOS systems; familiarity using Web browsers, email, bookmarking, searching, and downloading.

**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.

**1 hour lecture. (12 hours total per quarter)**

Participants who are familiar with basic iPad use will integrate iPads into the teaching and learning process. Find, review and select applications and resources to create learning experiences aligned with Common Core State Standards. Use iPad for evaluation and assessment of student mastery. Develop course materials for student-centered activities. Build a virtual library of online resources, tips, and tricks.

**FHGE: Non-GE Transferable: CSU**

**LINC 97B TABLET COMPUTERS & MEDIA CREATION 1 Unit**

**Advisory:** Basic skills in using tablet computers, such as iPads or Android devices, to manage applications, system resources, and connect to the internet.

**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.

**1 hour lecture. (12 hours total per quarter)**

Participants create and publish a wide variety of media using tablet computers (iPads or Android devices) and compatible hardware accessories. Focus on free or low-cost software for video, audio, animation, screen capture, and multimedia creation. Participants explore digital resources and create a media project.

**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.

**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.

**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 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 228S.

**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.

**6 hours lecture. This course meets 1 time per quarter. (6 hours total per quarter)**

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 (e.g., 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 Units**

**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.

**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.

**6 hours lecture. This course meets 1 time per quarter. (6 hours total per quarter)**

An intermediate course in educational technology in the classroom, this course 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 software technologies that can be used for student group work and project sharing.

**FHGE: Non-GE Transferable: CSU**

**LIBRARY SCIENCE**

Language Arts  
(650) 949-7608 [foothill.edu/la/](http://foothill.edu/la/)

**LIBR 10 RESEARCH PAPER SEARCH STRATEGIES 1 Unit**

**Advisory:** Familiarity with Macs or PCs; not open to students with credit in LIBR 10H or 71.

**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.

**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**

**LIBR 10H HONORS RESEARCH PAPER SEARCH STRATEGIES 1 Unit**

**Prerequisite:** Honors Institute participant.

**Advisory:** Familiarity with Macs or PCs; not open to students with credit in LIBR 10 or 71.

**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.

**1 hour lecture. (12 hours total per quarter)**

This honors-enhanced course is designed to introduce students to college level research. Students will develop critical thinking skills to identify a research topic; find, use, evaluate, and analyze information in various formats to meet the identified information need; and consider the ethical and legal uses of information. Interdisciplinary application of concepts, often covering multicultural topics. This course is of special value to those students intending to transfer to a four-year institution (CSU/UC).

**FHGE: Lifelong Learning Transferable: UC/CSU**



## MATHEMATICS

Physical Sciences, Mathematics & Engineering  
(650) 949-7259 foothill.edu/math/

**MATH 1A CALCULUS** 5 Units  
Prerequisite: Satisfactory score on the mathematics placement test or MATH 48C.

Advisory: Demonstrated proficiency in English by placement as determined by score on the English placement test OR through an equivalent placement process OR completion of ESLL 125 & ESLL 249; not open to students with credit in MATH 1AH.

Grade Type: Letter Grade, the student may select Pass/No Pass  
Not Repeatable.

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 1AH HONORS CALCULUS I** 5 Units  
Prerequisite: Satisfactory score on the mathematics placement test or MATH 48C; Honors Institute participant.

Corequisite: MATH 1AHP.

Advisory: Not open to students with credit in MATH 1A.

Grade Type: Letter Grade Only

Not Repeatable.

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. Honors work emphasizes a deeper study of differential calculus via the study of proofs using analytic techniques, real-world problems, and special applied projects.

FHGE: Communication & Analytical Thinking Transferable: UC/CSU

**MATH 1AHP HONORS CALCULUS I SEMINAR** 1 Unit  
Prerequisite: Honors Institute participant.

Corequisite: MATH 1AH.

Grade Type: Letter Grade Only

Not Repeatable.

1 hour lecture. (12 hours total per quarter)

An honors seminar linked to MATH 1AH. In this course, students will explore a multitude of advanced problems from the calculus I honors course, including proofs of limit laws, differentiation rules, and corresponding theorems concerning the behavior of differentiable functions. As the calculus I honors course will require students to submit typed technical solutions to applied problems, this seminar will support students in learning how to use mathematical typesetting software. Best practices for mathematical writing will also be discussed.

FHGE: Non-GE Transferable: UC/CSU

**MATH 1B CALCULUS** 5 Units  
Prerequisite: MATH 1A or 1AH.

Advisory: Demonstrated proficiency in English by placement as determined by score on the English placement test OR through an equivalent placement process OR completion of ESLL 125 & ESLL 249; not open to students with credit in MATH 1BH.

Grade Type: Letter Grade, the student may select Pass/No Pass  
Not Repeatable.

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 1BH HONORS CALCULUS II** 5 Units

Prerequisites: MATH 1A or 1AH; Honors Institute participant.

Corequisite: MATH 1BHP.

Advisory: Not open to students with credit in MATH 1B.

Grade Type: Letter Grade Only

Not Repeatable.

5 hours lecture. (60 hours total per quarter)

Introduction to integral calculus, including Riemann Sums, definite, indefinite, and improper integrals, the First and Second Fundamental Theorems of Calculus and their applications to geometry, physics, and solutions to elementary differential equations. Honors work emphasizes more in-depth analysis of real-world problems and the theory through proofs using analysis techniques.

FHGE: Communication & Analytical Thinking Transferable: UC/CSU

**MATH 1BHP HONORS CALCULUS II SEMINAR** 1 Unit

Prerequisite: Honors Institute participant.

Corequisite: MATH 1BH.

Grade Type: Letter Grade Only

Not Repeatable.

1 hour lecture. (12 hours total per quarter)

An honors seminar for MATH 1BH. In this course, students will explore a multitude of advanced problems from the calculus II honors course, including proofs of the fundamental theorems, properties of integrals, integration techniques, and various other theorems and propositions concerning the behavior of integrable functions. As the calculus II honors course will require students to submit typed technical solutions to applied problems, this lab will support students in learning how to use mathematical typesetting software. Best practices for mathematical writing will also be discussed.

FHGE: Non-GE Transferable: UC/CSU

**MATH 1C CALCULUS** 5 Units

Prerequisite: MATH 1B or 1BH.

Advisory: Demonstrated proficiency in English by placement as determined by score on the English placement test OR through an equivalent placement process OR completion of ESLL 125 & ESLL 249.

Grade Type: Letter Grade, the student may select Pass/No Pass

Not Repeatable.

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 as determined by score on the English placement test OR through an equivalent placement process OR completion of ESLL 125 & ESLL 249.

Grade Type: Letter Grade, the student may select Pass/No Pass

Not Repeatable.

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

Prerequisite: MATH 1C.

Advisory: Demonstrated proficiency in English by placement as determined by score on the English placement test OR through an equivalent placement process OR completion of ESLL 125 & ESLL 249; not open to students with credit in MATH 12A.

Grade Type: Letter Grade, the student may select Pass/No Pass

Not Repeatable.

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 as determined by score on the English placement test OR through an equivalent placement process OR completion of ESLL 125 & ESLL 249.**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.**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 as determined by score on the English placement test OR through an equivalent placement process OR completion of ESLL 125 & ESLL 249; UC will grant transfer credit for a maximum of one course from the following: PSYC 7, SOC 7, MATH 10 or 17. Students are strongly encouraged to meet with a counselor for appropriate course selection.**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.**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, social sciences, life science, and health science.

**FHGE:** Communication & Analytical Thinking **Transferable:** UC/CSU**MATH 11 FINITE MATHEMATICS 5 Units****Prerequisite:** Satisfactory score on the mathematics placement test or MATH 105 or 108.**Advisory:** Demonstrated proficiency in English by placement as determined by score on the English placement test OR through an equivalent placement process OR completion of ESLL 125 & ESLL 249.**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.**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 11 or 48A.**Advisory:** Demonstrated proficiency in English by placement as determined by score on the English placement test OR through an equivalent placement process OR completion of ESLL 125 & ESLL 249.**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.**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:** Communication & Analytical Thinking **Transferable:** UC/CSU**MATH 17 INTEGRATED STATISTICS II 5 Units****Formerly:** MATH 57**Prerequisite:** MATH 217.**Advisory:** Demonstrated proficiency in English by placement as determined by score on the English placement test OR through an equivalent placement process OR completion of ESLL 125 & ESLL 249; UC will grant transfer credit for a maximum of one course from the following: PSYC 7, SOC 7, MATH 10 or 17. Students are strongly encouraged to meet with a counselor for appropriate course selection; not open to students with credit in MATH 57.**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.**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-squared 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:** UC/CSU**MATH 22 DISCRETE MATHEMATICS 5 Units****Prerequisites:** C S 1A or 1AH; satisfactory score on the mathematics placement test or MATH 48C.**Advisory:** Demonstrated proficiency in English by placement as determined by score on the English placement test OR through an equivalent placement process OR completion of ESLL 125 & ESLL 249; not open to students with credit in CIS 18 or C S 18.**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.**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:** Satisfactory score on the mathematics placement test or MATH 105 or 108 with a grade of C or better.**Advisory:** Demonstrated proficiency in English by placement as determined by score on the English placement test OR through an equivalent placement process OR completion of ESLL 125 & ESLL 249.**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.**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 test or MATH 105 or 108.**Advisory:** Demonstrated proficiency in English by placement as determined by score on the English placement test OR through an equivalent placement process OR completion of ESLL 125 & ESLL 249.**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.**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.**Corequisite:** For students who do not meet the prerequisite requirement, concurrent enrollment in MATH 248A is required.**Advisory:** Demonstrated proficiency in English by placement as determined by score on the English placement test OR through an equivalent placement process OR completion of ESLL 125 & ESLL 249; UC credit for MATH 48A, 48B and 48C is limited to a maximum of 7.5 units for the combination or any portion of the series completed.**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.**5 hours lecture. (60 hours total per quarter)**

Introduction to functions and families of functions, including linear functions, quadratics, power and radical functions, absolute value functions, piece-wise defined functions, transformations of these functions, composition of these functions and their use in solving application problems.

**FHGE:** Communication & Analytical Thinking **Transferable:** UC/CSU**MATH 48B PRECALCULUS II****5 Units****Prerequisite:** MATH 48A.**Advisory:** Demonstrated proficiency in English by placement as determined by score on the English placement test OR through an equivalent placement process OR completion of ESLL 125 & ESLL 249; UC credit for MATH 48A, 48B and 48C is limited to a maximum of 7.5 units for the combination or any portion of the series completed.**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.**5 hours lecture. (60 hours total per quarter)**

This course is a continuation of topics from MATH 48A. Topics include polynomial, rational, exponential and logarithmic functions, transformations of these functions and their use in solving application problems.

**FHGE:** Communication & Analytical Thinking **Transferable:** UC/CSU**MATH 48C PRECALCULUS III****5 Units****Prerequisite:** MATH 48B.**Advisory:** Demonstrated proficiency in English by placement as determined by score on the English placement test OR through an equivalent placement process OR completion of ESLL 125 & ESLL 249; UC credit for MATH 48A, 48B and 48C is limited to a maximum of 7.5 units for the combination or any portion of the series completed.**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.**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 applications with various functions.

**FHGE:** Communication & Analytical Thinking **Transferable:** UC/CSU**MATH 67 ENHANCED MATHEMATICS LEARNING WITH MATHEMATICA****3 Units****Advisory:** MATH 48A; ability to download software and work with basic programs like Word or Excel.**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.**3 hours lecture. (36 hours total per quarter)**

An introduction to Mathematica mathematics software and its use as a tool for computation and visualization in mathematics and statistics. Use of Mathematica for solving problems taken from algebra and statistics through linear algebra and differential equations. Access to Mathematica provided at no additional cost.

**FHGE:** Non-GE **Transferable:** CSU**MATH 70R INDEPENDENT STUDY IN MATHEMATICS****1 Unit****MATH 71R  
MATH 72R  
MATH 73R****2 Units****3 Units****4 Units****Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.**3-12 hours laboratory 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.**Advisory:** Not open to students with credit in MATH 108.**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.**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****Prerequisite:** Satisfactory score on the mathematics placement test or successful completion of MATH 230 or 230J.**Advisory:** Not open to students with credit in MATH 105.**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.**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 180 QUANTITATIVE REASONING****5 Units****Grade Type:** Letter Grade Only**Not Repeatable.****4 hours lecture, 3 hours laboratory. (84 hours total per quarter)**

Students will be able to apply mathematical reasoning in their personal, professional, and academic lives, to investigate new contexts, develop and propose possible solutions, discuss and analyze proposed plans, and make decisions. Students will learn to value the collaborative process of explaining, investigating, comparing and assessing a variety of perspectives and approaches. Through immersion in contextualized lessons, students will practice quantitative thinking as they build skill in communication, critical and creative thinking, and computation. They will grow their knowledge and understanding of themselves, each other, and the world through the study of culturally relevant contexts, such as personal finance, health and wellness, membership in society, and the environment.

**FHGE:** Non-GE**MATH 217 INTEGRATED STATISTICS I****5 Units****Non-degree applicable basic skills-2 course.****Prerequisites:** Satisfactory score on the mathematics placement test; MATH 230 or 230J.**Advisory:** Demonstrated proficiency in English by placement as determined by score on the English placement test OR through an equivalent placement process OR completion of ESLL 125 & ESLL 249.**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.**5 hours lecture. (60 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****Non-degree applicable basic skills-2 course.****Prerequisites:** Satisfactory score on the mathematics placement test; MATH 230 or 230J.**Advisory:** Not open to students with credit in MATH 101 or 224.**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.**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

Non-degree applicable basic skills-3 course.

Prerequisite: MATH 235.

Advisory: Not open to students with credit in MATH 230J.

Grade Type: Pass/No Pass Only

Not Repeatable.

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, rates, proportions, percents, and geometric concepts. Modeling with linear equations and proportions to solve and interpret results of applications in diverse fields.

FHGE: Non-GE

**MATH 230J PREPARING FOR ALGEBRA** 3 Units

Non-degree applicable basic skills-3 course.

Prerequisites: Completion of two or more modules from MATH 230; permission of instructor.

Grade Type: Pass/No Pass Only

Not Repeatable.

3 hours lecture. (36 hours total per quarter)

Development and applications of ratios, rates, proportions, 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.

FHGE: Non-GE

**MATH 235 PREPARING FOR ALGEBRA:  
REAL NUMBERS** 6 Units

Non-degree applicable basic skills course.

Grade Type: Pass/No Pass Only

Not Repeatable.

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

**MATH 248A JUST-IN-TIME SUPPORT  
FOR MATH 48A** 2.5 Units

Non-degree applicable credit course.

Corequisite: MATH 48A.

Advisory: Demonstrated proficiency in English by placement as determined by score on the English placement test OR through an equivalent placement process OR completion of ESLL 125 &amp; ESLL 249.

Grade Type: Pass/No Pass Only

Not Repeatable.

2.5 hours lecture. (30 hours total per quarter)

A just-in-time approach to the core prerequisite skills, competencies, and concepts needed in Precalculus I. Intended for students majoring in science, technology, engineering, and mathematics who are concurrently enrolled in MATH 48A at Foothill College. Topics include: a review of computational skills developed in beginning and intermediate algebra, including factoring, graphing linear equations, solving absolute value equations and inequalities, analyzing functions, including quadratic functions.

FHGE: Non-GE

**MDIA 1H HONORS INTRODUCTION  
TO FILM STUDIES** 4 Units

Prerequisite: Honors Institute participant.

Advisory: Not open to students with credit in F TV 1, MDIA 1 or VART 1.

Grade Type: Letter Grade, the student may select Pass/No Pass

Not Repeatable.

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 with an emphasis on the critical analysis of film and media. The honors section offers an enriched and rigorous study in film analysis and introductory film theory. Completion of the honors section requires in-depth analytic readings and completion of two critical analysis essays. Assessment of exams and essays is rigorous. Strongly suggested for students planning to transfer to a four-year college or university in film and media studies.

FHGE: Humanities Transferable: UC/CSU

**MDIA 2A HISTORY OF FILM 1895–1945** 4 Units

Advisory: Not open to students with credit in F TV 2A or VART 2A.

Grade Type: Letter Grade, the student may select Pass/No Pass

Not Repeatable.

4 hours lecture, 1 hour laboratory. (60 hours total per quarter)

Survey of the development of motion pictures from beginning to the 1940s. Emphasis on understanding evolution of international filmmaking.

FHGE: Humanities Transferable: UC/CSU

**MDIA 2B HISTORY OF FILM 1945–CURRENT** 4 Units

Advisory: Not open to students with credit in F TV 2B or VART 2B.

Grade Type: Letter Grade, the student may select Pass/No Pass

Not Repeatable.

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: Humanities Transferable: UC/CSU

**MDIA 2C CURRENT TRENDS IN FILM,  
TV & THE INTERNET** 4 Units

Advisory: Not open to students with credit in F TV 2C or VART 2C.

Grade Type: Letter Grade, the student may select Pass/No Pass

Not Repeatable.

4 hours 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.

Grade Type: Letter Grade, the student may select Pass/No Pass

Not Repeatable.

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 language of media theory including approaches through semiotics, post-structuralism, psychoanalysis, multicultural analysis, gender and sexuality.

FHGE: Communication &amp; Analytical Thinking Transferable: UC/CSU

**MDIA 4 EXPERIMENTAL FILM & VIDEO** 4 Units

Grade Type: Letter Grade, the student may select Pass/No Pass

Not Repeatable.

4 hours lecture, 1 hour laboratory. (60 hours total per quarter)

A survey of experimental film from the early 20th century to the present, as well as video art from the 1960s on. Investigation and critical analysis of influential films/videos, prominent filmmakers, and technological developments. Study of the political, cultural, and artistic forces at work in the development of experimental film and video practices.

FHGE: Humanities Transferable: UC/CSU

**MEDIA STUDIES**

Fine Arts and Communication

650-949-7562 foothill.edu/fa

**MDIA 1 INTRODUCTION TO FILM STUDIES** 4 Units

Advisory: Not open to students with credit in F TV 1, MDIA 1H or VART 1.

Grade Type: Letter Grade, the student may select Pass/No Pass

Not Repeatable.

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: Humanities Transferable: UC/CSU

**MDIA 5 AMERICAN CINEMA 4 Units**  
**Advisory:** Not open to students with credit in F TV 3 or VART 3.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**  
**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: UC/CSU**

**MDIA 6 FILM & NEW MEDIA GENRES 4 Units**  
**Advisory:** UC course transferability will be determined by the university after student transfer.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**  
**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 7 DOCUMENTARY FILM 4 Units**  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**  
**4 hours lecture, 1 hour laboratory. (60 hours total per quarter)**  
A survey of the development and practice of documentary film from the early 1900s to the present. Investigation and critical analysis of influential films, prominent filmmakers, and technological developments. Study of the economic, cultural, and artistic forces at work in the evolution of documentary film.  
**FHGE: Humanities Transferable: UC/CSU**

**MDIA 8A RACE & GENDER IN AMERICAN MEDIA 4 Units**  
**Advisory:** ENGL 110.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**  
**4 hours lecture, 1 hour laboratory. (60 hours total per quarter)**  
This course examines the complexities of race and gender representation in U.S. film and media. Students study the history of media representation, applying theory as a tool for analysis. Examine the means by which the media define and promote cultural stereotypes. In addition, students examine how media images and institutions influence and shape racial and gender identities. Contributions to the field of important filmmakers and media artists will be examined.  
**FHGE: American Cultures & Communities Transferable: UC/CSU**

**MDIA 9 GLOBAL MEDIA 4 Units**  
**Advisory:** Not open to students with credit in VART 8.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**  
**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:** Demonstrated proficiency in English by placement as determined by score on the English placement test OR through an equivalent placement process OR completion of ESLL 125 & ESLL 249; not open to students with credit in F A 1 or MDIA 11H.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**  
**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 11H HONORS INTRODUCTION TO POPULAR CULTURE 4 Units**  
**Prerequisite:** Honors Institute participant.  
**Advisory:** Not open to students with credit in F A 1 or MDIA 11.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**  
**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. The honors section offers deeper theoretical content, assignments that require more sophisticated cognition/critical thinking, more rigorous assessment, and an additional summative project.  
**FHGE: Humanities Transferable: UC/CSU**

**MDIA 12 POPULAR CULTURE & UNITED STATES HISTORY 4 Units**  
**Advisory:** Demonstrated proficiency in English by placement as determined by score on the English placement test OR through an equivalent placement process OR completion of ESLL 125 & ESLL 249; not open to students with credit in F A 2 or 12.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**  
**4 hours lecture, 1 hour 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: American Cultures & Communities Transferable: UC/CSU**

**MDIA 13 VIDEO GAMES & POPULAR CULTURE 4 Units**  
**Advisory:** Not open to students with credit in MUS 11F.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**  
**4 hours lecture, 1 hour laboratory. (60 hours total per quarter)**  
The impact of game design and game technology on popular culture. Topics will include early history including the early hardware and software designers that emerged after World War II, the rise of the video game entrepreneurs and the resulting multi-billion dollar arcade industry, eight generations of home video game console inventors from the Magnavox Odyssey through the present day, the impact of the home computer on video games, the evolution of the handheld game console from early LCD games through the smart phone, online gaming from the first text-based games built by hobbyists through the current massively multi-player online role-playing games, and the validation of video games as an art form as evidenced by their addition to the collections of prominent institutions such as the Smithsonian and MoMA. For each historical era, the influence of video games on popular culture will be demonstrated through film, television, print, and music.  
**FHGE: Humanities Transferable: UC/CSU**

**MDIA 20 FUNDAMENTALS OF MEDIA PRODUCTION 4 Units**  
**Advisory:** Not open to students with credit in F TV 20, GID 20 or VART 20.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.  
**4 hours lecture, 1 hour laboratory. (60 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**  
**Advisory:** Not open to students with credit in FTV 84, VART 30 or 84.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.  
**4 hours lecture, 1 hour laboratory. (60 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**  
**Advisory:** MDIA 30; not open to students with credit in F TV 85, VART 31 or 85.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.  
**4 hours lecture, 1 hour laboratory. (60 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**  
**Advisory:** Not open to students with credit in GID 47, 84, GRDS 87 or VART 87.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.  
**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**  
**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.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.  
**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**  
**Advisory:** Not open to students with credit in VART 15 or 51.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.  
**4 hours lecture, 1 hour laboratory. (60 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, media production for the web and vodcasting. Students study both technical and aesthetic considerations for web video.  
**FHGE: Non-GE Transferable: CSU**

**MDIA 52 SCRIPTWRITING FOR FILM & VIDEO 4 Units**  
**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.  
**4 hours lecture, 1 hour 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 4 Units**  
**Advisory:** Not open to students with credit in MTEC 57A, MUS 81B or VART 81B.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.  
**3 hours lecture, 3 hours laboratory. (72 hours total per quarter)**  
Creating, editing, and mixing audio for film and video. Understanding aesthetic qualities of sound effects and music as it relates to story. Recording original sound elements and using commercial sound libraries. Editing, layering, and processing sound elements to create complex sound effects. Synchronizing audio to video using a digital audio workstation. Basics of mixing and mastering finished soundtracks for digital distribution.  
**FHGE: Non-GE Transferable: CSU**

## MUSIC

Fine Arts and Communication  
650.949.7016 [foothill.edu/music/](http://foothill.edu/music/)

Foothill offers music activity courses in three different family categories, as well as theatre arts 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. Please 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

Theatre Voice Family: MUS 47A or THTR 47A, MUS 47B or THTR 47B, MUS 47C or THTR 47C, MUS 47D or THTR 47D, THTR 48A, MUS 48B or THTR 48B, MUS 48C or THTR 48C & THTR 48F

**MUS 1 INTRODUCTION TO MUSIC 4 Units**  
**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.  
**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**

**Grade Type: Letter Grade, the student may select Pass/No Pass Not Repeatable.**

**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**

**Grade Type: Letter Grade, the student may select Pass/No Pass Not Repeatable.**

**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**

**Grade Type: Letter Grade, the student may select Pass/No Pass Not Repeatable.**

**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**

**Grade Type: Letter Grade, the student may select Pass/No Pass Not Repeatable.**

**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 students with credit in THTR 2F.**

**Grade Type: Letter Grade, the student may select Pass/No Pass Not Repeatable.**

**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 THEORY & MUSICIANSHIP I 5 Units**

**Advisory: MUS 12A strongly recommended.**

**Grade Type: Letter Grade, the student may select Pass/No Pass Not Repeatable.**

**4 hours lecture, 3 hours laboratory. (84 hours total per quarter)**

Introduction to the fundamentals of music and their application to composition and music literature. Notation, scales, intervals, triads, essential cadential formulas and phrase structure and their use in basic composition. Musicianship skills to include melodic dictation with leaps within the triad, rhythmic dictation in different meters, ear recognition of intervals, triad qualities including inversions, and dominant seventh chords, sight-singing simple step-wise melodies.

**FHGE: Non-GE Transferable: UC/CSU**

**MUS 3B THEORY & MUSICIANSHIP II 5 Units**

**Advisory: MUS 3A proficiency or equivalent.**

**Grade Type: Letter Grade, the student may select Pass/No Pass Not Repeatable.**

**4 hours lecture, 3 hours laboratory. (84 hours total per quarter)**

Continuation of common practice procedures in music and their application to composition and music literature. Seventh chords, an introduction to two-part counterpoint, secondary dominants and leading tone chords, modulation, and voice-leading techniques in four-part chorale writing. Musicianship skills to include melodic dictation with leaps from the I, IV, and V7 chords, rhythmic dictation in both simple and compound meters, harmonic dictation of typical chord progressions including notation of outer voices and Roman numerals, and sight-singing melodies with leaps from the I, IV, and V7 chords.

**FHGE: Non-GE Transferable: UC/CSU**

**MUS 3C THEORY & MUSICIANSHIP III 5 Units**

**Advisory: MUS 3B proficiency or equivalent.**

**Grade Type: Letter Grade, the student may select Pass/No Pass Not Repeatable.**

**4 hours lecture, 3 hours laboratory. (84 hours total per quarter)**

Continuation of concepts from MUS 3B, including guided analysis and composition using beginning chromatic harmony, secondary dominants and leading tone chords, modulation, borrowed chords, the Neapolitan sixth chord, and all forms of the augmented sixth chord. Musicianship skills to include melodic dictation in major and minor keys with triplets, syncopation, and pivot chord modulations, rhythmic dictation in simple and compound meters with syncopation and triplets, aural identification of four part harmonic progressions that use secondary dominants and pivot chord modulation, sight-singing melodies that modulate.

**FHGE: Non-GE Transferable: UC/CSU**

**MUS 3D THEORY & MUSICIANSHIP IV 5 Units****Advisory:** MUS 3C proficiency or equivalent.**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.****4 hours lecture, 3 hours laboratory. (84 hours total per quarter)**

Continuation of concepts from MUS 3C, including late 19th century chromatic harmony. Through guided analysis and composition, course includes: application of augmented 6th chords, borrowed chords, medieval modes, 9th, 11th, and 13th chords, altered dominants, chromatic mediants, and Impressionism. Analysis and writing on atonality, 12-tone method, pandiatonicism, set theory, and polytonality. Musicianship skills to include sight-singing modes, melodic dictation with modes and chromatic melodies, rhythmic dictation of irregular or asymmetrical meters, aural identification of harmonic progressions using chromatic chords and modulations to non-closely related keys.

**FHGE: Non-GE Transferable: UC/CSU****MUS 7 CONTEMPORARY MUSICAL STYLES: ROCK, POP & JAZZ 4 Units****Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.****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****Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.****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****Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.****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****Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.****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: Humanities Transferable: UC/CSU****MUS 8 MUSIC OF MULTICULTURAL AMERICA 5 Units****Advisory:** Not open to students with credit in MUS 8H.**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.****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: Amer, Human 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.**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.****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: Amer, Human Transferable: UC/CSU****MUS 9A MUSIC & MEDIA: EDISON TO HENDRIX 4 Units****Advisory:** Not open to students with credit in MUS 85 or 85A.**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.****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**

**Advisory: Not open to students with credit in MUS 85B.**  
**Grade Type: Letter Grade, the student may select Pass/No Pass Not Repeatable.**

**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**

**Grade Type: Letter Grade, the student may select Pass/No Pass Not Repeatable.**

**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**

**Advisory: Not open to students with credit in MUS 64A.**  
**Grade Type: Letter Grade, the student may select Pass/No Pass Not Repeatable.**

**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**

**Advisory: Not open to students with credit in MUS 64B.**  
**Grade Type: Letter Grade, the student may select Pass/No Pass Not Repeatable.**

**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 11D HISTORY OF ELECTRONIC MUSIC: ORIGINS, 1970 4 Units**

**Grade Type: Letter Grade, the student may select Pass/No Pass Not Repeatable.**

**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 concr<sup>v</sup>©te, 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: Humanities Transferable: UC/CSU**

**MUS 11E HISTORY OF ELECTRONIC MUSIC: 1970-PRESENT 4 Units**

**Grade Type: Letter Grade Only Not Repeatable.**

**4 hours lecture, 1 hour laboratory. (60 hours total per quarter)**  
The impact of emerging electronic music styles on instrument development, recording technology and popular culture in the late 20th and early 21st centuries. Incorporation of electronic music and instruments in new music, television & film soundtracks and live performance, creating a market for the development and sales of portable music synthesizers. Analysis of the impact of emerging musical styles including ambient, techno and trance on the composition of contemporary music and youth culture. Comparison of analog and digital music synthesis techniques in the recording and performance of electronic music. Advances in computer technology in relation to the compositional needs of the emerging electronic musical styles. Students will analyze historically significant electronic works from experimental academic compositions to popular music from the era.  
**FHGE: Humanities Transferable: UC/CSU**

**MUS 11F VIDEO GAMES & POPULAR CULTURE 4 Units**

**Advisory: Not open to students with credit in MDIA 13.**  
**Grade Type: Letter Grade, the student may select Pass/No Pass Not Repeatable.**

**4 hours lecture, 1 hour laboratory. (60 hours total per quarter)**  
The impact of game design and game technology on popular culture. Topics will include early history including the early hardware and software designers that emerged after World War II, the rise of the video game entrepreneurs and the resulting multi-billion dollar arcade industry, eight generations of home video game console inventors from the Magnavox Odyssey through the present day, the impact of the home computer on video games, the evolution of the handheld game console from early LCD games through the smart phone, online gaming from the first text-based games built by hobbyists through the current massively multi-player online role-playing games, and the validation of video games as an art form as evidenced by their addition to the collections of prominent institutions such as the Smithsonian and MoMA. For each historical era, the influence of video games on popular culture will be demonstrated through film, television, print, and music.  
**FHGE: Humanities Transferable: UC/CSU**

**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.**  
**Grade Type: Letter Grade, the student may select Pass/No Pass Not Repeatable.**

**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, 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.  
Grade Type: Letter Grade, the student may select Pass/No Pass Not Repeatable.  
2 hours lecture, 1 hour laboratory. (36 hours total per quarter)  
Continuation of MUS 12A with increased emphasis on independence of hands, proper hand position, building repertoire in different genres, variety in rhythmic figurations and articulation.  
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.  
Grade Type: Letter Grade, the student may select Pass/No Pass Not Repeatable.  
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 2 Units**  
Advisory: Concurrent enrollment in MUS 12A; this course is included in the Voice Class Applied Performance family of activity courses.  
Grade Type: Letter Grade, the student may select Pass/No Pass Not Repeatable.  
2 hours lecture, 1 hour laboratory. (36 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 2 Units**  
Advisory: MUS 13A or equivalent skills; concurrent enrollment in MUS 12A or equivalent skills; this course is included in the Voice Class Applied Performance family of activity courses.  
Grade Type: Letter Grade, the student may select Pass/No Pass Not Repeatable.  
2 hours lecture, 1 hour laboratory. (36 hours total per quarter)  
A continuation of MUS 13A at the intermediate level, 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, simple duet harmonies, and rehearsal practices with an accompanist.  
FHGE: Non-GE Transferable: UC/CSU

**MUS 13C CLASS VOICE III 2 Units**  
Advisory: MUS 13B or equivalent skills; concurrent enrollment in MUS 12A or equivalent skills; this course is included in the Voice Class Applied Performance family of activity courses.  
Grade Type: Letter Grade, the student may select Pass/No Pass Not Repeatable.  
2 hours lecture, 1 hour laboratory. (36 hours total per quarter)  
A continuation of MUS 13B, with emphasis on more refinement of vocal production. Emphasis on understanding and managing vocal passaggios, expansion of vocal styles to include classical and/or musical theatre repertoire. Small ensembles of duets with independent vocal lines. Learning to create and communicate 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.  
Grade Type: Letter Grade, the student may select Pass/No Pass Not Repeatable.  
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.  
Grade Type: Letter Grade, the student may select Pass/No Pass Not Repeatable.  
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.  
Grade Type: Letter Grade, the student may select Pass/No Pass Not Repeatable.  
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.  
Grade Type: Letter Grade, the student may select Pass/No Pass Not Repeatable.  
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**  
Advisory: MUS 15A or equivalent; this course is included in the Guitar Class Applied Performance family of activity courses.  
Grade Type: Letter Grade, the student may select Pass/No Pass Not Repeatable.  
2 hours 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. This course is a continuation of the study of the guitar in the popular and folk idiom. Through analysis, singing, performing and listening, various songs and styles will be studied. This is a performance based course with the broad range of folk music as its subject matter.  
FHGE: Non-GE Transferable: UC/CSU

**MUS 15C**      **ADVANCED ACOUSTIC GUITAR TECHNIQUES**      **2 Units**  
**Advisory:** MUS 15B or equivalent; this course is included in the Guitar Class Applied Performance family of activity courses.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**  
**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 38A**      **GUITAR ENSEMBLE I**      **2 Units**  
**Advisory:** MUS 14C or ability to read notation.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**  
**2 hours lecture, 1 hour laboratory. (36 hours total per quarter)**  
The study, rehearsal, and public performance of guitar repertoire (both guitar-only ensembles and guitars with other instruments), with emphasis on the development of the skills needed to perform within an ensemble. Students will learn to perform musically, rhythmically and with accurate intonation. Repertoire is contingent upon instrument availability and will include simple duets, trios, quartets from the Renaissance through Contemporary. Students must know how to read notation and possess a basic mastery of the instrument. Students learn to critique both their own and others' performances. Instructor will coach throughout.  
**FHGE: Non-GE    Transferable: UC/CSU**

**MUS 38B**      **GUITAR ENSEMBLE II**      **2 Units**  
**Advisory:** Enrollment subject to audition and instructor assignment.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**  
**2 hours lecture, 1 hour laboratory. (36 hours total per quarter)**  
Continuation of MUS 38A, focusing on the study, rehearsal, and public performance of guitar repertoire (both guitar-only ensembles and guitars with other instruments), with emphasis on the development of the skills needed to perform within an ensemble. Students concentrate on their musical skill through collaboration and will learn to perform musically, rhythmically and with accurate intonation at a second quarter level. Greater emphasis is placed on unity of attack, timbre, and communication. Students are expected to know how to read notation, possess an intermediate grasp of technique and have ensemble experience. Repertoire from the Renaissance through Contemporary, including Bach, Biberian, Handel, de Visee, Diabelli (contingent upon instrument availability). Students learn to critique both their own and others' performances. Instructor will coach throughout.  
**FHGE: Non-GE    Transferable: UC/CSU**

**MUS 38C**      **GUITAR ENSEMBLE III**      **2 Units**  
**Advisory:** Enrollment subject to audition and instructor assignment.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**  
**2 hours lecture, 1 hour laboratory. (36 hours total per quarter)**  
Continuation of MUS 38B, focusing on the study, rehearsal, and public performance of guitar repertoire (both guitar-only ensembles and guitars with other instruments), with emphasis on the development of the skills needed to perform within an ensemble. Students continue to develop ensemble abilities and will learn to perform musically, rhythmically and with accurate intonation with greater emphasis on dynamics, facility, and performance. Students learn to switch between melodic and accompaniment parts quickly and appropriately. Repertoire includes more intricate pieces by Bach, Pachelbel, Villa-Lobos, and Paganini (based upon instrument availability). Students learn to critique both their own and others' performances. Instructor will coach throughout.  
**FHGE: Non-GE    Transferable: UC/CSU**

**MUS 41**      **LIVE MUSIC PERFORMANCE WORKSHOP**      **2 Units**  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**  
**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 47A**      **INTRODUCTION TO MUSICAL THEATRE PRODUCTION**      **6 Units**  
**Advisory:** Enrollment subject to audition and instructor assignment; this course is included in the Theatre Voice family of activity courses; not open to students with credit in THTR 47 or 47A.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**  
**18 hours laboratory. (216 hours total per quarter)**  
This course will introduce the fundamentals of musical theatre performance through the rehearsal and performance of a fully staged musical theatre production. Students are required to attend rehearsals and performances.  
**FHGE: Non-GE    Transferable: UC/CSU**

**MUS 47B**      **INTERMEDIATE MUSIC THEATRE PRODUCTION WORKSHOP**      **6 Units**  
**Advisory:** Enrollment subject to audition and instructor assignment; this course is included in the Theatre Voice family of activity courses; not open to students with credit in THTR 47B or 47X.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**  
**18 hours laboratory. (216 hours total per quarter)**  
This course will develop technical skills required at the intermediate level of musical theatre performance through the rehearsal and performance of a fully staged musical theatre production. Students are required to attend rehearsals and performances.  
**FHGE: Non-GE    Transferable: UC/CSU**

**MUS 47C**      **ADVANCED MUSIC THEATRE PRODUCTION WORKSHOP**      **6 Units**  
**Prerequisite:** MUS 47B or THTR 47B.  
**Advisory:** Enrollment subject to audition and instructor assignment; this course is included in the Theatre Voice family of activity courses; not open to students with credit in THTR 47C.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**  
**18 hours laboratory. (216 hours total per quarter)**  
Assists the student to develop 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**

**MUS 47D**      **ADVANCED MUSIC THEATRE PRODUCTION WORKSHOP II**      **6 Units**  
**Prerequisite:** MUS 47C or THTR 47C.  
**Advisory:** Enrollment subject to audition and instructor assignment; this course is included in the Theatre Voice family of activity courses; not open to students with credit in THTR 47D.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**  
**18 hours laboratory. (216 hours total per quarter)**  
This course will assist the student to develop technical skills required at the advanced level of musical theatre in the areas of stage direction or choreography through the rehearsal and performance of a fully staged musical theatre production.  
**FHGE: Non-GE    Transferable: UC/CSU**

**MUS 48B SINGING TECHNIQUE FOR MUSICAL THEATRE** 4 Units  
**Advisory:** MUS 13A, 13B and 13C; this course is included in the Theatre Voice family of activity courses; not open to students with credit in THTR 48B.  
**Grade Type:** Letter Grade Only  
**Not Repeatable.**  
**3 hours lecture, 3 hours laboratory. (72 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**

**MUS 48C MUSICAL THEATRE REPERTOIRE FOR SINGERS** 4 Units  
**Prerequisite:** MUS 48B or THTR 48B.  
**Advisory:** MUS 13C; this course is included in the Theatre Voice family of activity courses; not open to students with credit in THTR 48C.  
**Grade Type:** Letter Grade Only  
**Not Repeatable.**  
**3 hours lecture, 3 hours laboratory. (72 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**

**MUS 70R INDEPENDENT STUDY IN MUSIC/MUSIC TECHNOLOGY** 1 Unit  
**MUS 71R** 2 Units  
**MUS 72R** 3 Units  
**MUS 73R** 4 Units  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**  
**3-12 hours laboratory 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 83A MUSIC & MEDICINE** 4 Units  
**Advisory:** Not open to students with credit in MTEC 84A.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**  
**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**

## MUSIC TECHNOLOGY

Fine Arts and Communication  
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**MTEC 49 HISTORY OF MUSIC TECHNOLOGY** 4 Units  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**  
**4 hours lecture, 1 hour laboratory. (60 hours total per quarter)**  
 The history of music technology and sound recording from the earliest analog devices to current digital streaming services. How technological change is inseparable from economic, cultural and political change. Ways that music producers responded to different access of technologies shaped by geographical and economic factors. Historical, cultural and theoretical understanding of recorded sound, media, and digital distribution. How the digital era, laptop computers and mobile phones made home studios the dominant location for commercial record production. Hands-on experience with a variety of analog and digital audiovisual technologies. Identify hallmark sounds from commercially released recordings by historically significant audio engineers, music producers and artists.  
**FHGE: Non-GE Transferable: UC/CSU**

**MTEC 50A INTRODUCTION TO MUSIC TECHNOLOGY** 4 Units  
**Formerly:** MUS 66A  
**Advisory:** Not open to students with credit in MUS 66A.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**  
**3 hours lecture, 3 hours laboratory. (72 hours total per quarter)**  
 Introduction to creating music with computers, keyboards, audio samples and beats using Pro Tools and other digital audio workstations. Basic principles and use of MIDI sequencing/audio software. Songwriting, musical composition, mixing, mastering and the basic elements of music (pitch, rhythm, harmony, style and form) as they relate to contemporary music. Basic music production using Pro Tools. General computer literacy and media management. All styles are included, and prior musical training is not required.  
**FHGE: Non-GE Transferable: CSU**

**MTEC 51A STUDIO RECORDING I** 4 Units  
**Formerly:** MUS 80A  
**Advisory:** Not open to students with credit in MUS 80A.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**  
**3 hours lecture, 3 hours laboratory. (72 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**

**MTEC 51B STUDIO RECORDING II** 4 Units  
**Formerly:** MUS 81A  
**Advisory:** Not open to students with credit in MUS 81 or 81A.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**  
**3 hours lecture, 3 hours laboratory. (72 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**

**MTEC 51C STUDIO RECORDING III 4 Units****Grade Type: Letter Grade, the student may select Pass/No Pass Not Repeatable.****3 hours lecture, 3 hours laboratory. (72 hours total per quarter)**

Advanced recording studio techniques, concepts and creative elements of professional music production. Advanced microphone techniques and acoustics. Planning and pre-production, studio team work, collaborating with musicians in the role of producer/engineer. Mixing, mastering, post production used in professional digital media content creation workflows. Utilizing analog and digital audio equipment in complex hybrid configurations. Successful completion of this class will prepare students for internship or entry level employment position in a recording studio, audio for post facility or mastering facility.

**FHGE: Non-GE Transferable: CSU****MTEC 52A MIXING & MASTERING I 4 Units****Formerly: MUS 81C****Advisory: Not open to students with credit in MUS 81C.****Grade Type: Letter Grade, the student may select Pass/No Pass Not Repeatable.****3 hours lecture, 3 hours laboratory. (72 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****MTEC 52B MIXING & MASTERING II 4 Units****Formerly: MUS 81G****Advisory: Not open to students with credit in MUS 81G.****Grade Type: Letter Grade, the student may select Pass/No Pass Not Repeatable.****3 hours lecture, 3 hours laboratory. (72 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****MTEC 53A AUDIO PLUG-INS & SIGNAL PROCESSING 4 Units****Formerly: MUS 81D****Advisory: Not open to students with credit in MUS 81D.****Grade Type: Letter Grade, the student may select Pass/No Pass Not Repeatable.****3 hours lecture, 3 hours laboratory. (72 hours total per quarter)**

Creative applications of software plugins and outboard hardware used in contemporary music production and sound design. Signal processing, equalization, compression, Beat Detective, distortion, reverb, delay, pitch correction, modulation, advanced plugin automation techniques. Compare plugins and processors from different companies, including Sonnox, McDSP, Masey, Avid, Antares and Waves. Waves Certification Program textbook provides high-quality, standardized means of mastering audio plugins. Practice with a wide range of material and genres, including rock, pop, hip hop, jazz, acoustic, orchestral, electronic and spoken word. Apply techniques to any digital audio workstation, including Pro Tools, Logic, Ableton Live and Studio One, and traditional analog mixing consoles.

**FHGE: Non-GE Transferable: CSU****MTEC 53B AUDIO PLUG-INS & VIRTUAL INSTRUMENTS 4 Units****Formerly: MUS 81E****Advisory: Not open to students with credit in MUS 81E.****Grade Type: Letter Grade, the student may select Pass/No Pass Not Repeatable.****3 hours lecture, 3 hours laboratory. (72 hours total per quarter)**

Audio processing, mixing techniques and sound design using software plugins and hardware equipment. Study and compare plugins from different manufacturers. Drum and percussion libraries, sample triggering and audio quantizing techniques. Apply Melodyne and Auto-Tune pitch correction, EQ and compression, Elastic Audio editing. Create sounds with synthesizers, samplers, drum machines and virtual instruments. Apply traditional synthesis techniques, including filters and oscillators with audio plugins, hardware synthesizers and software emulations of acoustic instruments. Sound restoration plugins, forensic audio enhancement, convolution reverbs, advanced plugin automation and signal processing techniques. Exercises include sound design plugins for music, film, and video games.

**FHGE: Non-GE Transferable: CSU****MTEC 54A MUSIC THEORY FOR AUDIO PRODUCERS 4 Units****Grade Type: Letter Grade, the student may select Pass/No Pass Not Repeatable.****3 hours lecture, 3 hours laboratory. (72 hours total per quarter)**

Introductory course in music theory as applied to audio production, music technology and songwriting. Study elements of music, including melody, rhythm, chords and musical forms. Understand traditional music notation as applied to MIDI sequencers, Pro Tools and other Digital Audio Workstations (DAWS). Edit drum and percussion notation to program beats, MIDI sequencer Event Lists, and digital sample libraries. Ear training exercises for audio engineers to make equalization and production decisions based on harmonic overtones, key signatures and chord progressions. Selected listening and analysis of famous composers and award-winning producers in a wide variety of styles. Study the Nashville number music notation shorthand system. Develop ability to quickly and effectively recognize chord changes and transpose to any key. Learn to read, write and conduct orchestral scores used in commercial recording studios. Apply traditional music theory concepts to modern digital audio editing software, such as Melodyne, Autotune, Elastic Audio, and computer virtual instrument orchestration.

**FHGE: Non-GE Transferable: CSU****MTEC 55A INTRODUCTION TO GAME AUDIO 4 Units****Formerly: MUS 82F, 84A****Advisory: Not open to students with credit in MUS 82F or 84A.****Grade Type: Letter Grade, the student may select Pass/No Pass Not Repeatable.****3 hours lecture, 3 hours laboratory. (72 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****MTEC 55B ADVANCED SOUND DESIGN FOR GAMES 4 Units****Formerly: MUS 84B****Advisory: Not open to students with credit in MUS 84B.****Grade Type: Letter Grade, the student may select Pass/No Pass Not Repeatable.****3 hours lecture, 3 hours laboratory. (72 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**

**MTEC 55C MUSIC COMPOSITION FOR GAMES 4 Units**  
Formerly: MUS 84C

**Advisory:** Not open to students with credit in MUS 84C.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**

**3 hours lecture, 3 hours laboratory. (72 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

**MTEC 57A SOUND DESIGN FOR FILM & VIDEO 4 Units**

Formerly: MUS 81B  
**Advisory:** Not open to students with credit in MDIA 81B, MUS 81B or VART 81B.

**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**

**3 hours lecture, 3 hours laboratory. (72 hours total per quarter)**  
Creating, editing, and mixing audio for film and video. Understanding aesthetic qualities of sound effects and music as it relates to story. Recording original sound elements and using commercial sound libraries. Editing, layering, and processing sound elements to create complex sound effects. Synchronizing audio to video using a digital audio workstation. Basics of mixing and mastering finished soundtracks for digital distribution.

**FHGE:** Non-GE **Transferable:** CSU

**MTEC 57B SURROUND SOUND PRODUCTION 4 Units**

Formerly: MUS 81J  
**Advisory:** Not open to students with credit in MUS 81J.

**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**

**3 hours lecture, 3 hours laboratory. (72 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

**MTEC 60A PRODUCING IN THE HOME STUDIO I 4 Units**

Formerly: MUS 60A  
**Advisory:** Not open to students with credit in MUS 60A.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**

**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

**MTEC 60B PRODUCING IN THE HOME STUDIO II 4 Units**

Formerly: MUS 60B  
**Advisory:** Not open to students with credit in MUS 60B.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**

**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 auxiliary tracks and busses. Mixing and mastering in various digital formats.

**FHGE:** Non-GE **Transferable:** CSU

**MTEC 62A COMPOSING & PRODUCING ELECTRONIC MUSIC I 4 Units**

Formerly: MUS 6, 67  
**Advisory:** Not open to students with credit in MUS 6 or 67.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**

**3 hours lecture, 3 hours laboratory. (72 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

**MTEC 62B COMPOSING & PRODUCING ELECTRONIC MUSIC II 4 Units**

Formerly: MUS 66C  
**Advisory:** Not open to students with credit in MUS 66C.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**

**3 hours lecture, 3 hours laboratory. (72 hours total per quarter)**  
Creating and editing sounds with synthesizers, samplers, drum machines and virtual instruments. Compose and produce music in a variety of styles, including commercial and experimental. Utilize MIDI and virtual instruments for songwriting, arranging and orchestration. Program analog synthesizer modules, including oscillators, filters, ADSR envelope generators and LFOs. Overview of third party virtual instruments and plugins. History of sampling and loop based compositional techniques. Create, edit, and arrange drum beats. Emulate acoustic instruments, violin sections, brass, woodwinds and choir. Organize sound libraries and virtual instrument templates for music production, TV, film, websites and video games. Work can be done in any major DAW that supports AU, AAX, or VST instruments, including Pro Tools, Logic, Cubase, Live, etc.

**FHGE:** Non-GE **Transferable:** CSU

**MTEC 62C COMPOSING & PRODUCING ELECTRONIC MUSIC III 4 Units**

**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**

**3 hours lecture, 3 hours laboratory. (72 hours total per quarter)**  
Advanced techniques for electronic music production in a variety of genres. Recording and processing vocals. Advanced analog and digital synthesis and sound design techniques. Field recording of original samples for use in producing drum beats and textures. Mixing and mastering finished compositions for commercial distribution. Remixing existing songs from both stereo mixes and multi-channel stems. Creating dynamic, real-time live performances using a variety of hardware controllers.

**FHGE:** Non-GE **Transferable:** CSU

**MTEC 66A MUSIC VIDEO PRODUCTION 4 Units**  
Formerly: MUS 81F  
Advisory: MDIA 20; MTEC 57A; not open to students with credit in MUS 81F.  
Grade Type: Letter Grade, the student may select Pass/No Pass Not Repeatable.  
3 hours lecture, 3 hours laboratory. (72 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

**MTEC 70A PRO TOOLS 101-AVID CERTIFICATION 4 Units**  
Formerly: MUS 82A  
Advisory: Not open to students with credit in MUS 82A.  
Grade Type: Letter Grade, the student may select Pass/No Pass Not Repeatable.  
3 hours lecture, 3 hours laboratory. (72 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

**MTEC 70B PRO TOOLS 110-AVID CERTIFICATION 4 Units**  
Formerly: MUS 82B  
Advisory: Not open to students with credit in MUS 82B.  
Grade Type: Letter Grade, the student may select Pass/No Pass Not Repeatable.  
3 hours lecture, 3 hours laboratory. (72 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

**MTEC 70C PRO TOOLS 201-AVID CERTIFICATION 4 Units**  
Formerly: MUS 82C  
Advisory: Not open to students with credit in MUS 82C.  
Grade Type: Letter Grade, the student may select Pass/No Pass Not Repeatable.  
3 hours lecture, 3 hours laboratory. (72 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

**MTEC 70D PRO TOOLS 210M-AVID CERTIFICATION 4 Units**  
Formerly: MUS 82D  
Advisory: Not open to students with credit in MUS 82D.  
Grade Type: Letter Grade, the student may select Pass/No Pass Not Repeatable.  
3 hours lecture, 3 hours laboratory. (72 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

**MTEC 70E PRO TOOLS 210P, AVID CERTIFICATION 4 Units**  
Formerly: MUS 82E  
Advisory: Not open to students with credit in MUS 82E.  
Grade Type: Letter Grade, the student may select Pass/No Pass Not Repeatable.  
3 hours lecture, 3 hours laboratory. (72 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

**MTEC 70F PRO TOOLS 310M, AVID CERTIFICATION 4 Units**  
Formerly: MUS 82G  
Advisory: Not open to students with credit in MUS 82G.  
Grade Type: Letter Grade, the student may select Pass/No Pass Not Repeatable.  
3 hours lecture, 3 hours laboratory. (72 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

**MTEC 70G PRO TOOLS 310P-AVID CERTIFICATION 4 Units**  
Grade Type: Letter Grade, the student may select Pass/No Pass Not Repeatable.  
3 hours lecture, 3 hours laboratory. (72 hours total per quarter)  
Advanced operation of Pro Tools in a professional post-production environment. Hardware configuration and troubleshooting for synchronization to linear and non-linear video. Foley recording techniques using the Avid PRE. Post-production sound design workflows utilizing plug-in processing and Elastic Audio. Mixing and automation concepts exploring the Pro Tools HD Mix Engine. Synchronizing multiple Pro Tools systems using Satellite Link. Advanced layback concepts for outputting linear and non-linear printmasters. Hands-on experience with examples from film and television. Successful completion prepares students for Avid Pro Tools Expert Level Post Certification.  
FHGE: Non-GE Transferable: CSU

**MTEC 72A PRODUCING MUSIC WITH REASON 4 Units**

Formerly: MUS 66B

Advisory: Not open to students with credit in MUS 66B.

Grade Type: Letter Grade, the student may select Pass/No Pass Not Repeatable.

3 hours lecture, 3 hours laboratory. (72 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

**MTEC 72B PRODUCING MUSIC WITH ABLETON LIVE 4 Units**

Formerly: MUS 66E

Advisory: Not open to students with credit in MUS 66E.

Grade Type: Letter Grade, the student may select Pass/No Pass Not Repeatable.

3 hours lecture, 3 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, Hip-hop, 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

**MTEC 72C PRODUCING MUSIC WITH LOGIC PRO X 4 Units**

Formerly: MUS 66F

Advisory: Not open to students with credit in MUS 66F.

Grade Type: Letter Grade, the student may select Pass/No Pass Not Repeatable.

3 hours lecture, 3 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

**MTEC 80A MUSIC BUSINESS 4 Units**

Formerly: MUS 50A

Advisory: Not open to students with credit in MUS 50A.

Grade Type: Letter Grade Only Not Repeatable.

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

**MTEC 80B ENTERTAINMENT LAW & NEW MEDIA 4 Units**

Formerly: MUS 50B

Advisory: Not open to students with credit in MUS 50B.

Grade Type: Letter Grade Only Not Repeatable.

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

**MTEC 80C BASICS OF MUSIC PUBLISHING 4 Units**

Formerly: MUS 51

Advisory: Not open to students with credit in MUS 18, 51, or 59.

Grade Type: Letter Grade, the student may select Pass/No Pass Not Repeatable.

3 hours lecture, 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

**MTEC 82A CAREERS IN MUSIC TECHNOLOGY 4 Units**

Formerly: MUS 50C

Advisory: Not open to students with credit in MUS 50C or 65.

Grade Type: Letter Grade, the student may select Pass/No Pass Not Repeatable.

3 hours lecture, 3 hours laboratory. (72 hours total per quarter)

An overview of the music technology industry and career opportunities. Study degree and certification programs that lead to job positions in the content creation industry. Develop advertising and social media marketing skills to promote and brand artists and producers. Learn entrepreneurial strategies to advance student's career and collaborate with professionals. Apply music technology concepts to a wide variety of fields, including software development, sound design, video production, game audio, the record industry, manufacturing and live performance. Explore internship positions. Develop portfolios of content designed to enter the workforce or transfer to additional degree programs. Guest lectures from local industry professionals; field trips to studios, production facilities and high tech companies.

FHGE: Non-GE Transferable: CSU

**MTEC 82B MARKETING YOUR MUSIC 4 Units**

Formerly: MUS 60C

Advisory: Not open to students with credit in MUS 60C.

Grade Type: Letter Grade, the student may select Pass/No Pass Not Repeatable.

4 hours lecture, 1 hour 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



**MTEC 82C INTRODUCTION TO THE VIDEO GAME BUSINESS 3.5 Units**

Formerly: MUS 50D

**Advisory: Not open to students with credit in MUS 50D.**

**Grade Type: Letter Grade, the student may select Pass/No Pass Not Repeatable.**

**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**

**MTEC 84A MUSIC & MEDICINE 4 Units**

**Advisory: Not open to students with credit in MUS 83A.**

**Grade Type: Letter Grade, the student may select Pass/No Pass Not Repeatable.**

**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**

**MTEC 88A SONGWRITER'S WORKSHOP 4 Units**

Formerly: MUS 58A

**Advisory: Not open to students with credit in MUS 58A.**

**Grade Type: Letter Grade, the student may select Pass/No Pass Not Repeatable.**

**3 hours lecture, 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**

**MTEC 88B MODERN SONG COMPOSITION 4 Units**

Formerly: MUS 58B

**Advisory: Not open to students with credit in MUS 58B.**

**Grade Type: Letter Grade, the student may select Pass/No Pass Not Repeatable.**

**3 hours lecture, 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**

**MTEC 88C ADVANCED SONG STRUCTURE 4 Units**

Formerly: MUS 58C

**Advisory: Not open to students with credit in MUS 58C.**

**Grade Type: Letter Grade, the student may select Pass/No Pass Not Repeatable.**

**3 hours lecture, 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.

**NANOTECHNOLOGY**

Physical Sciences, Mathematics & Engineering  
(650) 949-7259 [foothill.edu/nanoscience/](http://foothill.edu/nanoscience/)

**NANO 10 INTRODUCTION TO NANOTECHNOLOGY 5 Units**

**Advisory: CHEM 30A and 30B; not open to students with credit in NANO 50.**

**Grade Type: Letter Grade Only**

**Not Repeatable.**

**4 hours lecture, 3 hours laboratory. (84 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**

**Advisory: CHEM 30A or equivalent; BIOL 10 or equivalent; not open to students with credit in ENGR 76.**

**Grade Type: Letter Grade, the student may select Pass/No Pass Not Repeatable.**

**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.**

**Grade Type: Letter Grade, the student may select Pass/No Pass Not Repeatable.**

**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.

**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.

**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.

**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.

**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:** CHEM 1A or 1AH; NANO 51; and PHYS 2A.

**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.

**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**

**NANO 70R INDEPENDENT STUDY IN NANOTECHNOLOGY 1 Unit**

**NANO 71R 2 Units**  
**NANO 72R 3 Units**  
**NANO 73R 4 Units**

**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.

**3-12 hours laboratory per week. (36-144 hours total per quarter)**

Provides an opportunity for the student to expand their studies in Nanotechnology 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**

**NON-CREDIT: BASIC SKILLS**

**Non-Credit**

(650) 949-6950 [foothill.edu/psme/](http://foothill.edu/psme/)

**NCBS 401A MATHEMATICAL FOUNDATIONS FOR COLLEGE PART I 0 Units**

**Non-degree applicable non-credit course.**

**Grade Type:** Non-credit course that receives no grade 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**

**Non-degree applicable non-credit course.**

**Prerequisite:** NCBS 401A.

**Grade Type:** Non-credit course that receives no grade 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 403A BRIDGE TO COLLEGE LEVEL MATHEMATICS I 0 Units**

**Non-degree applicable basic skills-3 course.**

**Grade Type:** Non-credit course that receives no grade Unlimited Repeatability.

**25 hours total.**

Part one of a bridge to college level mathematics program for students who seek to refresh mathematical reasoning, computational skills, and test-taking skills necessary for the math placement exam. Topics include mathematical skills from arithmetic and pre-algebra, and test-taking strategies.

**FHGE: Non-GE**

**NCBS 403B BRIDGE TO COLLEGE LEVEL MATHEMATICS II 0 Units**

**Non-degree applicable basic skills-2 course.**

**Advisory:** Completion of NCBS 403A or placement at or above MATH 220.

**Grade Type:** Non-credit course that receives no grade Unlimited Repeatability.

**25 hours total.**

Part two of a bridge to college level mathematics program for students who seek to refresh mathematical reasoning, computational skills, and test-taking skills necessary for the math placement exam. Topics include mathematical skills from beginning algebra and intermediate algebra, and test-taking strategies.

**FHGE: Non-GE**

**NCBS 405 SUPPLEMENTAL INSTRUCTION:  
PHYSICAL SCIENCE, MATH  
& ENGINEERING** 0 Units

**Non-degree applicable non-credit course.**  
**Grade Type: Non-credit course that receives no grade**  
**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: ACTG 1A-C, 1BH-CH, 51A-C, 52, 53, 58, 59, 60, 64A-B, 65, 66, 67, 68A-C, 75, 76; ANTH 1; ASTR 10A-B, 10BH, 10L, 54H, 77; CHEM 1A-C, 1AH-BH, 12A-C, 12AL-CL, 13AH-CH, 20, 25, 30A-B, 70; C S 1A-C, 1AH, 1M, 2A-C, 2AH, 2M, 3A-C, 10, 18, 19A-B, 20A, 21A-B, 22A, 26A, 30A-E, 31A, 40A, 49, 50A-E, 52A-C, 53A-D, 54A-D, 56A-B, 60A-C, 61A, 63A, 64A, 71A, 80A, 81A, 82A, 84A-B; ECON 1A-B, 9, 9H, 25, 54H; ENGR 6, 10, 11, 35, 37, 37L, 40, 45, 46, 47, 49, 70R; GEOG 1; MATH 1A-D, 1AH-BH, 1AHP-BHP, 2A-B, 10, 11, 12, 17, 22, 42, 44, 48A-C, 70R, 105, 108, 180, 217, 220, 248A; NANO 10, 51, 52, 53, 54, 62; NCBS 403A-B; PHYS 2A-C, 2AM-CM, 4A-D, 6, 12, 70R.

**FHGE: Non-GE**

**NON-CREDIT: BIOLOGICAL & HEALTH SCIENCES**

**Biological and Health Sciences**  
**(650) 949-7249** [foothill.edu/bhs/](http://foothill.edu/bhs/)

**NCBH 400 SUPPLEMENTAL INSTRUCTION:  
BIOLOGICAL & HEALTH SCIENCES** 0 Units

**Non-degree applicable non-credit course.**  
**Grade Type: Non-credit course that receives no grade**  
**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: AHS 52, 60A, 60D-F; BIOL 1A-D, 8, 9, 10, 12, 13, 14, 15, 40A-C, 41, 45, 58; D A 50, 51A-C, 53A-C, 56, 57, 58, 60A-B, 62A-C, 63, 71, 73, 74, 85, 88; DMS 50A-B, 51A, 52A-C, 53A-C, 54A-B, 55A-B, 56A-B, 60A-F, 70A-E, 72A, 80A; EMS 50, 52, 53, 60A-B, 61A-B, 62A-B, 63A-B, 64A-B, 120; HLTH 20, 21, 22, 23, 60, 70, 75; HORT 10, 15, 21, 22, 23, 24, 25, 26, 30, 31, 40, 43, 45, 52C, 52E, 52G-H, 54A-D, 54J-L, 55A, 60B-D, 60F-G, 60J, 80A-D; PHT 50, 51, 52A-B, 53, 54A-B, 55A-C, 56A-B, 60, 61, 62; RSPT 50A-C, 51A-C, 52, 53A-B, 54, 55A-G, 60C, 61A-D, 62, 63A, 65, 70A-D, 82, 83, 84, 85, 86, 87A-B, 88; R T 51A-C, 52D, 53, 53A-D, 53AL-CL 54A-C, 55A-C, 61B, 62A-C, 63, 63A-C, 64, 65, 71, 72; V T 50A-F, 51, 52A-B, 53A-C, 54A-B, 55, 56, 60, 61, 66, 70, 72, 75A-C, 81, 83, 84, 84L, 85, 86, 87A-B, 88A, 89, 91, 92, 93, 95.

**FHGE: Non-GE**

**NON-CREDIT: COLLEGE SKILLS**

**Language Arts**  
**(650) 949-7250** [foothill.edu/la/](http://foothill.edu/la/)

**NCCS 405 COMMUNICATION & CULTURE** 0 Units

**Non-degree applicable basic skills course.**  
**Grade Type: Non-credit course that receives no grade**  
**Unlimited Repeatability.**  
**60-360 hours total.**

An open-entry, open-exit course for students who seek academic support in conversational English and discussing cultural topics. Instruction and/or review of skills, such as pronunciation, self-repair, practicing small talk, and discussing issues of cultural interest, through supplemental instruction developed in a referring course or courses as follows: ENGL 1A, 1B, 1C, 1S & 1T, 110, 209, 242A, 242B; ESLL 125, 235, 236, 237.

**FHGE: Non-GE**

**NCCS 406 SUPERVISED TUTORING** 0 Units

**Non-degree applicable non-credit course.**  
**Grade Type: Non-credit course that receives no grade**  
**Unlimited Repeatability.**  
**60 to 360 hours total.**

This class provides instructional oversight and supervision of tutoring in various academic subjects through a designated learning center to augment classroom instruction. The course requires a referral from a subject-area instructor, counselor or supplemental instructor.

**FHGE: Non-GE**

**NON-CREDIT: ENGLISH**

**Language Arts**  
**(650) 949-7250** [foothill.edu/english/](http://foothill.edu/english/)

**NCEN 400 ENGLISH BRIDGE** 0 Units

**Non-degree applicable basic skills-3 course.**  
**Advisory: Not recommended for students in the ESLL pathway, or those who have already taken ENGL 1A or higher.**  
**Grade Type: Non-credit course that receives no grade**  
**Unlimited Repeatability.**  
**60 hours total.**

Introduction to college-level English coursework, providing awareness of and access to college resources and pathways, and instruction in and review of reading comprehension, writing, test-taking and study strategies. Students develop techniques for understanding, discussing and writing about college-level texts; practice sentence-combining, grammar, and mechanics; reflect on their own reading and writing process; evaluate and create strategic approaches for college-level assignments; and learn tactics for improved test-taking. Emphasis is placed on developing positive attitudes and methods when tackling challenging texts and high-stakes writing assignments, such as timed in-class exams or the English placement test. Focus on collaboration with instructors, counselors, embedded tutors, and fellow students, to build confidence and gain the tools to succeed in college.

**FHGE: Non-GE**

**NON-CREDIT: ENGLISH AS A SECOND LANGUAGE**

**Language Arts**  
**(408) 745-8000** [foothill.edu/esl/](http://foothill.edu/esl/)

**NCEL 400 BRIDGE TO COLLEGE** 0 Units

**Non-degree applicable non-credit course.**  
**Advisory: Completion of the adult education course sequence or test score above 247 on the CASAS Level C Reading test.**  
**Grade Type: Non-credit course that receives no grade**  
**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

**Non-degree applicable basic skills-3 course.**  
**Advisory: Concurrent enrollment in a Child Development course.**  
**Grade Type: Non-credit course that receives no grade**  
**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**

**Non-degree applicable non-credit course.**  
**Grade Type: Non-credit course that receives no grade**  
**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 PART I 0 Units**

**Non-degree applicable basic skills-4 course.**  
**Grade Type: Non-credit course that receives no grade**  
**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 PART II 0 Units**

**Non-degree applicable basic skills-4 course.**  
**Grade Type: Non-credit course that receives no grade**  
**Unlimited Repeatability.**  
**36 hours total.**

Assists the adult English-learner to navigate the community college campus and requirements for successful studies, and prepares ESL 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**

**Non-degree applicable basic skills-6 course.**  
**Formerly: ESLL 200A**  
**Grade Type: Non-credit course that receives no grade**  
**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**

**Non-degree applicable basic skills-6 course.**  
**Formerly: ESLL 200B**  
**Grade Type: Non-credit course that receives no grade**  
**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**

**Non-degree applicable basic skills-6 course.**  
**Grade Type: Non-credit course that receives no grade**  
**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**

**Non-degree applicable basic skills-5 course.**  
**Formerly: ESLL 210A**  
**Grade Type: Non-credit course that receives no grade**  
**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 to 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**

**Non-degree applicable basic skills-5 course.**  
**Formerly: ESLL 210B**  
**Grade Type: Non-credit course that receives no grade**  
**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 to 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**

**Non-degree applicable basic skills-5 course.**  
**Grade Type: Non-credit course that receives no grade**  
**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 to help learners advance in their development of grammar and vocabulary through listening, speaking, reading and writing.

**FHGE: Non-GE**

**NCEL 425 DEVELOPING LISTENING & SPEAKING SKILLS 0 Units**

**Non-degree applicable basic skills-4 course.**  
**Advisory: NCEL 413 or higher.**  
**Grade Type: Non-credit course that receives no grade**  
**Unlimited Repeatability.**  
**120 hours total.**

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 American English.

**FHGE: Non-GE**

**NCEL 447 ADVANCED VOCABULARY DEVELOPMENT FOR READING & WRITING** 0 Units

Non-degree applicable basic skills-2 course.  
Formerly: ESL 177, ESLL 247  
Advisory: Intended for students whose native language is not English.  
Grade Type: Non-credit course that receives no grade  
Unlimited Repeatability.  
36 hours total.

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.  
FHGE: Non-GE

**NCEL 470 LOW TO INTERMEDIATE VOCATIONAL ESL FOR FOOD WORKERS** 0 Units

Non-degree applicable basic skills-4 course.  
Grade Type: Non-credit course that receives no grade  
Unlimited Repeatability.  
48 hours total.

Introductory low-to-intermediate level vocational English course for non-native speakers in the food service industry. Focus on improving comprehension and communication in a food service workplace.  
FHGE: Non-GE

**NCEL 471 INTERMEDIATE TO ADVANCED ESL FOR FOOD WORKERS** 0 Units

Non-degree applicable basic skills-4 course.  
Grade Type: Non-credit course that receives no grade  
Unlimited Repeatability.  
48 hours total.

Intermediate-to-advanced level vocational English course for non-native speakers in the food service industry. Focus on improving comprehension and communication in a food service workplace.  
FHGE: Non-GE

**NCEL 480 ESL FOR JOB SEARCHING** 0 Units

Non-degree applicable basic skills-4 course.  
Grade Type: Non-credit course that receives no grade  
Unlimited Repeatability.  
48 hours total.

Designed to teach English for job searching to non-native speakers. Focus on developing reading/writing/speaking/listening skills needed for job searching and interviewing as well as improved understanding of American work culture.  
FHGE: Non-GE

**NCLA 406B SUPPLEMENTAL INSTRUCTION ENGLISH: SENTENCE-LEVEL EDITING & PROOFREADING IN CONTEXT** 0 Units

Non-degree applicable basic skills course.  
Grade Type: Non-credit course that receives no grade  
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 1A, 1B, 1C, 1S & 1T, 110, 209, 242A, 242B.  
FHGE: Non-GE

**NCLA 407A THE GRAMMAR & RHETORIC OF APPLICATION WRITING** 0 Units

Non-degree applicable basic skills course.  
Grade Type: Non-credit course that receives no grade  
Unlimited Repeatability.  
60-360 hours total.

This course provides students support and practice in editing and revising the grammar and rhetoric of personal statements for college and scholarship applications. Students will focus on using clear, relevant vocabulary; writing concisely and with correct sentence structure; maintaining appropriate tone; ordering information for impact; and expressing details pertinent to the audience. Students will have the opportunity to improve their critical reading, vocabulary, grammar and writing skills to craft essays typically required in applications to colleges and universities in the U.S.  
FHGE: Non-GE

**NCLA 407B WRITING RESUMES & COVER LETTERS** 0 Units

Non-degree applicable basic skills course.  
Advisory: CRLP 7, 73 and 74.  
Grade Type: Non-credit course that receives no grade  
Unlimited Repeatability.  
60-360 hours total.

This course provides students support and practice in drafting resumes and cover letters. Students will focus on how to choose grammatically correct language that concisely describes work experience in a resume; to use structure that is parallel; and to implement appropriate tone in cover letters or letters of interest for potential jobs.  
FHGE: Non-GE

**NCLA 407C WRITING UNDER TIME CONSTRAINTS** 0 Units

Non-degree applicable basic skills course.  
Grade Type: Non-credit course that receives no grade  
Unlimited Repeatability.  
60-360 hours total.

Offers students strategies, support, and practice in improving their writing skills under pressure (examples include SAT, GRE, TOEFL, and in-class writing assessments). Students will practice how to identify addressing the prompt, brainstorming, organizing their ideas, and writing them clearly and quickly.  
FHGE: Non-GE

**NCLA 408 VOCABULARY ACROSS THE DISCIPLINES** 0 Units

Non-degree applicable basic skills course.  
Grade Type: Non-credit course that receives no grade  
Unlimited Repeatability.  
60-360 hours total.

Offers students strategies for sorting, categorizing, memorizing and applying terminology needed to succeed in a discipline course. Students will employ the use of matrices, charts, flashcards, etc. to effectively use new vocabulary required for an academic course.  
FHGE: Non-GE

## NON-CREDIT: LANGUAGE ARTS

Language Arts  
(650) 949-7250 [foothill.edu/la/](http://foothill.edu/la/)

**NCLA 406A SUPPLEMENTAL INSTRUCTION ENGLISH: ESSAY- & PARAGRAPH-LEVEL REVISION** 0 Units

Non-degree applicable basic skills course.  
Grade Type: Non-credit course that receives no grade  
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 1A, 1B, 1C, 1S & 1T, 110, 209, 242A, 242B.  
FHGE: Non-GE

## NON-CREDIT: PARENTING EDUCATION

Student Resource and Support Programs  
(650) 949-6950 foothill.edu/childdevelopment/

### NCP 400A STRONG START FOR CHILDREN I: BIRTH-8 YEARS 0 Units

Non-degree applicable non-credit course.  
Formerly: NCP 400  
Grade Type: Non-credit course that receives no grade  
Unlimited Repeatability.  
8 hours total.

Introduces families and caregivers to stages of child development and best practices in parenting, and links students to resources focused on Early Years Development, birth through 8 years old. Emphasis placed on child development, effective communication and discipline, and school and college readiness focused on young children (birth through 8 years). Helps prepare students for credit classes in Child Development. May be offered bilingually.  
FHGE: Non-GE

### NCP 400B STRONG START FOR CHILDREN II: NAVIGATING MIDDLE SCHOOL 0 Units

Non-degree applicable non-credit course.  
Formerly: NCP 400  
Grade Type: Non-credit course that receives no grade  
Unlimited Repeatability.  
8 hours total.

Introduces families and caregivers to stages of child and adolescent development and best practices in parenting, and links students to resources focused on Middle School Age Development (children ages 10-14 years). Emphasis placed on child development, effective communication and discipline, and school and college readiness focused on Middle School aged children (10-14 years). Helps prepare students for credit classes in Child Development. May be offered bilingually.  
FHGE: Non-GE

### NCP 400C STRONG START FOR CHILDREN III: PATHWAYS TO COLLEGE 0 Units

Non-degree applicable non-credit course.  
Formerly: NCP 400  
Grade Type: Non-credit course that receives no grade  
Unlimited Repeatability.  
8 hours total.

Introduces families and caregivers to stages of youth and adolescent development and best practices in parenting, and links students to resources focused on High School Age Development (children ages 15-18+ years). Emphasis placed on child development, effective communication and discipline, and school and college readiness focused on High School aged youth (15-18+ years). Helps prepare students for credit classes in Child Development. May be offered bilingually.  
FHGE: Non-GE

### NCP 401A NURTURING HEALTHY CHOICES I: EARLY YEARS 0 Units

Non-degree applicable non-credit course.  
Formerly: NCP 401  
Grade Type: Non-credit course that receives no grade  
Unlimited Repeatability.  
8 hours total.

Introduces families and caregivers to healthy feeding and eating practices and best practices in parenting, and links students to resources focused on the Early Years (birth through 8 years). Emphasis placed on family wellness, nutrition and healthy feeding dynamics as related to the child's developmental stages. This course helps prepare students for credit classes in Child Development. May be offered bilingually.  
FHGE: Non-GE

### NCP 401B NURTURING HEALTHY CHOICES II: ADOLESCENT YEARS 0 Units

Non-degree applicable non-credit course.  
Formerly: NCP 401  
Grade Type: Non-credit course that receives no grade  
Unlimited Repeatability.  
8 hours total.

Introduces families and caregivers to healthy feeding and eating practices and best practices in parenting, and links students to resources. Emphasis placed on family wellness, nutrition and healthy feeding dynamics as related to the child and youth developmental stages. This course helps prepare students for credit classes in Child Development. May be offered bilingually.  
FHGE: Non-GE

### NCP 402A THE IMPORTANCE OF FAMILY IN THE LIVES OF CHILDREN I: EARLY YEARS 0 Units

Non-degree applicable non-credit course.  
Formerly: NCP 402  
Grade Type: Non-credit course that receives no grade  
Unlimited Repeatability.  
8 hours total.

Introduces families and caregivers to the importance of family in the lives of children and best practices in parenting, and links students to resources. Emphasis placed on family engagement linked to learning and student success; leadership; accessing resources; and navigating systems in multicultural communities. This course helps prepare students for credit classes in Child Development. May be offered bilingually.  
FHGE: Non-GE

### NCP 402B THE IMPORTANCE OF FAMILY IN THE LIVES OF CHILDREN II: ADOLESCENT YEARS 0 Units

Non-degree applicable non-credit course.  
Formerly: NCP 402  
Grade Type: Non-credit course that receives no grade  
Unlimited Repeatability.  
8 hours total.

Introduces families and caregivers to the importance of family in the lives of adolescents and best practices in parenting, and links students to resources. Emphasis placed on family engagement linked to learning and student success; leadership; accessing resources; and navigating systems in multicultural communities. This course 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

Non-degree applicable non-credit course.  
Grade Type: Non-credit course that receives no grade  
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, school-college ready 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  
(408) 745-8022 foothill.edu/bhs/

### NCSV 400 GERIATRIC HOME AIDE BASICS 0 Units

Non-degree applicable non-credit course.  
Grade Type: Non-credit course that receives no grade  
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 NCSV 400 and 401 leads to a noncredit certificate in Geriatric Home Aide.

FHGE: Non-GE

### NCSV 401 GERIATRIC HOME AIDE, NUTRITION 0 Units

Non-degree applicable non-credit course.  
Grade Type: Non-credit course that receives no grade  
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 NCSV 400 and 401 leads to a noncredit certificate in Geriatric Home Aide.

FHGE: Non-GE

## PHARMACY TECHNOLOGY

Biological and Health Sciences  
(650) 949-7538 foothill.edu/pharmtech/

### PHT 50 ORIENTATION TO PHARMACY TECHNOLOGY 3 Units

Prerequisite: PHT 200L.  
Grade Type: Letter Grade Only  
Not Repeatable.  
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 Technician Program; enrollment is limited to students accepted in the program.

FHGE: Non-GE Transferable: CSU

### PHT 51 BASIC PHARMACEUTICS 3 Units

Grade Type: Letter Grade Only  
Not Repeatable.  
3 hours lecture. (36 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 Technician Program; enrollment is limited to students accepted in the program.

FHGE: Non-GE Transferable: CSU

### PHT 52A INPATIENT DISPENSING 3 Units

Grade Type: Letter Grade Only  
Not Repeatable.  
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 Technician Program; enrollment is limited to students accepted in the program.

FHGE: Non-GE Transferable: CSU

### PHT 52B ASEPTIC TECHNIQUE & IV PREPARATION 4 Units

Prerequisite: PHT 52A.  
Grade Type: Letter Grade Only  
Not Repeatable.

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 Technician Program; enrollment is limited to students accepted in the program.

FHGE: Non-GE Transferable: CSU

### PHT 53 AMBULATORY PHARMACY PRACTICE 4 Units

Grade Type: Letter Grade Only  
Not Repeatable.

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 Technician Program; enrollment is limited to students accepted in the program.

FHGE: Non-GE Transferable: CSU

### PHT 54A DOSAGE CALCULATIONS A 3 Units

Prerequisite: MATH 220 or equivalent.

Grade Type: Letter Grade Only  
Not Repeatable.

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 Technician Program; enrollment is limited to students accepted in the program.

FHGE: Non-GE Transferable: CSU

### PHT 54B DOSAGE CALCULATIONS B 3 Units

Prerequisite: PHT 54A.

Grade Type: Letter Grade Only  
Not Repeatable.

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 Technician Program; enrollment is limited to students accepted in the program.

FHGE: Non-GE Transferable: CSU

### PHT 55A PHARMACOLOGY A 3 Units

Prerequisite: BIOL 14 or equivalent.

Grade Type: Letter Grade Only  
Not Repeatable.

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 Technician Program; enrollment is limited to students accepted in the program.

FHGE: Non-GE Transferable: CSU

**PHT 55B PHARMACOLOGY B 3 Units****Prerequisite:** PHT 55A.**Grade Type:** Letter Grade Only**Not Repeatable.****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 Technician Program; enrollment is limited to students accepted in the program.

**FHGE: Non-GE Transferable: CSU****PHT 55C PHARMACOLOGY C 3 Units****Prerequisite:** PHT 55B.**Grade Type:** Letter Grade Only**Not Repeatable.****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 Technician Program; enrollment is limited to students accepted in the program.

**FHGE: Non-GE Transferable: CSU****PHT 56A DISPENSING & COMPOUNDING A 3 Units****Prerequisite:** PHT 50.**Grade Type:** Letter Grade Only**Not Repeatable.****2 hours lecture, 3 hours laboratory. (60 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 Technician Program; enrollment is limited to students accepted in the program.

**FHGE: Non-GE Transferable: CSU****PHT 56B DISPENSING & COMPOUNDING B 3 Units****Prerequisite:** PHT 56A.**Grade Type:** Letter Grade Only**Not Repeatable.****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 Technician Program; enrollment is limited to students accepted in the program.

**FHGE: Non-GE Transferable: CSU****PHT 60 RETAIL CLINICAL 4 Units****Grade Type:** Letter Grade Only**Not Repeatable.****12 hours clinical experience. (144 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 Technician Program; enrollment is limited to students accepted in the program.

**FHGE: Non-GE Transferable: CSU****PHT 61 HOME HEALTH CARE SUPPLIES 3 Units****Prerequisite:** PHT 50.**Grade Type:** Letter Grade Only**Not Repeatable.****3 hours lecture. (36 hours total per quarter)**

A study of diseases and conditions which require continual health maintenance by the patient with tests and devices used to identify, monitor and control them. It also includes an evaluation of alternative forms of health care and a study of the vitamins and minerals commonly used in pharmaceutical preparations. Students will interpret various test equipment results and have a working knowledge of OTC and prescribed single/multiple use test kits and equipment. Intended for students in the Pharmacy Technician Program; enrollment is limited to students accepted in the program.

**FHGE: Non-GE Transferable: CSU****PHT 62 HOSPITAL CLINICAL 4 Units****Grade Type:** Letter Grade Only**Not Repeatable.****12 hours clinical experience. (144 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 Technician Program; enrollment is limited to students accepted in the program.

**FHGE: Non-GE Transferable: CSU****PHT 63 PHARMACY TECHNICIAN CERTIFICATION EXAM (PTCE) REVIEW 1 Unit****Prerequisites:** PHT 60 and 62 or equivalent.**Grade Type:** Letter Grade Only**Not Repeatable.****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. Enrollment is limited to students accepted in the program.

**FHGE: Non-GE Transferable: CSU****PHT 101 PHARMACY CAREERS A 5 Units****Advisory:** Passing grade in high school algebra 1, biology, chemistry and two years of English.**Grade Type:** Letter Grade, the student may select Pass/No Pass**Not Repeatable.****3 hours lecture, 6 hours laboratory. (108 hours total per quarter)**

The first of three courses to be taken in series; intended for students enrolled in the CTE Pharmacy Careers Program. It will provide students foundational knowledge crucial for success as they pursue further education in pharmacy technology. Topics of instruction will include introduction to the profession of pharmacy technology as a career, introduction to pharmaceutical calculations, basic anatomy and physiology, basic medical terminology and pharmaceutical abbreviations, pharmaceutical preparations and medications, pharmacy practice, professionalism, learning strategies, effective study and life management skills necessary for success in the profession of pharmacy technology.

**FHGE: Non-GE**



**PHT 102 PHARMACY CAREERS B 5 Units****Prerequisite:** PHT 101.**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.****3 hours lecture, 6 hours laboratory. (108 hours total per quarter)**

The second of three courses to be taken in series; intended for students enrolled in the CTE Pharmacy Careers Program. Topics of instruction will build on content in the following areas; pharmacy law, dosage forms and calculations, pharmaceutical abbreviations, basic anatomy, physiology and medical terminology pertaining to the gastrointestinal, endocrine and reproductive systems, including diseases and medications used to treat conditions that affect these systems. Topics on inter-professional skills required to work effectively in a health care team.

**FHGE:** Non-GE**PHT 103 PHARMACY CAREERS C 5 Units****Prerequisite:** PHT 102.**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.****3 hours lecture, 6 hours laboratory. (108 hours total per quarter)**

The final course in a series of three; intended for students enrolled in the CTE Pharmacy Careers Program. Will continue to build on topics pertaining to the following areas: pharmaceutical compounding, various dosage formulations, complementary and alternative medicine, pharmaceutical calculations used in community and institutional pharmacy practice, California Board of Pharmacy requirements for technicians, the Foothill College Pharmacy Technician Program overview, basic anatomy, physiology, and medical terminology pertaining to the renal/urological and musculoskeletal systems, including diseases and medications used to treat conditions affecting these systems.

**FHGE:** Non-GE**PHT 200L PHARMACY TECHNICIAN AS A CAREER 1 Unit****Non-degree applicable credit course.****Advisory:** Demonstrated proficiency in English by placement as determined by score on the English placement test OR through an equivalent placement process OR completion of ESLL 125 & ESLL 249.**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.****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.

**FHGE:** Non-GE**PHIL 2 INTRODUCTION TO SOCIAL & POLITICAL PHILOSOPHY 4 Units****Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.****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****Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.****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:** Humanities Transferable: UC/CSU**PHIL 7 INTRODUCTION TO SYMBOLIC LOGIC 5 Units****Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.****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****Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.****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, relativism, etc.) and various topics in applied ethics.

**FHGE:** Non-GE Transferable: UC/CSU**PHIL 11 INTRODUCTION TO THE PHILOSOPHY OF ART & AESTHETICS 4 Units****Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.****4 hours lecture. (48 hours total per quarter)**

Analysis of the nature of art and aesthetics as an aspect of philosophic discourse. Engagement with historical and contemporary philosophic literature regarding central topics of aesthetic concern. Topics include the possibility of defining and delineating art from other related fields of endeavor (craft, mass entertainment, video games, etc.); examination of the reasons and qualities that make some sensory experiences specifically artistic; the possibility, or otherwise, for defining objective standards of beauty and taste; the potential for deriving meaning, value and knowledge regarding the human condition from artistic endeavor. Topics illustrated through examples from classical through contemporary visual art, architecture, music, and film.

**FHGE:** Humanities Transferable: UC/CSU**PHILOSOPHY**

Business and Social Sciences

(650) 949-7322 foothill.edu/philosophy/

**PHIL 1 CRITICAL THINKING & WRITING 5 Units****Prerequisite:** One of the following: ENGL 1A, 1AH, or 1S & 1T.**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.****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 12 PHILOSOPHY OF SCIENCE 4 Units**  
**Grade Type: Letter Grade, the student may select Pass/No Pass Not Repeatable.**  
**4 hours lecture. (48 hours total per quarter)**  
 An investigation of major philosophical issues and problems regarding the nature of science, its importance and its implications for human understanding. In particular, the course will investigate the how scientific knowledge is constructed and how that knowledge influences our contemporary view of reality. Major issues in the course will include how science can be defined and demarcated from pseudoscience (astrology, creationism, new age spiritualism etc.), the concept of paradigms and paradigm shifts in the history of science, the role of inductive reasoning in science and its potential problems, and the importance of falsificationism in the development of scientific theory.  
**FHGE: Humanities Transferable: UC/CSU**

**PHIL 20A HISTORY OF WESTERN PHILOSOPHY FROM SOCRATES THROUGH ST. THOMAS 4 Units**  
**Grade Type: Letter Grade, the student may select Pass/No Pass Not Repeatable.**  
**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**  
**Grade Type: Letter Grade, the student may select Pass/No Pass Not Repeatable.**  
**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 24 COMPARATIVE WORLD RELIGIONS: EAST 4 Units**  
**Advisory: Demonstrated proficiency in English by placement as determined by score on the English placement test OR through an equivalent placement process OR completion of ESLL 125 & ESLL 249.**  
**Grade Type: Letter Grade, the student may select Pass/No Pass Not Repeatable.**  
**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**  
**Grade Type: Letter Grade, the student may select Pass/No Pass Not Repeatable.**  
**4 hours lecture. (48 hours total per quarter)**  
 Explores the origin, history and significant ideas of the world's Western religions. Compares 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**  
**Advisory: Demonstrated proficiency in English by placement as determined by score on the English placement test OR through an equivalent placement process OR completion of ESLL 125 & ESLL 249; not open to students with credit in PHIL 50.**  
**Grade Type: Letter Grade, the student may select Pass/No Pass Not Repeatable.**  
**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**

**Grade Type: Letter Grade, the student may select Pass/No Pass Not Repeatable.**  
**3-12 hours laboratory 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) 949-7082 [foothill.edu/photo/](http://foothill.edu/photo/)

Foothill offers photography 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. Please refer to the De Anza College Catalog for the corresponding families and courses.

Digital Photography Family: PHOT 4A, 4B, 4C & 72

Analog Photography Family: PHOT 1, 2, 3 & 13

Photography-Professional Practices Family: PHOT 22, 68C, 68E, 71, 74A, 74B & 78D

**PHOT 1 BLACK & WHITE PHOTOGRAPHY I 4 Units**  
**Advisory: This course is included in the Analog Photography family of activity courses.**  
**Grade Type: Letter Grade, the student may select Pass/No Pass Not Repeatable.**

**3 hours lecture, 3 hours laboratory. (72 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 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.  
Grade Type: Letter Grade, the student may select Pass/No Pass  
Not Repeatable.  
3 hours lecture, 3 hours laboratory. (72 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**  
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.  
Grade Type: Letter Grade, the student may select Pass/No Pass  
Not Repeatable.  
3 hours lecture, 3 hours laboratory. (72 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 PHOTOSHOP FOR PHOTOGRAPHERS I 4 Units**  
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.  
Grade Type: Letter Grade, the student may select Pass/No Pass  
Not Repeatable.  
3 hours lecture, 3 hours laboratory. (72 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 PHOTOSHOP FOR PHOTOGRAPHERS II 4 Units**  
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.  
Grade Type: Letter Grade, the student may select Pass/No Pass  
Not Repeatable.  
3 hours lecture, 3 hours laboratory. (72 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 PHOTOSHOP FOR PHOTOGRAPHERS III 4 Units**  
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.  
Grade Type: Letter Grade, the student may select Pass/No Pass  
Not Repeatable.  
3 hours lecture, 3 hours laboratory. (72 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**  
Grade Type: Letter Grade, the student may select Pass/No Pass  
Not Repeatable.  
3 hours lecture, 3 hours laboratory. (72 hours total per quarter)  
A survey of the historical and practical aspects of photography as an art form and social document. 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 understanding of the varied uses of the photographic image in our culture including advertising, journalism, social concern, fine art, and scientific applications.  
FHGE: Humanities Transferable: UC/CSU

**PHOT 8 PHOTOGRAPHY OF MULTICULTURAL AMERICA 4 Units**  
Advisory: Not open to students with credit in PHOT 8H.  
Grade Type: Letter Grade, the student may select Pass/No Pass  
Not Repeatable.  
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: Amer, Human 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.  
Grade Type: Letter Grade, the student may select Pass/No Pass  
Not Repeatable.  
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: Amer, Human Transferable: UC/CSU

**PHOT 10 HISTORY OF PHOTOGRAPHY 4 Units**  
Advisory: One of the following: ENGL 1A, 1AH, or 1S & 1T or equivalent; not open to students with credit in PHOT 10H.  
Grade Type: Letter Grade, the student may select Pass/No Pass  
Not Repeatable.  
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: Not open to students with credit in PHOT 10.  
Grade Type: Letter Grade, the student may select Pass/No Pass  
Not Repeatable.  
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.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.

**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.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.

**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.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.

**3 hours lecture, 3 hours laboratory. (72 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 22 PHOTOJOURNALISM 4 Units**

**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.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.

**3 hours lecture, 3 hours laboratory. (72 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:** UC/CSU

**PHOT 57A PHOTOGRAPHIC PORTFOLIO DEVELOPMENT 4 Units**

**Advisory:** PHOT 3 or 4B or instructor's permission.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.

**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**

**Advisory:** PHOT 57A or instructor's permission.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.

**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 68C STUDIO LIGHTING TOPICS IN PHOTOGRAPHY 1 Unit**

**Advisory:** PHOT 1 or 5; this course is included in the Photography-Professional Practices family of activity courses.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.

**1 hour lecture. (12 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; this course is included in the Photography-Professional Practices family of activity courses.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.

**1 hour lecture. (12 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 70R INDEPENDENT STUDY IN PHOTOGRAPHY 1 Unit**

**PHOT 71R 2 Units**

**PHOT 72R 3 Units**

**PHOT 73R 4 Units**

**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.

**3-12 hours laboratory per week. (36-144 hours total per quarter)**  
Provides an opportunity for the student to expand their studies in photography 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

**PHOT 71 THE PHOTOGRAPHIC BOOK 4 Units**  
**Advisory:** PHOT 1, 4A, 5 or equivalent experience; this course is included in the Photography-Professional Practices family of activity courses.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**  
**3 hours lecture, 3 hours laboratory. (72 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.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**  
**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 74A STUDIO PHOTOGRAPHY TECHNIQUES I 4 Units**  
**Formerly:** PHOT 74  
**Advisory:** PHOT 1 or 5; this course is included in the Photography-Professional Practices family of activity courses; not open to students with credit in PHOT 74.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**  
**3 hours lecture, 3 hours laboratory. (72 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 74B STUDIO PHOTOGRAPHY TECHNIQUES II 4 Units**  
**Advisory:** Completion of one or more of the following courses: PHOT 2, 4A, 5, 72, 74A; this course is included in the Photography-Professional Practices family of activity courses.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**  
**3 hours lecture, 3 hours laboratory. (72 hours total per quarter)**  
This course follows PHOT 74A and is intended to teach intermediate level skills in studio photography. Proper and creative use of digital small and medium format cameras, and lighting in a studio environment. Emphasis on developing the specific photographic skills, techniques and business practices necessary for success in a photography career path that is chosen by the student in consultation with the instructor, e.g., wedding, product, portrait, editorial or illustration, etc.  
**FHGE: Non-GE Transferable: CSU**

**PHOT 78A LANDSCAPE FIELD STUDY IN PHOTOGRAPHY 1 Unit**  
**Advisory:** PHOT 1 or 5; not open to students with credit in PHOT 78.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**  
**1 hour lecture. (12 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.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**  
**1 hour lecture. (12 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.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**  
**1 hour lecture. (12 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.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**  
**1 hour lecture. (12 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 [foothill.edu/kinesiology/](http://foothill.edu/kinesiology/)

Foothill offers physical education activity courses in eight 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. Please refer to the De Anza College Catalog for the corresponding families and courses.

**Aquatic Family:** PHED 10A, 10B, 10C, 11A, 11B & 11C

**Cardio Fitness Family:** PHED 22E, 23A, 23B, 26F, 27, 27A, 27B, 27C, 41, 41A, 41B & 41C

**Combatives Family:** PHED 17A, 17B, 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 15A, 15B, 15C, 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, 46A & 46B

**Team Sports Family:** PHED 13, 13A, 13B, 13C, 31A, 31B, 31C, 31D, 32C, 38A, 38B, 38C, 38D, 38E, 40, 40A, 40B, 40C & 43A

**PHED 10A AQUATICS: LEVEL I, BEGINNING SWIMMING 1 Unit**

**Advisory:** This course is included in the Aquatic family of activity courses.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**

**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.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**

**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.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**

**3 hours laboratory. (36 hours total per quarter)**

Advanced programs and 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.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**

**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.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**

**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.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**

**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.

**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**

**3 hours laboratory. (36 hours total per quarter)**

Basic water polo skills and techniques, including ball handling, dribbling, passing, shooting and blocking. Includes an introduction to the rules of the game as well as basic tactical strategies for offense and defense.

**FHGE:** Lifelong Learning **Transferable:** UC/CSU

**PHED 13A INTERMEDIATE WATER POLO 1 Unit**

**Advisory:** This course is included in the Team Sports family of activity courses.

**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**

**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.

**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**

**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.

**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**

**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**  
**Advisory:** This course is included in the Strength Development family of activity courses; not open to students with credit in PHED 50C.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.  
**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 15A BEGINNING PICKLEBALL 1 Unit**  
**Advisory:** This course is included in the Individual Sports family of activity courses.  
**Grade Type:** Letter Grade Only  
**Not Repeatable.**  
**3 hours laboratory. (36 hours total per quarter)**  
Strategy and competition for both singles and doubles pickleball play.  
**FHGE: Lifelong Learning Transferable: UC/CSU**

**PHED 15B INTERMEDIATE PICKLEBALL 1 Unit**  
**Advisory:** This course is included in the Individual Sports family of activity courses.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.  
**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 15C ADVANCED PICKLEBALL 1 Unit**  
**Advisory:** This course is included in the Individual Sports family of activity courses.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.  
**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.  
**FHGE: Lifelong Learning Transferable: UC/CSU**

**PHED 17A BEGINNING KARATE 1 Unit**  
**Formerly:** H P 84X  
**Advisory:** This course is included in the Combatives family of activity courses; not open to students with credit in H P 84X.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.  
**3 hours laboratory. (36 hours total per quarter)**  
Introduction to beginning skills and techniques of karate. Includes punching, blocking, striking and kicking techniques.  
**FHGE: Lifelong Learning Transferable: UC/CSU**

**PHED 17B INTERMEDIATE KARATE 1 Unit**  
**Formerly:** H P 84A  
**Advisory:** This course is included in the Combatives family of activity courses; not open to students with credit in H P 84A.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.  
**3 hours laboratory. (36 hours total per quarter)**  
Intermediate karate skills and techniques. Analysis and application of biomechanics, individual and group interaction, and uses of karate.  
**FHGE: Lifelong Learning Transferable: UC/CSU**

**PHED 18 BEGINNING TAI CHI (TAIJI) 1 Unit**  
**Advisory:** This course is included in the Combatives family of activity courses; not open to students with credit in PHED 19A.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.  
**3 hours laboratory. (36 hours total per quarter)**  
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**  
**Advisory:** This course is included in the Combatives family of activity courses.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.  
**3 hours laboratory. (36 hours total per quarter)**  
Focuses on the understanding and transition of body alignment in stillness to dynamic alignment during the Taijiquan form practice. Emphasizes maintaining the body alignment during 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**  
**Advisory:** This course is included in the Combatives family of activity courses.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.  
**3 hours laboratory. (36 hours total per quarter)**  
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.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.  
**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**  
**Advisory:** This course is included in the Combatives family of activity courses.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.  
**3 hours laboratory. (36 hours total per quarter)**  
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**  
**Advisory:** This course is included in the Combatives family of activity courses.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.  
**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.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.  
**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**  
**Advisory:** This course is included in the Flexibility & Stability family of activity courses.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.  
**3 hours laboratory. (36 hours total per quarter)**  
Intermediate level mat Pilates, 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**  
**Advisory:** This course is included in the Flexibility & Stability family of activity courses.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.  
**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.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.  
**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.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.  
**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**  
**Advisory:** This course is included in the Flexibility & Stability family of activity courses.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.  
**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**  
**Advisory:** This course is included in the Flexibility & Stability family of activity courses.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.  
**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.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.  
**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.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.  
**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 FLEXIBILITY & MOBILITY 1 Unit**  
**Advisory:** This course is included in the Flexibility & Stability family of activity courses.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.  
**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 FLEXIBILITY & MOBILITY 1 Unit**

**Advisory:** This course is included in the Flexibility & Stability family of activity courses.

**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**

**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, ankles, 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.

**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**

**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.

**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**

**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 CROSS TRAINING FOR ENDURANCE 1 Unit**

**Advisory:** This course is included in the Cardio Fitness family of activity courses.

**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**

**3 hours laboratory. (36 hours total per quarter)**

Explores the concept of functional training as it applies to the endurance athlete. Students will learn, utilize and understand effective training strategies to promote their own improved performance. 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.

**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**

**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.

**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**

**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 24 INTRODUCTION TO GOLF 1 Unit**

**Advisory:** This course is included in the Individual Sports family of activity courses.

**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**

**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.

**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**

**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.

**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**

**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**

**Advisory:** This course is included in the Individual Sports family of activity courses; not open to students with credit in H P 25DX.

**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**

**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**

**Advisory:** This course is included in the Individual Sports family of activity courses.

**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**

**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.

**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**

**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.  
Grade Type: Letter Grade Only  
Not Repeatable.  
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 (e.g., wood, iron, 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.  
Grade Type: Letter Grade, the student may select Pass/No Pass  
Not Repeatable.  
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.  
Grade Type: Letter Grade, the student may select Pass/No Pass  
Not Repeatable.  
3 hours laboratory. (36 hours total per quarter)  
Intermediate/advanced tennis for competitive play, including 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.  
Grade Type: Letter Grade, the student may select Pass/No Pass  
Not Repeatable.  
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.  
Grade Type: Letter Grade, the student may select Pass/No Pass  
Not Repeatable.  
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.  
Grade Type: Letter Grade, the student may select Pass/No Pass  
Not Repeatable.  
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.  
Grade Type: Letter Grade, the student may select Pass/No Pass  
Not Repeatable.  
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.  
Grade Type: Letter Grade, the student may select Pass/No Pass  
Not Repeatable.  
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.  
Grade Type: Letter Grade, the student may select Pass/No Pass  
Not Repeatable.  
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**  
Advisory: This course is included in the Cardio Fitness family of activity courses.  
Grade Type: Letter Grade, the student may select Pass/No Pass  
Not Repeatable.  
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**  
Advisory: This course is included in the Cardio Fitness family of activity courses.  
Grade Type: Letter Grade, the student may select Pass/No Pass  
Not Repeatable.  
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 31A FUTSAL: INDOOR SOCCER BEGINNING 1 Unit**  
Advisory: This course is included in the Team Sports family of activity courses; not open to students with credit in PHED 29.  
Grade Type: Letter Grade, the student may select Pass/No Pass  
Not Repeatable.  
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**

**Advisory:** This course is included in the Team Sports family of activity courses.

**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**

**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**

**Advisory:** This course is included in the Team Sports family of activity courses.

**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**

**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.

**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**

**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: UC/CSU**

**PHED 32C SOCCER: GAME SKILLS 1 Unit**

**Advisory:** This course is included in the Team Sports family of activity courses; not open to students with credit in PHED 29A.

**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**

**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.

**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**

**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**

**Advisory:** This course is included in the Individual Sports family of activity courses.

**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**

**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**

**Advisory:** This course is included in the Individual Sports family of activity courses.

**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**

**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**

**Advisory:** This course is included in the Individual Sports family of activity courses; not open to students with credit in PHED 36.

**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**

**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**

**Advisory:** This course is included in the Individual Sports family of activity courses.

**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**

**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**

**Advisory:** This course is included in the Individual Sports family of activity courses.

**Grade Type:** Letter Grade Only  
**Not Repeatable.**

**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.

**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**

**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**

**Advisory:** This course is included in the Individual Sports family of activity courses.

**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**

**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**

**Advisory:** This course is included in the Individual Sports family of activity courses.

**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.

**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.

**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.

**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.

**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.

**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.

**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.

**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**

**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.

**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.

**3 hours laboratory. (36 hours total per quarter)**

Introduces students to intermediate level skills, strategies and play in basketball. Including, but not limited to, fundamentals, game strategy and team offense and defense alignments.

**FHGE: Lifelong Learning Transferable: UC/CSU**

**PHED 38E ADVANCED 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.

**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.

**3 hours laboratory. (36 hours total per quarter)**

Introduces students to advanced basketball skills, strategies and games. Including, but not limited to, advanced offensive and defensive techniques, game strategies and advanced team play.

**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.

**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.

**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**

**Advisory:** This course is included in the Team Sports family of activity courses.

**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.

**3 hours laboratory. (36 hours total per quarter)**

Introduces and builds upon prior knowledge of the intermediate game of volleyball. Strategies and skills at an intermediate level will be presented and will promote appreciation of this lifetime activity.

**FHGE: Lifelong Learning Transferable: UC/CSU**

**PHED 40B ADVANCED VOLLEYBALL 1 Unit**

**Advisory:** This course is included in the Team Sports family of activity courses.

**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.

**3 hours laboratory. (36 hours total per quarter)**

Introduces advanced level skills, theory, and strategies in volleyball, including advanced techniques and tactics of tournament competition. Includes 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.

**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.

**3 hours laboratory. (36 hours total per quarter)**

Presents 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.

**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.

**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.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.  
**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**  
**Advisory:** This course is included in the Cardio Fitness family of activity courses.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.  
**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 intermediate-level 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.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.  
**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.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.  
**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 43A ULTIMATE I 1 Unit**  
**Advisory:** This course is included in the Team Sports family of activity courses.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.  
**3 hours laboratory. (36 hours total per quarter)**  
Designed to enhance the student's skills and abilities in Ultimate Frisbee. Emphasis will be placed on cardiovascular and muscular fitness. This course is progressive; the intensity increases as the individual improves abilities.  
**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.  
**Grade Type:** Pass/No Pass Only Not Repeatable.  
**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.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.  
**3 hours laboratory. (36 hours total per quarter)**  
Provides 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.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.  
**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.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.  
**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**  
**Advisory:** This course is included in the Strength Development family of activity courses.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.  
**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.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.  
**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.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.  
**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.

**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.

**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.

**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.

**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.

**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.

**3 hours laboratory. (36 hours total per quarter)**

Group training using 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 PHYSICAL EDUCATION 1 Unit**

**PHED 71R 2 Units**  
**PHED 72R 3 Units**  
**PHED 73R 4 Units**

**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.

**3-12 hours laboratory 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 PE**

Student Resource and Support Programs  
(650) 949-7742 foothill.edu/kinesiology/

**PHDA 16 MODIFIED GENERAL CONDITIONING 1 Unit**

**Advisory:** UC will limit transfer credit for any/all Physical Education activity courses to a maximum of 6 quarter units; not open to students with credit in ALAP 60X.

**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.

**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**

**Advisory:** UC will limit transfer credit for any/all Physical Education activity courses to a maximum of 6 quarter units; not open to students with credit in ALAP 61X.

**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.

**3 hours laboratory. (36 hours total per quarter)**

Instructs students in methodologies for increasing muscular strength and endurance. Uses free weights, pin set weight machines, medicine balls, resistance bands, etc., as appropriate.

**FHGE:** Lifelong Learning **Transferable:** UC/CSU

**PHDA 18 INDIVIDUALIZED EXERCISE FOR SPECIAL POPULATIONS 1 Unit**

**Advisory:** UC will limit transfer credit for any/all Physical Education activity courses to a maximum of 6 quarter units; not open to students with credit in ALAP 62X.

**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.

**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**

**Advisory:** UC will limit transfer credit for any/all Physical Education activity courses to a maximum of 6 quarter units; not open to students with credit in ALAP 63X.

**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.

**3 hours laboratory. (36 hours total per quarter)**

Exercises for improving core strength, conditioning and posture.

**FHGE:** Lifelong Learning **Transferable:** UC/CSU

**PHDA 20 MODIFIED FUNCTIONAL FITNESS 1 Unit**

**Advisory:** UC will limit transfer credit for any/all Physical Education activity courses to a maximum of 6 quarter units; not open to students with credit in ALAP 66X.

**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.

**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**  
Advisory: UC will limit transfer credit for any/all Physical Education activity courses to a maximum of 6 quarter units; not open to students with credit in ALAP 70X.  
Grade Type: Letter Grade, the student may select Pass/No Pass Not Repeatable.  
3 hours laboratory. (36 hours total per quarter)  
Group or individualized instruction in proper swimming and water exercise techniques.  
FHGE: Lifelong Learning Transferable: UC/CSU

**PHDA 21B MODIFIED WATER EXERCISE 1 Unit**  
Advisory: UC will limit transfer credit for any/all Physical Education activity courses to a maximum of 6 quarter units; not open to students with credit in ALAP 71X.  
Grade Type: Letter Grade, the student may select Pass/No Pass Not Repeatable.  
3 hours laboratory. (36 hours total per quarter)  
Group and/or individual water exercise program to increase muscular strength and endurance, flexibility, cardiovascular endurance, balance and coordination, relaxation, as appropriate.  
FHGE: Lifelong Learning Transferable: UC/CSU

**PHDA 22 TEAM SPORTS FOR SPECIAL POPULATIONS 1 Unit**  
Advisory: UC will limit transfer credit for any/all Physical Education activity courses to a maximum of 6 quarter units; not open to students with credit in ALAP 80X.  
Grade Type: Letter Grade, the student may select Pass/No Pass Not Repeatable.  
3 hours laboratory. (36 hours total per quarter)  
A variety of team sports. 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

**PHDA 23 MODIFIED AEROBIC EXERCISE 1 Unit**  
Formerly: PHDA 64  
Advisory: UC will limit transfer credit for any/all Physical Education activity courses to a maximum of 6 quarter units; not open to students with credit in ALAP 64 or PHDA 64.  
Grade Type: Letter Grade, the student may select Pass/No Pass Not Repeatable.  
3 hours laboratory. (36 hours total per quarter)  
Aerobic exercise, individually modified, to increase cardiovascular and muscular endurance. Combination of aerobic exercise through the use of various cardiovascular machines or use of the track.  
FHGE: Lifelong Learning Transferable: UC/CSU

**PHDA 24 MODIFIED STRETCHING & FLEXIBILITY 1 Unit**  
Formerly: PHDA 65  
Advisory: UC will limit transfer credit for any/all Physical Education activity courses to a maximum of 6 quarter units; not open to students with credit in ALAP 65 or PHDA 65.  
Grade Type: Letter Grade, the student may select Pass/No Pass Not Repeatable.  
3 hours laboratory. (36 hours total per quarter)  
Individualized and/or group instruction on the proper forms of stretching exercises for students. Emphasis on increased range of motion and flexibility.  
FHGE: Lifelong Learning Transferable: UC/CSU

**PHDA 25 BALANCE & FUNCTIONAL MOVEMENT 1 Unit**  
Formerly: PHDA 67  
Advisory: UC will limit transfer credit for any/all Physical Education activity courses to a maximum of 6 quarter units; not open to students with credit in ALAP 67 or PHDA 67.  
Grade Type: Letter Grade, the student may select Pass/No Pass Not Repeatable.  
3 hours laboratory. (36 hours total per quarter)  
Balance and functional exercise training to enhance mobility and neuromuscular function. Emphasis on enhancing functional movement, movement efficiency, muscular strength, muscular endurance and flexibility.  
FHGE: Lifelong Learning Transferable: UC/CSU

## PHYSICAL SCIENCES & ENGINEERING

Physical Sciences, Mathematics & Engineering  
(650) 949-7259 foothill.edu/psme/

**PSE 20 INTRODUCTION TO PHYSICAL SCIENCE 5 Units**  
Advisory: Successful completion of MATH 105 is strongly suggested.  
Grade Type: Letter Grade, the student may select Pass/No Pass Not Repeatable.  
4 hours lecture, 3 hours laboratory. (84 hours total per quarter)  
This activity-based course provides an introduction to the basic concepts of physical science with emphasis on their practical importance and application in the real world. This course is intended for students who want to become primary school teachers.  
FHGE: Natural Sciences Transferable: UC/CSU

**PSE 41 CLASS PRACTICES: MIDDLE SCHOOL SCIENCE 2 Units**  
Advisory: ENGL 209 or ESLL 125; satisfactory score on the mathematics placement test or MATH 105 or 108; college level chemistry, physics or biology course; not open to students with credit in CHEM 41.  
Grade Type: Pass/No Pass Only Not Repeatable.  
1.5 hours lecture, 2 hours laboratory. (42 hours total per quarter)  
Introduces 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. Students will 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. Students will 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**  
Advisory: ENGL 209 or ESLL 125; PSE 41; not open to students with credit in CHEM 42.  
Grade Type: Pass/No Pass Only Not Repeatable.  
1.5 hours lecture, 2 hours laboratory. (42 hours total per quarter)  
Introduces 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. Students will 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. Students will 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**  
**Advisory:** ENGL 209 or ESLL 125; satisfactory score on the mathematics placement test or MATH 105 or 108; college level chemistry, physics or biology course.  
**Grade Type:** Pass/No Pass Only  
**Not Repeatable.**  
**1.5 hours lecture, 2 hours laboratory. (42 hours total per quarter)**  
 Introduces 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. Students will 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. Students will be introduced to the concept that, as classroom assistants or teachers, they act as role models to the K-12 students and there is a large responsibility inherent in assuming this role. Students will support the creation of a respectful and inclusive classroom atmosphere where children learn most effectively.  
**FHGE: Non-GE Transferable: UC/CSU**

**PSE 51 FRONTIERS IN SCIENCE 1 Unit**  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**  
**1 hour lecture. (12 hours total per quarter)**  
 This course will help all students learn about the sciences, what science is, and what scientists do. Students taking this course will be able to make more informed decisions about future career paths in the sciences. This course covers the scientific method, data collection and analysis, the idea of scientific evidence, and experimental design.  
**FHGE: Non-GE Transferable: CSU**

**PSE 56 SEMINAR IN TEACHING PRE-COLLEGIATE MATHEMATICS 1 Unit**  
**Advisory:** Completion of MATH 105 or 108 or the equivalent; basic competency in using computers and online software.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**  
**1 hour lecture. (12 hours total per quarter)**  
 Strategies to successfully teach topics in pre-collegiate mathematics. Topics include number theory, fraction operations, proportional reasoning, statistics, linear relationships and problem solving. Intended as professional development for middle and high school mathematics teachers.  
**FHGE: Non-GE Transferable: CSU**

**PSE 61A TUTOR TRAINING I 1 Unit**  
**Formerly:** PSE 111A  
**Advisory:** An earned A or B+ grade with instructor recommendation in one of the following: MATH 1A, 1AH, 1B, 1BH, 1C, 1D, 2A, 2B, 10, 48A, 48B, 48C, 105, 220, or a "Pass" in MATH 230; not open to students with credit in PSE 111A.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**  
**1 hour lecture. (12 hours total per quarter)**  
 Training in team leading skills necessary for tutoring, 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 tutee's instructor. Ideal for students intending to tutor math for the first time.  
**FHGE: Non-GE Transferable: CSU**

**PSE 61B TUTOR TRAINING II 1 Unit**  
**Formerly:** PSE 111B  
**Prerequisite:** PSE 61A.  
**Advisory:** An earned A or B+ grade with instructor recommendation in one of the following: MATH 1A, 1AH, 1B, 1BH, 1C, 1D, 2A, 2B, 10, 48A, 48B, 48C, 105, 220, or a "Pass" in MATH 230; not open to students with credit in PSE 111B.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**  
**1 hour lecture. (12 hours total per quarter)**  
 Advanced training in team leading skills necessary for tutoring. 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 tutee's instructor. Ideal for students intending to tutor math for the second time.  
**FHGE: Non-GE Transferable: CSU**

**PSE 251 MATH STUDY SKILLS .5 Units**  
**Non-degree applicable credit course.**  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**  
**1 hour lecture. This is a 6 week course. (6 hours total per quarter)**  
 Individualized guidance designed to academically support students enrolled in classes that require quantitative problem solving. Topics include understanding faculty expectation for students, utilizing campus resources, effective use of study sessions, understanding how the brain learns, metacognition and learning styles, test preparation and coping with test anxiety.  
**FHGE: Non-GE**

## PHYSICS

Physical Sciences, Mathematics & Engineering  
 (650) 949-7259 [foothill.edu/physics/](http://foothill.edu/physics/)

**PHYS 2A GENERAL PHYSICS 5 Units**  
**Prerequisite:** MATH 48C or higher placement on the placement test.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**  
**4 hours lecture, 3 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 or 1AH.  
**Corequisite:** Completion of or concurrent enrollment in MATH 1B or 1BH, and PHYS 2A.  
**Grade Type:** Letter Grade Only  
**Not Repeatable.**  
**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.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**  
**4 hours lecture, 3 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 or 1BH.  
Corequisite: Completion of or concurrent enrollment in PHYS 2B.  
Grade Type: Letter Grade Only  
Not Repeatable.  
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.  
Grade Type: Letter Grade, the student may select Pass/No Pass  
Not Repeatable.  
4 hours lecture, 3 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 or 1BH.  
Corequisite: Completion of or concurrent enrollment in PHYS 2C.  
Grade Type: Letter Grade Only  
Not Repeatable.  
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**  
Corequisite: Completion of or concurrent enrollment in MATH 1B or 1BH.  
Advisory: Students who have not taken physics in high school are strongly encouraged to take either PHYS 2A or 6 prior; not open to students with credit in PHYS 5A and 5B.  
Grade Type: Letter Grade, the student may select Pass/No Pass  
Not Repeatable.  
5 hours lecture, 3 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.  
Grade Type: Letter Grade, the student may select Pass/No Pass  
Not Repeatable.  
5 hours lecture, 3 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: MATH 1C and PHYS 4B.  
Grade Type: Letter Grade, the student may select Pass/No Pass  
Not Repeatable.  
5 hours lecture, 3 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.  
Grade Type: Letter Grade, the student may select Pass/No Pass  
Not Repeatable.  
5 hours lecture, 3 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 6 INTRODUCTORY PHYSICS 5 Units**  
Prerequisite: Satisfactory score on the mathematics placement test or MATH 48C.  
Grade Type: Letter Grade, the student may select Pass/No Pass  
Not Repeatable.  
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**  
Grade Type: Letter Grade, the student may select Pass/No Pass  
Not Repeatable.  
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 54H HONORS INSTITUTE SEMINAR IN PHYSICS 1 Unit**  
Prerequisite: Honors Institute participant.  
Advisory: Not open to students with credit in PHYS 34H.  
Grade Type: Letter Grade Only  
Not Repeatable.  
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**  
Grade Type: Letter Grade, the student may select Pass/No Pass  
Not Repeatable.  
3-12 hours laboratory 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 foothill.edu/politicalscience/

### POLI 1 POLITICAL SCIENCE: INTRODUCTION TO AMERICAN GOVERNMENT & POLITICS 5 Units

**Advisory:** Demonstrated proficiency in English by placement as determined by score on the English placement test OR through an equivalent placement process OR completion of ESLL 125 & ESLL 249.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**

**5 hours lecture. (60 hours total per quarter)**

Contemporary analysis of the structure and function of American Government and California state government, both their 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 as determined by score on the English placement test OR through an equivalent placement process OR completion of ESLL 125 & ESLL 249; not open to students with credit in POLI 2H.

**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**

**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

**Prerequisite:** Honors Institute participant.

**Advisory:** Not open to students with credit in POLI 2.

**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**

**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. 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 as determined by score on the English placement test OR through an equivalent placement process OR completion of ESLL 125 & ESLL 249; not open to students with credit in POLI 3H.

**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**

**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:** Honors Institute participant.

**Advisory:** Not open to students with credit in POLI 3.

**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**

**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:** Demonstrated proficiency in English by placement as determined by score on the English placement test OR through an equivalent placement process OR completion of ESLL 125 & ESLL 249; not open to students with credit in ECON 9, 9H or POLI 9H.

**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**

**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:** Not open to students with credit in ECON 9, 9H or POLI 9.

**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**

**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 as determined by score on the English placement test OR through an equivalent placement process OR completion of ESLL 125 & ESLL 249; not open to students with credit in POLI 15H.

**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**

**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**

**Prerequisite:** Honors Institute participant.  
**Advisory:** Not open to students with credit in POLI 15.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.

**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**

**Prerequisite:** Honors Institute participant.  
**Advisory:** Not open to students with credit in POLI 34 or 34H.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.

**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**

**PSYC 4 INTRODUCTION TO BIOPSYCHOLOGY 5 Units**

**Prerequisite:** PSYC 1 or 1H.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.

**5 hours lecture. (60 hours total per quarter)**

This course examines the brain-behavior connection and the biological aspects of behavior and consciousness. Topics covered within the course include behavioral genetics, evolutionary psychology, neuroanatomy, physiological perspectives of sensory perception, learning and memory, sleep and dreaming, drug addiction, emotion, human sexuality, and biological bases of psychiatric disorders.

**FHGE: Social & Behavioral Sciences Transferable: UC/CSU**

**PSYC 7 STATISTICS FOR THE BEHAVIORAL SCIENCES 5 Units**

**Prerequisites:** One of the following: PSYC 1, 1H, SOC 1, 1H; and 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, MATH 10 or 17. Students are strongly encouraged to meet with a counselor for appropriate course selection; not open to students with credit in SOC 7.

**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.

**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 9 POSITIVE PSYCHOLOGY 4 Units**

**Advisory:** PSYC 1 or 1H, and one of the following: ENGL 1A, 1AH, or 1S & 1T.

**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.

**4 hours lecture. (48 hours total per quarter)**

Focuses on the empirical investigations of human potential and the development of strengths. Topics include but are not limited to wisdom, emotional intelligence, mindfulness, happiness and well-being, empathy, compassion, gratitude, forgiveness, courage, and resilience. Emphasis on analyzing theories, research methods, and empirical evidence regarding their relationships to each other and applications to everyday life, such as finding meaning in life and career, work productivity, and positive relationships. Includes application component where students will assess their strengths in these areas, learn to develop them, and practice applying them to their own lives.

**FHGE: Social & Behavioral Sciences Transferable: UC/CSU**

**PSYC 10 RESEARCH METHODS & DESIGNS 5 Units**

**Prerequisites:** PSYC 1 or 1H; and PSYC 7, SOC 7, or MATH 10.  
**Advisory:** One of the following: ENGL 1A, 1AH, or 1S & 1T; not open to students with credit in SOC 10.

**Grade Type:** Letter Grade Only Not Repeatable.

**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**

## PSYCHOLOGY

Business and Social Sciences

(650) 949-7322 [foothill.edu/psychology/](http://foothill.edu/psychology/)

**PSYC 1 GENERAL PSYCHOLOGY 5 Units**

**Advisory:** Not open to students with credit in PSYC 1H.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.

**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 1H HONORS GENERAL PSYCHOLOGY 5 Units**

**Prerequisite:** Honors Institute participant.  
**Advisory:** Not open to students with credit in PSYC 1.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.

**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. As an honors course, there will be a focus on analytical writing and exploring the field through reading primary source research.

**FHGE: Social & Behavioral Sciences Transferable: UC/CSU**

**PSYC 14 CHILD & ADOLESCENT DEVELOPMENT 4 Units**

**Advisory:** College-level reading and writing ability.

**Grade Type:** Letter Grade Only

**Not Repeatable.**

**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 as determined by score on the English placement test OR through an equivalent placement process OR completion of ESLL 125 & ESLL 249; not open to students with credit in SOC 21 or WMN 21.

**Grade Type:** Letter Grade, the student may select Pass/No Pass

**Not Repeatable.**

**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 & DISCRIMINATION 4 Units**

**Advisory:** PSYC 1.

**Grade Type:** Letter Grade, the student may select Pass/No Pass

**Not Repeatable.**

**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:** Amer, SocBeh **Transferable:** UC/CSU

**PSYC 25 INTRODUCTION TO ABNORMAL PSYCHOLOGY 4 Units**

**Advisory:** One of the following: ENGL 1A, 1AH, or 1S & 1T.

**Grade Type:** Letter Grade Only

**Not Repeatable.**

**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.

**Grade Type:** Letter Grade Only

**Not Repeatable.**

**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 the self, social cognition, aggression, interpersonal attraction, attitudes, social influence, prejudice and discrimination, gender, person perception, cultural norms, and conflict and peace-making.

**FHGE:** Social & Behavioral Sciences **Transferable:** UC/CSU

**PSYC 33 INTRODUCTION TO PERSONALITY PSYCHOLOGY 4 Units**

**Advisory:** College-level reading and writing ability.

**Grade Type:** Letter Grade Only

**Not Repeatable.**

**4 hours lecture. (48 hours total per quarter)**

This course is an introduction to the study of personality. The course examines theoretical explanations for understanding personality development and explores each theory. The course also investigates current research on individual differences and personality development, including work in genetics, evolutionary psychology, emotions, traits, motivation, and attachment theory.

**FHGE:** Social & Behavioral Sciences **Transferable:** UC/CSU

**PSYC 39 PSYCHOLOGY OF SPORTS 4 Units**

**Formerly:** PSYC 55

**Advisory:** Not open to students with credit in PSYC 55.

**Grade Type:** Letter Grade, the student may select Pass/No Pass

**Not Repeatable.**

**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 40 HUMAN DEVELOPMENT 5 Units**

**Advisory:** One of the following: ENGL 1A, 1AH, or 1S & 1T or equivalent; PSYC 1 or 1H or introductory psychology course.

**Grade Type:** Letter Grade, the student may select Pass/No Pass

**Not Repeatable.**

**5 hours lecture. (60 hours total per quarter)**

The psychology of human development includes cognitive, physical, social, and emotional development throughout the lifespan. 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 death, 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:** Social & Behavioral Sciences **Transferable:** UC/CSU

**PSYC 49 HUMAN SEXUALITY 4 Units**

**Grade Type:** Letter Grade, the student may select Pass/No Pass

**Not Repeatable.**

**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:** Lifelong, SocBeh **Transferable:** UC/CSU

**PSYC 51 APPLIED RESEARCH EXPERIENCE 1 Unit**  
**Advisory:** Students must meet with the instructor during the first week of the quarter to schedule hours and responsibilities.  
**Grade Type:** Pass/No Pass Only  
**Not Repeatable.**  
**1 hour lecture. (12 hours total per quarter)**  
 Provides an opportunity for students to gain advanced reflection from their research skills gained through their volunteer research assistant activities in other academic settings. Trainings will be provided in conducting research with human participants and safety procedures. Additional requirements include participation in online and/or in-person workshop trainings on developing research skills, submission of a writing assignment on an assigned reading, and completion of an exit survey regarding their experience as a research assistant.  
**FHGE: Non-GE Transferable: CSU**

**PSYC 54H HONORS INSTITUTE SEMINAR IN PSYCHOLOGY 1 Unit**  
**Prerequisite:** Honors Institute participant.  
**Advisory:** ENGL 1A or 1AH; not open to students with credit in PSYC 34 or 34H.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**  
**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 70R INDEPENDENT STUDY IN PSYCHOLOGY 1 Unit**  
**PSYC 71R 2 Units**  
**PSYC 72R 3 Units**  
**PSYC 73R 4 Units**  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**  
**3-12 hours laboratory per week. (36-144 hours total per quarter)**  
 Provides an opportunity for the student to expand their studies in Psychology 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**

**R T 51A FUNDAMENTALS OF RADIOLOGIC TECHNOLOGY I 4 Units**  
**Prerequisite:** R T 50.  
**Grade Type:** Letter Grade Only  
**Not Repeatable.**  
**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; enrollment is limited to students accepted in the program.  
**FHGE: Non-GE Transferable: CSU**

**R T 51B FUNDAMENTALS OF RADIOLOGIC TECHNOLOGY II 4 Units**  
**Prerequisite:** R T 51A.  
**Grade Type:** Letter Grade Only  
**Not Repeatable.**  
**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; enrollment is limited to students accepted in the program.  
**FHGE: Non-GE Transferable: CSU**

**R T 51C FUNDAMENTALS OF RADIOLOGIC TECHNOLOGY III 4 Units**  
**Prerequisite:** R T 51B.  
**Grade Type:** Letter Grade Only  
**Not Repeatable.**  
**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; enrollment is limited to students accepted in the program.  
**FHGE: Non-GE Transferable: CSU**

**R T 52D DIGITAL IMAGE ACQUISITION & DISPLAY 3 Units**  
**Prerequisite:** R T 55B.  
**Grade Type:** Letter Grade Only  
**Not Repeatable.**  
**3 hours lecture. (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 different types of digital systems. Principles of digital system quality assurance and maintenance. Intended for students in the Radiologic Technology Program; enrollment is limited to students accepted in the program.  
**FHGE: Non-GE Transferable: CSU**

**R T 53 ORIENTATION TO RADIOLOGIC TECHNOLOGY 1 Unit**  
**Corequisite:** R T 50.  
**Grade Type:** Letter Grade Only  
**Not Repeatable.**  
**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; enrollment is limited to students accepted in the program.  
**FHGE: Non-GE Transferable: CSU**

## RADIOLOGIC TECHNOLOGY

Biological and Health Sciences  
 (650) 949-7538 [foothill.edu/radtech/](http://foothill.edu/radtech/)

**R T 50 ORIENTATION TO RADIATION SCIENCE TECHNOLOGIES 2 Units**  
**Prerequisites:** BIOL 40A, 40B and 40C or equivalent; R T 200L; medical terminology course of 2 units or greater.  
**Corequisite:** R T 53.  
**Grade Type:** Letter Grade Only  
**Not Repeatable.**  
**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; enrollment is limited to students accepted in the program.  
**FHGE: Non-GE Transferable: CSU**

**REV.** **R T 53A APPLIED RADIOGRAPHIC TECHNOLOGY I 4.5 Units**  
**Prerequisites:** COMM 2 and R T 53.  
**Grade Type:** Letter Grade Only  
**Not Repeatable.**  
**16 hours clinical laboratory. This is an 11 week course. (176 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 and lower extremity radiography. A clinical presentation is also required with the same emphasis. Intended for students in the Radiologic Technology Program; enrollment is limited to students accepted in the program.  
**FHGE: Non-GE Transferable: CSU**

**R T 53AL APPLIED RADIOGRAPHIC TECHNOLOGY LABORATORY I 1 Unit**  
**Prerequisite:** R T 50.  
**Grade Type:** Letter Grade Only  
**Not Repeatable.**  
**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; enrollment is limited to students accepted in the program.  
**FHGE: Non-GE Transferable: CSU**

**REV.** **R T 53B APPLIED RADIOGRAPHIC TECHNOLOGY II 4.5 Units**  
**Prerequisite:** R T 53A.  
**Grade Type:** Letter Grade Only  
**Not Repeatable.**  
**16 hours clinical laboratory. This is an 11 week course. (176 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; enrollment is limited to students accepted in the program.  
**FHGE: Non-GE Transferable: CSU**

**R T 53BL APPLIED RADIOGRAPHIC TECHNOLOGY LABORATORY II 1 Unit**  
**Prerequisite:** R T 53AL.  
**Grade Type:** Letter Grade Only  
**Not Repeatable.**  
**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; enrollment is limited to students accepted in the program.  
**FHGE: Non-GE Transferable: CSU**

**REV.** **R T 53C APPLIED RADIOGRAPHIC TECHNOLOGY III 4.5 Units**  
**Prerequisite:** R T 53B.  
**Grade Type:** Letter Grade Only  
**Not Repeatable.**  
**16 hours clinical laboratory. This is an 11 week course. (176 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; enrollment is limited to students accepted in the program.  
**FHGE: Non-GE Transferable: CSU**

**R T 53CL APPLIED RADIOGRAPHIC TECHNOLOGY LABORATORY III 1 Unit**  
**Prerequisite:** R T 53BL.  
**Grade Type:** Letter Grade Only  
**Not Repeatable.**  
**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; enrollment is limited to students accepted in the program.  
**FHGE: Non-GE Transferable: CSU**

**R T 53D APPLIED RADIOLOGIC TECHNOLOGY IV 9 Units**  
**Prerequisite:** R T 53C.  
**Grade Type:** Letter Grade Only  
**Not Repeatable.**  
**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; enrollment is limited to students accepted in the 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.**  
**Grade Type:** Letter Grade Only  
**Not Repeatable.**  
**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; enrollment is limited to students accepted in the 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, or 1S & 1T.  
**Advisory: Not open to students with credit in R T 50A.**  
**Grade Type:** Letter Grade Only  
**Not Repeatable.**  
**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; enrollment is limited to students accepted in the program.  
**FHGE: Non-GE Transferable: CSU**

**R T 54C RADIOGRAPHIC PATHOLOGY 3 Units**  
**Prerequisite:** R T 54B.  
**Advisory: Not open to students with credit in R T 51D.**  
**Grade Type:** Letter Grade Only  
**Not Repeatable.**  
**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; enrollment is limited to students accepted in the program.  
**FHGE: Non-GE Transferable: CSU**

**R T 55A PRINCIPLES OF RADIOLOGIC TECHNOLOGY I 3 Units**

Formerly: R T 52A

**Prerequisites:** R T 50; CHEM 25 or 30A; MATH 220.**Advisory:** Not open to students with credit in R T 52A.**Grade Type:** Letter Grade Only**Not Repeatable.****3 hours lecture. (36 hours total per quarter)**

Introduction to elementary principles of x-ray physics, technique, radiation protection and digital radiography. Intended for students in the Radiologic Technology Program; enrollment is limited to students accepted in the program.

**FHGE:** Non-GE **Transferable:** CSU**R T 55B PRINCIPLES OF RADIOLOGIC TECHNOLOGY II 3 Units**

Formerly: R T 52C

**Prerequisite:** R T 55A.**Advisory:** Not open to students with credit in R T 52C.**Grade Type:** Letter Grade Only**Not Repeatable.****3 hours lecture. (36 hours total per quarter)**

Continuation of R T 55A. Expansion of the principles of x-ray physics, technique and radiation protection. This course emphasizes the circuitry of the x-ray machine, automatic exposure control devices, quality management, radiographic quality and the resulting effect on radiation protection. Intended for students in the Radiologic Technology Program; enrollment is limited to students accepted in the program.

**FHGE:** Non-GE **Transferable:** CSU**R T 55C PRINCIPLES OF RADIOLOGIC TECHNOLOGY III 3 Units**

Formerly: R T 52B

**Prerequisite:** R T 55B.**Advisory:** Not open to students with credit in R T 52B.**Grade Type:** Letter Grade Only**Not Repeatable.****3 hours lecture. (36 hours total per quarter)**

Continuation of R T 55B, 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; enrollment is limited to students accepted in the program.

**FHGE:** Non-GE **Transferable:** CSU**NEW R T 61A RADIOLOGY RESEARCH PROJECT I 1 Unit****Prerequisite:** R T 53D.**Grade Type:** Letter Grade Only**Not Repeatable.****1 hour lecture. (12 hours total per quarter)**

Collaborative research project on a highly specialized area of radiography or other imaging modality. Submission of scientific poster display board at ACERT conference is required. Selected research topics to be approved by the instructor. This course is part 1 of 2 of the research project for students in the Radiologic Technology Program; enrollment is limited to students accepted in the program.

**FHGE:** Non-GE **Transferable:** CSU**REV. R T 61B RADIOLOGY RESEARCH PROJECT II 1 Unit****Prerequisite:** R T 61A.**Grade Type:** Letter Grade Only**Not Repeatable.****1 hour lecture. (12 hours total per quarter)**

The second course in the R T 61 series will focus on expanding the depth and breadth of learning through the creation of a professional level oral presentation. Utilizing presentation software and other visual aids, groups will collaboratively display their mastery and understanding of the specialized imaging topic selected in R T 61A. This course also places emphasis on group collaboration and critical reflection of individual and group contributions to the project as a whole. Intended for students in the Radiologic Technology Program; enrollment is limited to students accepted in the program.

**FHGE:** Non-GE **Transferable:** CSU**R T 62A ADVANCED MODALITIES IN IMAGING 3 Units****Prerequisite:** R T 55B.**Grade Type:** Letter Grade Only**Not Repeatable.****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; enrollment is limited to students accepted in the program.

**FHGE:** Non-GE **Transferable:** CSU**R T 62B SPECIAL PROCEDURES & EQUIPMENT 3 Units****Prerequisite:** R T 62A.**Grade Type:** Letter Grade Only**Not Repeatable.****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; enrollment is limited to students accepted in the program.

**FHGE:** Non-GE **Transferable:** CSU**R T 62C PROFESSIONAL DEVELOPMENT IN RADIOLOGY 3 Units****Prerequisite:** R T 62B.**Grade Type:** Letter Grade Only**Not Repeatable.****3 hours lecture. (36 hours total per quarter)**

Professional development in radiography, continuing education, and advanced modality opportunities. Intended for students in the Radiologic Technology Program; enrollment is limited to students accepted in the program.

**FHGE:** Non-GE **Transferable:** CSU**R T 63 ADVANCED RADIOGRAPHIC PRINCIPLES 3 Units****Prerequisite:** R T 62B.**Grade Type:** Letter Grade Only**Not Repeatable.****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; enrollment is limited to students accepted in the program.

**FHGE:** Non-GE **Transferable:** CSU**R T 63A RADIOGRAPHIC CLINICAL PRACTICUM I 10.5 Units****Prerequisite:** R T 53D.**Grade Type:** Letter Grade Only**Not Repeatable.****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; enrollment is limited to students accepted in the program.

**FHGE:** Non-GE **Transferable:** CSU

**R T 63B RADIOGRAPHIC CLINICAL PRACTICUM II 10.5 Units****Prerequisite:** R T 63A.**Grade Type:** Letter Grade Only**Not Repeatable.****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; enrollment is limited to students accepted in the program.

**FHGE: Non-GE Transferable: CSU****R T 63C RADIOGRAPHIC CLINICAL PRACTICUM III 10.5 Units****Prerequisites:** R T 63B.**Grade Type:** Letter Grade Only**Not Repeatable.****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; enrollment is limited to students accepted in the program.

**FHGE: Non-GE Transferable: CSU****R T 64 FLUOROSCOPY 4 Units****Prerequisite:** R T 55C or current certification in Radiologic Technology or Radiation Therapy Technology.**Grade Type:** Letter Grade Only**Not Repeatable.****40 hours lecture, 15 hours laboratory. This course does not meet a full 12 weeks. (55 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; enrollment is limited to students accepted in the program.

**FHGE: Non-GE Transferable: CSU****R T 65 MAMMOGRAPHY 3 Units****Prerequisite:** R T 62A or current certification in Radiologic Technology.**Grade Type:** Letter Grade Only**Not Repeatable.****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; enrollment is limited to students accepted in the program.

**FHGE: Non-GE Transferable: CSU****R T 71 ADVANCED CLINICAL EXPERIENCE: MAGNETIC RESONANCE IMAGING 13 Units****Prerequisites:** Current ARRT and CRT Certification as a Radiologic Technologist.**Grade Type:** Letter Grade Only**Not Repeatable.****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. Intended for students in the Radiologic Technology Program; enrollment is limited to students accepted in the program.

**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.****Grade Type:** Letter Grade Only**Not Repeatable.****1 hour lecture, 1.5 hours laboratory. (30 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; enrollment is limited to students accepted in the program.

**FHGE: Non-GE Transferable: CSU****R T 74 ADVANCED CLINICAL EXPERIENCE: COMPUTED TOMOGRAPHY 13 Units** NEW**Prerequisites:** Current ARRT and CRT certification as a Radiologic Technologist; R T 62A and 62C.**Grade Type:** Letter Grade Only**Not Repeatable.****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 1.5 Units****Non-degree applicable credit course.****Grade Type:** Letter Grade Only**Not Repeatable.****18 hours lecture. This is a 6 week course. (18 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. Three hours hospital observation included.

**FHGE: Non-GE****R T 201 DIGITAL RADIOGRAPHY FOR RADIOLOGIC TECHNOLOGISTS .5 Units** NEW**Non-degree applicable credit course.****Prerequisite:** Current certification in Radiologic Technology.**Grade Type:** Letter Grade, the student may select Pass/No Pass**Unlimited Repeatability.****6 hours lecture total per quarter.**

Exploration of how digital radiography allows for the reduction of patient dose. Various manufacturers' equipment and exposure indicators will be reviewed to align technical factor manipulation focusing on dose reduction, image quality factors and patient safety. Restricted to licensed California Radiologic Technologists to meet continuing education requirements set forth by the Department of Public Health's Radiologic Health Branch.

**FHGE: Non-GE****R T 202 RADIATION SAFETY IN FLUOROSCOPY FOR RADIOLOGIC TECHNOLOGISTS .5 Units** NEW**Non-degree applicable credit course.****Prerequisite:** Current certification in Radiologic Technology.**Grade Type:** Letter Grade, the student may select Pass/No Pass**Unlimited Repeatability.****6 hours lecture total per quarter.**

Exploration of radiation safety measures in the field of fluoroscopy for both fixed and mobile units. Emphasis will be placed on time, distance, shielding, radiobiology, isometric curves, inverse square law, as well as reduction of radiation exposure to both patients and personnel. Restricted to licensed California Radiologic Technologists to meet continuing education requirements set forth by the Department of Public Health's Radiologic Health Branch.

**FHGE: Non-GE**



## RESPIRATORY THERAPY

Biological and Health Sciences  
(650) 949-7538 foothill.edu/resptherapy/

### RSPT 50A RESPIRATORY THERAPY PROCEDURES 4.5 Units

**Advisory:** Demonstrated proficiency in English by placement as determined by score on the English placement test OR through an equivalent placement process OR completion of ESLL 125 & ESLL 249.

**Grade Type:** Letter Grade Only  
**Not Repeatable.**

**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; enrollment is limited to students accepted in the program.

**FHGE:** Non-GE **Transferable:** CSU

### RSPT 50B INTRODUCTION TO PROCEDURES & HOSPITAL ORIENTATION 6 Units

**Prerequisite:** RSPT 50A.

**Grade Type:** Letter Grade Only  
**Not Repeatable.**

**3 hours lecture, 6.5 hours laboratory, 3 hours clinical laboratory. (150 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; enrollment is limited to students accepted in the program.

**FHGE:** Non-GE **Transferable:** CSU

### RSPT 50C THERAPEUTICS & INTRODUCTION TO MECHANICAL VENTILATION 5 Units

**Prerequisite:** RSPT 50B.

**Grade Type:** Letter Grade Only  
**Not Repeatable.**

**2 hours lecture, 3.5 hours laboratory, 6 hours clinical laboratory. (138 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. This course is intended for students accepted and enrolled in the Respiratory Therapy Program; enrollment is limited to students accepted in the program.

**FHGE:** Non-GE **Transferable:** CSU

### RSPT 51A INTRODUCTION TO RESPIRATORY ANATOMY & PHYSIOLOGY 2 Units

**Prerequisites:** BIOL 40A, 40B and 40C; medical terminology course of 2 semester units or greater.

**Grade Type:** Letter Grade Only  
**Not Repeatable.**

**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; enrollment is limited to students accepted in the program.

**FHGE:** Non-GE **Transferable:** CSU

### RSPT 51B RESPIRATORY PHYSIOLOGY 3 Units

**Prerequisite:** RSPT 51A or equivalent.

**Grade Type:** Letter Grade Only  
**Not Repeatable.**

**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; enrollment is limited to students accepted in the program.

**FHGE:** Non-GE **Transferable:** CSU

### RSPT 51C PATIENT ASSESSMENT & PULMONARY DISEASE 4 Units

**Prerequisite:** BIOL 41.

**Grade Type:** Letter Grade Only  
**Not Repeatable.**

**4 hours lecture, 3 hours laboratory (laboratory meets 5 times per quarter). (63 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. Intended for students 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.

**Grade Type:** Letter Grade Only  
**Not Repeatable.**

**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; enrollment is limited to students accepted in the program.

**FHGE:** Non-GE **Transferable:** CSU

### RSPT 53A INTRODUCTION TO RESPIRATORY THERAPY PHARMACOLOGY 2 Units

**Prerequisite:** RSPT 50A.

**Grade Type:** Letter Grade Only  
**Not Repeatable.**

**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; enrollment is limited to students accepted in the program.

**FHGE:** Non-GE **Transferable:** CSU

### RSPT 53B ADVANCED RESPIRATORY THERAPY PHARMACOLOGY 2 Units

**Prerequisite:** RSPT 53A.

**Grade Type:** Letter Grade Only  
**Not Repeatable.**

**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; enrollment is limited to students accepted in the program.

**FHGE:** Non-GE **Transferable:** CSU

### RSPT 54 ORIENTATION TO RESPIRATORY CARE 2 Units

**Corequisite:** RSPT 50A.

**Grade Type:** Letter Grade Only  
**Not Repeatable.**

**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; enrollment is limited to students accepted in the program.

**FHGE:** Non-GE **Transferable:** CSU

### RSPT 55A MEDIATED STUDIES IN RESPIRATORY THERAPY I .5 Units

**Corequisite:** RSPT 50A.

**Grade Type:** Letter Grade Only  
**Not Repeatable.**

**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 program. Intended for students in the Respiratory Therapy Program; enrollment is limited to students accepted in the program.

**FHGE:** Non-GE **Transferable:** CSU

**RSPT 55B MEDIATED STUDIES IN RESPIRATORY THERAPY II .5 Units**

**Prerequisite:** RSPT 55A.

**Grade Type:** Letter Grade Only

**Not Repeatable.**

**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 program. Media materials will provide an alternative learning resource for non-traditional students. Intended for students in the Respiratory Therapy Program; enrollment is limited to students accepted in the program.

**FHGE: Non-GE Transferable: CSU**

**RSPT 55C MEDIATED STUDIES IN RESPIRATORY THERAPY III .5 Units**

**Prerequisite:** RSPT 55B.

**Grade Type:** Letter Grade Only

**Not Repeatable.**

**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 program. Intended for students in the Respiratory Therapy Program; enrollment is limited to students accepted in the program.

**FHGE: Non-GE Transferable: CSU**

**RSPT 55D MEDIATED STUDIES IN RESPIRATORY THERAPY IV .5 Units**

**Prerequisite:** RSPT 55C.

**Grade Type:** Letter Grade Only

**Not Repeatable.**

**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 program. Intended for students in the Respiratory Therapy Program; enrollment is limited to students accepted in the program.

**FHGE: Non-GE Transferable: CSU**

**RSPT 55E MEDIATED STUDIES IN RESPIRATORY THERAPY V .5 Units**

**Prerequisite:** RSPT 55D.

**Grade Type:** Letter Grade Only

**Not Repeatable.**

**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 program. Media materials will provide an alternative learning resource for non-traditional students. Intended for students in the Respiratory Therapy Program; enrollment is limited to students accepted in the program.

**FHGE: Non-GE Transferable: CSU**

**RSPT 55F MEDIATED STUDIES IN RESPIRATORY THERAPY VI .5 Units**

**Prerequisite:** RSPT 55E.

**Grade Type:** Letter Grade Only

**Not Repeatable.**

**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; enrollment is limited to students accepted in the program.

**FHGE: Non-GE Transferable: CSU**

**RSPT 55G MEDIATED STUDIES IN RESPIRATORY THERAPY VII .5 Units**

**Prerequisite:** RSPT 55F.

**Grade Type:** Letter Grade Only

**Not Repeatable.**

**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; enrollment is limited to students accepted in the program.

**FHGE: Non-GE Transferable: CSU**

**RSPT 60C PULMONARY DIAGNOSTICS 3 Units**

**Prerequisite:** RSPT 51C.

**Grade Type:** Letter Grade Only

**Not Repeatable.**

**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; enrollment is limited to students accepted into the program.

**FHGE: Non-GE Transferable: CSU**

**RSPT 61A ADULT MECHANICAL VENTILATION 4 Units**

**Prerequisites:** RSPT 50C and 51C.

**Grade Type:** Letter Grade Only

**Not Repeatable.**

**3 hours lecture, 3 hours 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; enrollment is limited to students accepted in the program.

**FHGE: Non-GE Transferable: CSU**

**RSPT 61B NEONATAL RESPIRATORY CARE 3 Units**

**Prerequisite:** RSPT 61A.

**Grade Type:** Letter Grade Only

**Not Repeatable.**

**2 hours lecture, 3 hours laboratory. (60 hours total per quarter)**

In depth look at Neonatal 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; enrollment is limited to students accepted in the program.

**FHGE: Non-GE Transferable: CSU**

**RSPT 61C HOME & REHABILITATIVE RESPIRATORY CARE 2 Units**

**Grade Type:** Letter Grade Only

**Not Repeatable.**

**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; enrollment is limited to students accepted in the program.

**FHGE: Non-GE Transferable: CSU**

**RSPT 61D PEDIATRIC RESPIRATORY CARE 2 Units****Prerequisite:** RSPT 61B.**Grade Type:** Letter Grade Only**Not Repeatable.****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; enrollment is limited to students accepted in the program.

**FHGE:** Non-GE **Transferable:** CSU**RSPT 62 MANAGEMENT, RESUME & NATIONAL BOARD EXAMINATION 1 Unit****Grade Type:** Letter Grade Only**Not Repeatable.****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 Board exam 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 Examination. Intended for students in the Respiratory Therapy Program; enrollment is limited to students accepted in the program.

**FHGE:** Non-GE **Transferable:** CSU**RSPT 63A ADVANCED PATHOPHYSIOLOGY & PATIENT MANAGEMENT 3 Units****Prerequisite:** RSPT 51C.**Grade Type:** Letter Grade Only**Not Repeatable.****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; enrollment is limited to students accepted in the program.

**FHGE:** Non-GE **Transferable:** CSU**RSPT 65 COMPUTER PATIENT SIMULATIONS .5 Units****Grade Type:** Letter Grade Only**Not Repeatable.****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; enrollment is limited to students accepted in the program.

**FHGE:** Non-GE **Transferable:** CSU**RSPT 70A CLINICAL ROTATION I 2 Units****Prerequisite:** RSPT 50C.**Grade Type:** Letter Grade Only**Not Repeatable.****6 hours clinical laboratory. (72 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; enrollment is limited to students accepted in the program.

**FHGE:** Non-GE **Transferable:** CSU**RSPT 70B CLINICAL ROTATION II 8 Units****Prerequisites:** RSPT 61A and 70A.**Grade Type:** Letter Grade Only**Not Repeatable.****24 hours clinical laboratory. (288 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; enrollment is limited to students accepted in the program.

**FHGE:** Non-GE **Transferable:** CSU**RSPT 70C CLINICAL ROTATION III 8 Units****Prerequisite:** RSPT 70B.**Grade Type:** Letter Grade Only**Not Repeatable.****24 hours clinical laboratory. (288 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; enrollment is limited to students accepted in the program.

**FHGE:** Non-GE **Transferable:** CSU**RSPT 70D CLINICAL ROTATION IV 8 Units****Prerequisite:** RSPT 70C.**Grade Type:** Letter Grade Only**Not Repeatable.****24 hours clinical laboratory. (288 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; enrollment is limited to students accepted in the program.

**FHGE:** Non-GE **Transferable:** CSU**RSPT 82 ORIENTATION TO INTERVENTIONAL PULMONOLOGY 2 Units****Grade Type:** Letter Grade Only**Not Repeatable.****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****Grade Type:** Letter Grade Only**Not Repeatable.****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****Grade Type:** Letter Grade Only**Not Repeatable.****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 PULMONOLOGY THEORY & APPLICATION 3 Units**

**Grade Type: Letter Grade Only**  
**Not Repeatable.**

**3 hours lecture. (36 hours total per quarter)**

Provides the general principles of Interventional Pulmonology. Disease specific application including diagnostic and therapeutic interventions, techniques and procedures will be introduced.

**FHGE: Non-GE Transferable: CSU**

REV

**RSPT 86 INTERVENTIONAL PULMONOLOGY PROCEDURES 3 Units**

**Grade Type: Letter Grade Only**  
**Not Repeatable.**

**3 hours lecture. (36 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**

REV

**RSPT 87A INTERVENTIONAL PULMONOLOGY CLINICAL INTERNSHIP I 1 Unit**

**Grade Type: Letter Grade Only**  
**Not Repeatable.**

**3 hours clinical laboratory. (36 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**

REV

**RSPT 87B INTERVENTIONAL PULMONOLOGY CLINICAL INTERNSHIP II 1 Unit**

**Grade Type: Letter Grade Only**  
**Not Repeatable.**

**3 hours clinical laboratory. (36 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**

**Grade Type: Letter Grade Only**  
**Not Repeatable.**

**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**

**Non-degree applicable credit course.**

**Advisory: Students are not required to have been admitted to the Respiratory Therapy Program.**

**Grade Type: Letter Grade Only**  
**Not Repeatable.**

**1 hour lecture, 1 hour 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**

**SHEET METAL JOURNEYPERSON**

**Apprenticeship**

**(650) 949-7142 foothill.edu/apprenticeships/**

**JRYQ 100 APPLICANT INTRODUCTION TO SHEET METAL 3 Units**

**Prerequisite: Must be a current applicant to the Sheet Metal Building Trade Apprenticeship program, who has successfully completed application steps to be eligible for this class.**

**Grade Type: Letter Grade, the student may select Pass/No Pass**  
**Not Repeatable.**

**40 hours total: 36 hours lecture, 4 hours laboratory.**

Pre-entry level orientation to the Sheet Metal Apprenticeship Program. Basic instruction on the sheet metal industry, career options, communication skills, trade math, green building, materials and equipment safety.

**FHGE: Non-GE**

**JRYQ 113 JOURNEY-LEVEL INTRODUCTION TO WELDING 1.5 Units**

**Advisory: Completion of recognized sheet metal apprenticeship or equivalent and recent employment as a journeyman in the sheet metal industry.**

**Grade Type: Letter Grade, the student may select Pass/No Pass**  
**Not Repeatable.**

**40 hours total: 16 hours lecture, 24 hours laboratory.**

This course begins with an 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**

**JRYQ 114 JOURNEY-LEVEL WELDING II: GMAW & OTHER PROCESSES 1.5 Units**

**Prerequisite: Completion of recognized sheet metal apprenticeship or equivalent and recent employment as a journeyman in the sheet metal industry.**

**Grade Type: Letter Grade, the student may select Pass/No Pass**  
**Not Repeatable.**

**40 hours total: 12 hours lecture, 28 hours laboratory.**

This course continues with development of Gas Metal Arc Welding and Flux Core Arc Welding skills. In addition, the SMAW welding process and metallurgy are introduced. Progress in student welding skill development is essential.

**FHGE: Non-GE**

**JRYQ 123 JOURNEY-LEVEL RESIDENTIAL SHEET METAL 2 Units**

**Advisory: Completion of recognized sheet metal apprenticeship or equivalent and recent employment as a journeyman in the sheet metal industry.**

**Grade Type: Letter Grade, the student may select Pass/No Pass**  
**Not Repeatable.**

**40 hours total: 18 hours lecture, 22 hours laboratory.**

An 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, maintenance procedures and roof drainage system requirements.

**FHGE: Non-GE**

**JRYQ 125 JOURNEY DETAILING INTRODUCTION 3 Units**

**Prerequisite: Completion of recognized sheet metal apprenticeship or equivalent and recent employment as a journeyman in the sheet metal industry.**

**Grade Type: Letter Grade, the student may select Pass/No Pass**  
**Not Repeatable.**

**40 hours total: 36 hours lecture, 4 hours laboratory.**

Detailing in the sheet metal industry is a specialized skill that requires attention to detail when working with drawings and specifications. In this course, students will compile detail information from plans, specs, submittals, standards, field measurements, and codes.

**FHGE: Non-GE**

**JRYQ 126 JOURNEY-LEVEL FOREMAN TRAINING 2.5 Units**  
**Prerequisite:** Completion of recognized sheet metal apprenticeship or equivalent and recent employment as a journeyperson in the sheet metal industry.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.  
**40 hours total: 32 hours lecture, 8 hours laboratory.**  
This course is for journey-level sheet metal workers who want to become supervisors, site managers, leads and foreman. In this course, 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. They will learn to start a project and see it through to successful completion.  
**FHGE: Non-GE**

**JRYQ 127 JOURNEY BASIC AUTOCAD 1.5 Units**  
**Prerequisite:** Completion of recognized sheet metal apprenticeship or equivalent and recent employment as a journeyperson in the sheet metal industry.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.  
**40 hours total: 12 hours lecture, 28 hours laboratory.**  
Basic AutoCAD class, students learn how to follow the proper protocols for computer lab use and perform essential computer file management operations. The students will navigate through the basic AutoCAD screen and command menus. The students will 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**

**JRYQ 128 JOURNEY-LEVEL HVAC ENERGY CONSERVATION & ENVIRONMENTAL TECHNOLOGY 2.5 Units**  
**Prerequisite:** Completion of recognized sheet metal apprenticeship or equivalent and recent employment as a journeyperson in the sheet metal industry.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.  
**40 hours total: 30 hours lecture, 10 hours laboratory.**  
This course is an introduction to Energy and Environmental Technologies for the sheet metal and HVAC industry. It includes an 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. It will also include an overview of upcoming energy initiatives in California.  
**FHGE: Non-GE**

**JRYQ 130 JOURNEY-LEVEL ADVANCED WELDING 1.5 Units**  
**Prerequisite:** Completion of recognized sheet metal apprenticeship or equivalent and recent employment as a journeyperson in the sheet metal industry.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.  
**40 hours total: 14 hours lecture, 26 hours laboratory.**  
This course teaches advanced techniques used in Oxy-Fuel/ Plasma cutting, GMAW, and GTAW on various types and thicknesses of base material.  
**FHGE: Non-GE**

**JRYQ 131 CAD DETAIL WITH THIRD-PARTY SOFTWARE 1 Unit**  
**Prerequisite:** Completion of recognized sheet metal apprenticeship or equivalent and recent employment as a journeyperson in the sheet metal industry.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.  
**40 hours total: 10 hours lecture, 30 hours laboratory.**  
Sheet Metal Journey-level training in basic computer-aided design (CAD) drawing skills required. Use of CAD DUCT or similar specialized 3rd party sheet metal detailing software. Use software tools 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 or similar software for location and elevation, as well as collision checks. Note: Other industry recognized third party software may be utilized in lieu of CAD Duct, such as "Benchmark Draft" software, for similar lessons.  
**FHGE: Non-GE**

**JRYQ 132 INTERMEDIATE CAD DETAIL THIRD-PARTY 1 Unit**  
**Prerequisite:** Completion of recognized sheet metal apprenticeship or equivalent and recent employment as a journeyperson in the sheet metal industry.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.  
**40 hours total: 10 hours lecture, 30 hours laboratory.**  
This is a continuation of 3D duct detailing program for electronic coordination. Emphasis is on accessing, editing and recovering files with the CAD DUCT or similar 3rd party sheet metal detailing software 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**

**JRYQ 133 JOURNEY-LEVEL ADVANCED ARCHITECTURAL 1.5 Units**  
**Advisory:** Completion of recognized sheet metal apprenticeship or equivalent and recent employment as a journeyperson in the sheet metal industry.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.  
**40 hours total: 12 hours lecture, 28 hours laboratory.**  
Students will 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 specialized architectural items.  
**FHGE: Non-GE**

**JRYQ 134 JOURNEY-LEVEL ADVANCED LAYOUT 1 Unit**  
**Advisory:** Completion of recognized sheet metal apprenticeship or equivalent and recent employment as a journeyperson in the sheet metal industry.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.  
**40 hours total: 10 hours lecture, 30 hours laboratory.**  
Students will advance methods of pattern development using a calculator and manual methods. Use math formulas relating to sheet metal lay out, fabrication and shop procedures with the ITI Sheet Metal Pro Calculator. Apply geometric construction techniques to advanced patterns and jobsite lay out.  
**FHGE: Non-GE**

**JRYQ 135 PROJECT MANAGEMENT FOR JOURNEY LEVEL 2 Units**  
**Prerequisite:** Completion of recognized sheet metal apprenticeship or equivalent and recent employment as a journeyperson in the sheet metal industry.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.  
**40 hours total: 26 hours lecture, 14 hours laboratory.**  
Topics covered include development of skills in supervision, management of various types of projects, performing take offs directly from contract drawings and creating an detailed estimate of a specific project.  
**FHGE: Non-GE**

**JRYQ 136 SERVICE BASICS FOR SHEET METAL WORKER JOURNEY LEVEL 2 Units**

**Prerequisite:** Completion of recognized sheet metal apprenticeship or equivalent and recent employment as a journeyperson in the sheet metal industry.

**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**

**40 hours total: 26 hours lecture, 14 hours laboratory.**

This course covers development of the basic skills necessary for a sheet metal worker to service a basic HVAC building system.

**FHGE: Non-GE**

**JRYQ 137 JOURNEY-LEVEL HVAC PROJECT 2.5 Units**

**Prerequisite:** Completion of recognized sheet metal apprenticeship or equivalent and recent employment as a journeyperson in the sheet metal industry.

**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**

**40 hours total: 34 hours lecture, 6 hours laboratory.**

Students design, fabricate, and install a typical HVAC system from concept design drawing to the finished installed project.

**FHGE: Non-GE**

**JRYQ 138 JOURNEY-LEVEL ARCHITECTURAL- INDUSTRIAL PROJECT 2.5 Units**

**Prerequisite:** Completion of recognized sheet metal apprenticeship or equivalent and recent employment as a journeyperson in the sheet metal industry.

**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**

**40 hours total: 34 hours lecture, 6 hours laboratory.**

Students will design, fabricate, and install a typical Architectural, Industrial or an Ornamental project from concept design drawing to the finished installed project.

**FHGE: Non-GE**

**JRYQ 139 INTERMEDIATE AUTOCAD FOR JOURNEY LEVEL 1 Unit**

**Prerequisite:** Completion of recognized sheet metal apprenticeship or equivalent and recent employment as a journeyperson in the sheet metal industry.

**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**

**40 hours total: 10 hours lecture, 30 hours laboratory.**

Course builds upon basic AutoCAD knowledge to emphasize more advanced AutoCAD skills used in the sheet metal industry. Working with reference drawings, creating templates per shop practice, tagging items with information, preparing for downloads and reports, inserting schedules and blocks, and drawing three-dimensional and complex two-dimensional shop drawings are practiced.

**FHGE: Non-GE**

**SOCIAL SCIENCE**

**Business and Social Sciences**

(650) 949-7322 foothill.edu/bss/

**SOSC 1 INTRODUCTION TO GLOBAL STUDIES 4 Units**

**Advisory:** Demonstrated proficiency in English by placement as determined by score on the English placement test OR through an equivalent placement process OR completion of ESLL 125 & ESLL 249.

**Grade Type:** Letter Grade Only  
**Not Repeatable.**

**4 hours lecture. (48 hours total per quarter)**

This course provides students with an introduction to Global Studies. Students are offered an interdisciplinary view of globalization and its impacts through an examination of social, cultural, political, economic, and environmental contexts. The course emphasizes the interdependence and connections between global institutions, populations, and individuals.

**FHGE: Non-GE Transferable: UC/CSU**

**SOSC 2 GLOBAL ISSUES 4 Units**

**Advisory:** Demonstrated proficiency in English by placement as determined by score on the English placement test OR through an equivalent placement process OR completion of ESLL 125 & ESLL 249.

**Grade Type:** Letter Grade Only  
**Not Repeatable.**

**4 hours lecture. (48 hours total per quarter)**

This course offers an introduction to the origins, current dilemmas, and future trends of major issues confronting the global community such as energy and resource depletion, food and population, war and terrorism, nuclear arms, human rights, economic interdependence, and international inequality. The role of global institutions and global citizenship will be considered as they relate to global issues.

**FHGE: Non-GE Transferable: UC/CSU**

**SOSC 20 CROSS-CULTURAL PERSPECTIVES FOR A MULTICULTURAL SOCIETY 4 Units**

**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**

**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**

**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**

**3 -12 hours laboratory 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/  
CIVIC ENGAGEMENT 1 Unit**

**Grade Type: Letter Grade, the student may select Pass/No Pass  
Not Repeatable.**

**1 hour lecture. (12 hours total per quarter)**

Introduction to community service as it relates to community organizations, businesses or civic institutions allowing students to gain skills in advocacy and civic engagement through community service experiences, research and reflection. Students explore experiential education, theories of service and service learning, strategies for facilitation and effective practice. The course integrates a practical experience in leading service learning projects. The course allows students to balance action with critical reflection in service learning practice.

**FHGE: Non-GE Transferable: CSU**

**SOC 8 POPULAR CULTURE 4 Units**

**Grade Type: Letter Grade, the student may select Pass/No Pass  
Not Repeatable.**

**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: American Cultures & Communities Transferable: UC/CSU**

**SOC 10 RESEARCH METHODS & DESIGNS 5 Units**

**Prerequisites: PSYC 1 or 1H; and PSYC 7, SOC 7, or MATH 10.**

**Advisory: One of the following: ENGL 1A, 1AH or 1S & 1T; not open to students with credit in PSYC 10.**

**Grade Type: Letter Grade Only**

**Not Repeatable.**

**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**

**Grade Type: Letter Grade, the student may select Pass/No Pass  
Not Repeatable.**

**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 1H HONORS INTRODUCTION  
TO SOCIOLOGY 5 Units**

**Prerequisite: Honors Institute participant.**

**Advisory: Not open to students with credit in SOC 1.**

**Grade Type: Letter Grade Only  
Not Repeatable.**

**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. As an honors course, it is focused on reading and critically analyzing sociological literature and researching specific sociological topics.

**FHGE: Social & Behavioral Sciences Transferable: UC/CSU**

**SOC 14 SOCIOLOGY OF CRIME 4 Units**

**Grade Type: Letter Grade, the student may select Pass/No Pass  
Not Repeatable.**

**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 7 STATISTICS FOR THE  
BEHAVIORAL SCIENCES 5 Units**

**Prerequisites: One of the following: PSYC 1, 1H, SOC 1, 1H; and 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, MATH 10 or 17. Students are strongly encouraged to meet with a counselor for appropriate course selection; not open to students with credit in PSYC 7.**

**Grade Type: Letter Grade, the student may select Pass/No Pass  
Not Repeatable.**

**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**

**SOC 15 LAW & SOCIETY 4 Units**

**Grade Type: Letter Grade, the student may select Pass/No Pass  
Not Repeatable.**

**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**

**Grade Type: Letter Grade, the student may select Pass/No Pass  
Not Repeatable.**

**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: Lifelong, SocBeh Transferable: UC/CSU**

## SOCIOLOGY

Business and Social Sciences

(650) 949-7322 [foothill.edu/sociology/](http://foothill.edu/sociology/)

**SOC 1 INTRODUCTION TO SOCIOLOGY 5 Units**

**Advisory: Not open to students with credit in SOC 1H.**

**Grade Type: Letter Grade, the student may select Pass/No Pass  
Not Repeatable.**

**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 1H HONORS INTRODUCTION  
TO SOCIOLOGY 5 Units**

**Prerequisite: Honors Institute participant.**

**Advisory: Not open to students with credit in SOC 1.**

**Grade Type: Letter Grade Only  
Not Repeatable.**

**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. As an honors course, it is focused on reading and critically analyzing sociological literature and researching specific sociological topics.

**FHGE: Social & Behavioral Sciences Transferable: UC/CSU**

**SOC 7 STATISTICS FOR THE  
BEHAVIORAL SCIENCES 5 Units**

**Prerequisites: One of the following: PSYC 1, 1H, SOC 1, 1H; and 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, MATH 10 or 17. Students are strongly encouraged to meet with a counselor for appropriate course selection; not open to students with credit in PSYC 7.**

**Grade Type: Letter Grade, the student may select Pass/No Pass  
Not Repeatable.**

**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**

**SOC 20 MAJOR SOCIAL PROBLEMS 4 Units****Grade Type: Letter Grade, the student may select Pass/No Pass Not Repeatable.****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 23 RACE & ETHNIC RELATIONS 4 Units****Grade Type: Letter Grade, the student may select Pass/No Pass Not Repeatable.****4 hours lecture. (48 hours total per quarter)**

Focus on the meaning of race and ethnicity as it relates to intergroup relations in the U.S.A. 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 U.S.A. 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 U.S.A.'s economic, political and educational institutions. Relationship among race, ethnicity and poverty.

**FHGE: Amer, SocBeh Transferable: UC/CSU****SOC 28 SOCIOLOGY OF GENDER 4 Units****Grade Type: Letter Grade, the student may select Pass/No Pass Not Repeatable.****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: Social & Behavioral Sciences 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.****Grade Type: Letter Grade Only****Not Repeatable.****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 the self, social cognition, aggression, interpersonal attraction, attitudes, social influence, prejudice and discrimination, gender, person perception, cultural norms, and conflict and peace-making.

**FHGE: Social & Behavioral Sciences Transferable: UC/CSU****SOC 40 ASPECTS OF MARRIAGE & FAMILY 4 Units****Grade Type: Letter Grade, the student may select Pass/No Pass Not Repeatable.****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: Lifelong, SocBeh Transferable: UC/CSU****SOC 54H HONORS INSTITUTE SEMINAR IN SOCIOLOGY 1 Unit****Prerequisite: Honors Institute participant.****Advisory: Not open to students with credit in SOC 34 or 34H.****Grade Type: Letter Grade, the student may select Pass/No Pass Not Repeatable.****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 70R INDEPENDENT STUDY IN SOCIOLOGY 1 Unit****SOC 71R 2 Units**  
**SOC 72R 3 Units**  
**SOC 73R 4 Units****Grade Type: Letter Grade, the student may select Pass/No Pass Not Repeatable.****3-12 hours laboratory 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) 949-7131 [foothill.edu/spanish/](http://foothill.edu/spanish/)****For information on clearing a foreign language prerequisite, please contact the Language Arts division office at (650) 949-7250.****SPAN 1 ELEMENTARY SPANISH I 5 Units****Grade Type: Letter Grade, the student may select Pass/No Pass Not Repeatable.****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 2 ELEMENTARY SPANISH II 5 Units****Prerequisite: SPAN 1 or equivalent.****Grade Type: Letter Grade, the student may select Pass/No Pass Not Repeatable.****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.****Grade Type: Letter Grade, the student may select Pass/No Pass Not Repeatable.****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.**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.****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.**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.****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.**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.****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.**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.****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: American Cultures & Communities Transferable: UC/CSU****SPAN 13A INTERMEDIATE CONVERSATION I 4 Units****Prerequisite:** SPAN 3.**Advisory:** May be taken concurrently with SPAN 4.**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.****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.**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.****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.**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.****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.**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.****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.**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.****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.

**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**

**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**

**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**

**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

**SPAN 110 ELEMENTARY SPANISH CONVERSATION I 3 Units**

**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**

**3 hours lecture. (36 hours total per quarter)**

Practice of spoken Spanish with an emphasis on developing oral and listening communication skills. Attention will be given to pronunciation, vocabulary and accurate use of basic grammar.

**FHGE:** Non-GE

**SPAN 111 ELEMENTARY SPANISH CONVERSATION II 3 Units**

**Prerequisite:** SPAN 110.

**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**

**3 hours lecture. (36 hours total per quarter)**

This is the second of a two-part course sequence. Continued practice of spoken Spanish with an emphasis on developing oral and listening communication skills. Attention will be given to pronunciation, vocabulary and accurate use of basic grammar.

**FHGE:** Non-GE

**SPAN 192 TRAINING FOR SPANISH TUTORS 1 Unit**

**Prerequisite:** SPAN 3 or equivalent.

**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**

**1 hour lecture. (12 hours total per quarter)**

Course for students who are being trained to offer Spanish language tutorial services.

**FHGE:** Non-GE

## SPECIAL EDUCATION

Business and Social Sciences

(650) 949-7322 [foothill.edu/bss/](http://foothill.edu/bss/)

**SPED 1 INTRODUCTION TO DISABILITIES 4 Units**

**Formerly:** SPED 61

**Advisory:** Demonstrated proficiency in English by placement as determined by score on the English placement test OR through an equivalent placement process OR completion of ESLL 125 & ESLL 249; when offered as an online course, the student should be proficient with the use of a computer, Internet and email; not open to students with credit in SPED 61.

**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**

**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:** Amer, Lifelong **Transferable:** UC/CSU

**SPED 2 PSYCHOLOGICAL ASPECTS OF DISABILITY 4 Units**

**Formerly:** SPED 62

**Advisory:** Demonstrated proficiency in English by placement as determined by score on the English placement test OR through an equivalent placement process OR completion of ESLL 125 & ESLL 249; familiarity with the internet & word processing; not open to students with credit in SPED 62.

**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**

**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:** UC/CSU

**SPED 8 INTRODUCTION TO COLLEGE & ACCOMMODATIONS 1 Unit**

**Formerly:** SPED 80

**Advisory:** Not open to students with credit in CNSL 5 or SPED 80.

**Grade Type:** Pass/No Pass Only

**Not Repeatable.**

**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 requiring special classroom accommodations related to disabilities; California system of higher education; educational goals and program planning. This course satisfies the college orientation requirement for new students.

**FHGE:** Non-GE **Transferable:** UC/CSU

**SPED 65 FUNDAMENTALS OF ATTENTION-DEFICIT DISORDERS 4 Units**

**Advisory:** Demonstrated proficiency in English by placement as determined by score on the English placement test OR through an equivalent placement process OR completion of ESLL 125 & ESLL 249.

**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**

**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. Intended for individuals with ADD and their families, educators, or any interested student.

**FHGE:** Non-GE **Transferable:** CSU

## THEATRE ARTS

Fine Arts and Communication  
(650) 949-7510 [foothill.edu/theatre/](http://foothill.edu/theatre/)

Foothill offers theatre arts 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. Please refer to the De Anza College Catalog for the corresponding families and courses.

Acting Family: THTR 20A, 20B, 20C, 43C, 48E & 63A

Production-Performance Family: THTR 46A, 46B, 49A, 49B, 49C & 49D

Production-Technical Family: THTR 45A, 45B, 45C, 45D, 45E & 45F

Theatre Voice Family: MUS 47A or THTR 47A, MUS 47B or THTR 47B, MUS 47C or THTR 47C, MUS 47D or THTR 47D, THTR 48A, MUS 48B or THTR 48B, MUS 48C or THTR 48C & THTR 48F

### THTR 1 INTRODUCTION TO THEATRE 4 Units

**Advisory:** Not open to students with credit in DRAM 1.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.  
**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 play writing, acting, directing, design, and criticism. A survey of different periods, styles and genres of theatre through play reading, discussion, films and critiquing live theatre. Required attendance at live theatre performances.

**FHGE:** Humanities Transferable: UC/CSU

### THTR 2A HISTORY OF DRAMATIC LITERATURE: CLASSICAL TO MOLIÈRE 4 Units

**Prerequisite:** Demonstrated proficiency in English by placement as determined by score on the English placement test OR through an equivalent placement process OR completion of ESLL 125 & ESLL 249.  
**Advisory:** Not open to students with credit in DRAM 2A or ENGL 42A.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.

**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 Molière in relationship to cultural, political and social conditions of the time.

**FHGE:** Humanities Transferable: UC/CSU

### THTR 2B HISTORY OF DRAMATIC LITERATURE: MOLIÈRE TO MODERN 4 Units

**Prerequisite:** Demonstrated proficiency in English by placement as determined by score on the English placement test OR through an equivalent placement process OR completion of ESLL 125 & ESLL 249.  
**Advisory:** Not open to students with credit in DRAM 2B or ENGL 42B.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.

**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.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.

**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.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.

**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.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.

**4 hours lecture. (48 hours total per quarter)**  
A comparative study of the important post-modern American theatre movements from the 1950s 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:** Amer, Human Transferable: UC/CSU

### THTR 12A STAGE & SCREEN 4 Units

**Grade Type:** Letter Grade Only  
**Not Repeatable.**

**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 media 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 media by analyzing the values and properties of both through shared works of origin.

**FHGE:** Humanities Transferable: UC/CSU

### THTR 20A ACTING I 4 Units

**Advisory:** This course is included in the Acting family of activity courses; not open to students with credit in DRAM 20A.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass Not Repeatable.

**4 hours lecture, 1 hour 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: This course is included in the Acting family of activity courses; not open to students with credit in DRAM 20B.  
Grade Type: Letter Grade Only  
Not Repeatable.  
4 hours lecture, 1 hour 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 depths 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; this course is included in the Acting family of activity courses; not open to students with credit in DRAM 20C.  
Grade Type: Letter Grade Only  
Not Repeatable.  
3 hours lecture, 3 hours laboratory. (72 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.  
Grade Type: Letter Grade, the student may select Pass/No Pass  
Not Repeatable.  
2 hours lecture, 6 hours laboratory. (96 hours total per quarter)  
The theory and practice of creating and using scenery and properties for dramatic presentations. Students will learn 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.  
Grade Type: Letter Grade, the student may select Pass/No Pass  
Not Repeatable.  
2 hours lecture, 6 hours laboratory. (96 hours total per quarter)  
Continuation of THTR 21A. The theory and practice of creating and using scenery and properties for dramatic presentations. Students will learn vocabulary, processes, tools and materials specific to areas of the production of scenery and properties for the stage. Practical application and safe use of advanced 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.  
Grade Type: Letter Grade, the student may select Pass/No Pass  
Not Repeatable.  
2 hours lecture, 6 hours laboratory. (96 hours total per quarter)  
Continuation of THTR 21B. Theory of 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. Safe rigging concepts, tools and practices for the stage. Leadership experience in a collaborative theatre environment.  
FHGE: Non-GE Transferable: UC/CSU

**THTR 25 INTRODUCTION TO FASHION & COSTUME CONSTRUCTION** 4 Units  
Advisory: Not open to students with credit in THTR 75.  
Grade Type: Letter Grade, the student may select Pass/No Pass  
Not Repeatable.  
3 hours lecture, 3 hours 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 25B FASHION & COSTUME CONSTRUCTION II** 4 Units  
Prerequisite: THTR 25.  
Grade Type: Letter Grade, the student may select Pass/No Pass  
Not Repeatable.  
3 hours lecture, 3 hours laboratory. (72 hours total per quarter)  
Continuation of THTR 25 with an exploration into more complex sewing techniques and machinery use. Further practice in the fabrication of clothing and costumes for the theatre, including pattern adjustment and measuring, basic pattern making, sewing knits, advanced fitting and alteration techniques and specialty machine usage.  
FHGE: Non-GE Transferable: UC/CSU

**THTR 25C FASHION & COSTUME CONSTRUCTION III** 4 Units  
Prerequisite: THTR 25B.  
Grade Type: Letter Grade, the student may select Pass/No Pass  
Not Repeatable.  
3 hours lecture, 3 hours laboratory. (72 hours total per quarter)  
Continuation of THTR 25B with a practical focus on creating costumes from designs for a theatrical production. Further use and practice with complex sewing projects and patterning skills to include drafting and fitting a body block, then creating a pattern from it, basic draping techniques and advanced materials usage with specialty materials for complex theatrical headgear, wigs, and costumes.  
FHGE: Non-GE Transferable: UC/CSU

**THTR 26 INTRODUCTION TO FASHION HISTORY & COSTUME DESIGN** 4 Units  
Advisory: Not open to students with credit in DRAM 76 or THTR 76.  
Grade Type: Letter Grade, the student may select Pass/No Pass  
Not Repeatable.  
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 its 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  
Advisory: Not open to students with credit in THTR 77.  
Grade Type: Letter Grade, the student may select Pass/No Pass  
Not Repeatable.  
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: UC/CSU

**THTR 31 MANAGEMENT FOR THE THEATRE & STAGE 4 Units**

**Advisory:** Not open to students with credit in DRAM 71, THTR 71 or 71X.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**  
**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: UC/CSU**

**THTR 32 CAD DRAFTING FOR THE THEATRE, FILM & TELEVISION 4 Units**

**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.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**  
**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 32A ADVANCED CAD DRAFTING FOR THE THEATRE, FILM & TELEVISION 4 Units**

**Prerequisite:** THTR 32 or permission of instructor.  
**Advisory:** Not open to students with credit in DRAM 72 or THTR 72C.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**  
**3 hours lecture, 3 hours laboratory. (72 hours total per quarter)**  
Continuation of THTR 32, with an emphasis on more complex scenic designs and visualization techniques for the theatre, film and television. Introduction to advanced elements of graphic expression and visualization 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 multi-set productions as well as scenic and lighting visualizations.  
**FHGE: Non-GE Transferable: UC/CSU**

**THTR 38D STAGE COMBAT 2 Units**

**Advisory:** Course includes rigorous physical activity; not open to students with credit in DRAM 58 or THTR 58.  
**Grade Type:** Letter Grade Only  
**Not Repeatable.**  
**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 MAKEUP 4 Units**

**Advisory:** Not open to students with credit in DRAM 40A.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**  
**3 hours lecture, 3 hours laboratory. (72 hours total per quarter)**  
A practical introduction to the techniques of applying theatrical makeup for the stage.  
**FHGE: Non-GE Transferable: UC/CSU**

**THTR 40B THEATRICAL MAKEUP FOR PRODUCTION 4 Units**

**Prerequisite:** THTR 40A.  
**Advisory:** Not open to students with credit in DRAM 40B.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**  
**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 THEATRE DESIGN 4 Units**

**Advisory:** ART 4A, THTR 21A or equivalent; not open to students with credit in DRAM 42C or THTR 42A.  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**  
**3 hours lecture, 3 hours laboratory. (72 hours total per quarter)**  
A survey of the theory and practice of theatrical design 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. Introduction of equipment and construction techniques through demonstration and laboratory experience.  
**FHGE: Non-GE Transferable: UC/CSU**

**THTR 43A SCRIPT ANALYSIS 4 Units**

**Advisory:** THTR 20A.  
**Grade Type:** Letter Grade Only  
**Not Repeatable.**  
**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.  
**Advisory:** This course is included in the Acting family of activity courses.  
**Grade Type:** Letter Grade Only  
**Not Repeatable.**  
**5 hours lecture, 3 hours 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**

**Advisory:** THTR 20A; this course is included in the Acting family of activity courses.  
**Grade Type:** Letter Grade Only  
**Not Repeatable.**  
**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 45A TECHNICAL THEATRE  
IN PRODUCTION I 4 Units**  
Formerly: THTR 99A  
Advisory: Completion of or concurrent enrollment in THTR 21A; students must meet with the instructor during the first week of the quarter to schedule hours and responsibilities; this course is included in the Production-Technical family of activity courses; not open to students with credit in THTR 99A.  
Grade Type: Letter Grade, the student may select Pass/No Pass Not Repeatable.  
1 hour lecture, 9 hours laboratory. (120 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 45B TECHNICAL THEATRE  
IN PRODUCTION II 4 Units**  
Formerly: THTR 99B  
Prerequisite: THTR 45A.  
Advisory: Students must meet with the instructor during the first week of the quarter to arrange hours and assignments; this course is included in the Production-Technical family of activity courses; not open to students with credit in THTR 99B.  
Grade Type: Letter Grade, the student may select Pass/No Pass Not Repeatable.  
1 hour lecture, 9 hours laboratory. (120 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 45C TECHNICAL THEATRE  
IN PRODUCTION III 4 Units**  
Formerly: THTR 99C  
Prerequisite: THTR 45B.  
Advisory: Students must meet with the instructor during the first week of the quarter to arrange hours and assignments; this course is included in the Production-Technical family of activity courses; not open to students with credit in THTR 99C.  
Grade Type: Letter Grade, the student may select Pass/No Pass Not Repeatable.  
1 hour lecture, 9 hours laboratory. (120 hours total per quarter)  
Continuation of THTR 45B. 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 45D TECHNICAL THEATRE  
IN PRODUCTION IV 2 Units**  
Formerly: THTR 99D  
Advisory: Completion of or concurrent enrollment in THTR 21A; students must meet with the instructor during the first week of the quarter to arrange hours and assignments; hours are typically during evenings and on weekends during the 6th-10th weeks of the quarter; this course is included in the Production-Technical family of activity courses; not open to students with credit in THTR 99D.  
Grade Type: Letter Grade, the student may select Pass/No Pass Not Repeatable.  
6 hours laboratory. (72 hours total per quarter)  
Students will gain practical experience backstage functions of theatre crews. Students will work backstage during the final rehearsals and performances for the department production.  
FHGE: Non-GE Transferable: UC/CSU

**THTR 45E TECHNICAL THEATRE  
MANAGEMENT IN PRODUCTION 6 Units**  
Formerly: THTR 99E  
Advisory: Completion of or concurrent enrollment in THTR 21A and 45A; lab hours will occur on specific evenings and weekends during the quarter; required meeting with instructor during first week of quarter to assign responsibilities and hours per production schedule; this course is included in the Production-Technical family of activity courses; not open to students with credit in THTR 99E.  
Grade Type: Letter Grade, the student may select Pass/No Pass Not Repeatable.  
2 hours lecture, 12 hours laboratory. (168 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 45F TECHNICAL THEATRE  
MANAGEMENT IN PRODUCTION II 6 Units**  
Formerly: THTR 99F  
Prerequisite: THTR 45E.  
Advisory: This course is included in the Production-Technical family of activity courses; not open to students with credit in THTR 99F.  
Grade Type: Letter Grade, the student may select Pass/No Pass Not Repeatable.  
2 hours lecture, 12 hours laboratory. (168 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

**THTR 46A THEATRE DEVELOPMENT  
WORKSHOP I 2 Units**  
Advisory: This course is included in the Production-Performance family of activity courses; not open to students with credit in THTR 50.  
Grade Type: Letter Grade, the student may select Pass/No Pass Not Repeatable.  
1 hour lecture, 3 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**  
Advisory: This course is included in the Production-Performance family of activity courses; not open to students with credit in THTR 50B.  
Grade Type: Letter Grade, the student may select Pass/No Pass Not Repeatable.  
1 hour lecture, 3 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**

**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**

**1 hour lecture, 3 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 be charged 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**

**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**

**1 hour lecture, 3 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**

**Advisory:** Enrollment subject to audition and instructor assignment; this course is included in the Theatre Voice family of activity courses; not open to students with credit in MUS 47A or THTR 47.

**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**

**18 hours laboratory. (216 hours total per quarter)**

This course will introduce the fundamentals of musical theatre performance through the rehearsal and performance of a fully staged musical theatre production. Students are required to attend rehearsals and performances.

**FHGE: Non-GE Transferable: UC/CSU**

**THTR 47B INTERMEDIATE MUSIC THEATRE PRODUCTION WORKSHOP 6 Units**

**Advisory:** Enrollment subject to audition and instructor assignment; this course is included in the Theatre Voice family of activity courses; not open to students with credit in MUS 47B or THTR 47X.

**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**

**18 hours laboratory. (216 hours total per quarter)**

This course will develop technical skills required at the intermediate level of musical theatre performance through the rehearsal and performance of a fully staged musical theatre production. Students are required to attend rehearsals and performances.

**FHGE: Non-GE Transferable: UC/CSU**

**THTR 47C ADVANCED MUSIC THEATRE PRODUCTION WORKSHOP 6 Units**

**Prerequisite:** MUS 47B or THTR 47B.

**Advisory:** Enrollment subject to audition and instructor assignment; this course is included in the Theatre Voice family of activity courses; not open to students with credit in MUS 47C.

**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**

**18 hours laboratory. (216 hours total per quarter)**

Assists the student to develop 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 47D ADVANCED MUSIC THEATRE PRODUCTION WORKSHOP II 6 Units**

**Prerequisite:** MUS 47C or THTR 47C.

**Advisory:** Enrollment subject to audition and instructor assignment; this course is included in the Theatre Voice family of activity courses; not open to students with credit in MUS 47D.

**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**

**18 hours laboratory. (216 hours total per quarter)**

This course will assist the student to develop technical skills required at the advanced level of musical theatre in the areas of stage direction or choreography 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**

**Advisory:** This course is included in the Theatre Voice family of activity courses.

**Grade Type:** Letter Grade Only  
**Not Repeatable.**

**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; this course is included in the Theatre Voice family of activity courses; not open to students with credit in MUS 48B.

**Grade Type:** Letter Grade Only  
**Not Repeatable.**

**3 hours lecture, 3 hours laboratory. (72 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:** MUS 48B or THTR 48B.

**Advisory:** MUS 13C; this course is included in the Theatre Voice family of activity courses; not open to students with credit in MUS 48C.

**Grade Type:** Letter Grade Only  
**Not Repeatable.**

**3 hours lecture, 3 hours laboratory. (72 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 48F MUSICAL THEATRE REPERTOIRE FOR SINGERS II 4 Units**

**Prerequisite:** MUS 48C or THTR 48C or instructor approval.  
**Advisory:** This course is included in the Theatre Voice family of activity courses.

**Grade Type:** Letter Grade Only  
**Not Repeatable.**

**3 hours lecture, 3 hours laboratory. (72 hours total per quarter)**

This course is designed to develop further technical skills in singing and acting techniques applied to more complex and broader ranging musical theatre repertoire, including staged duets, trios and full ensemble numbers spanning Golden Age content through contemporary Broadway. Attendance at all scheduled performances is required.

**FHGE: Non-GE Transferable: UC/CSU**

**THTR 49A PERFORMANCE PRODUCTION I 6 Units**

**Advisory:** Enrollment subject to audition and instructor assignment; this course is included in the Production-Performance family of activity courses; not open to students with credit in THTR 49.

**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**

**1 hour lecture, 15 hours laboratory. (192 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**

**Advisory:** Enrollment subject to audition and instructor assignment; this course is included in the Production-Performance family of activity courses; not open to students with credit in THTR 49X.

**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**

**1 hour lecture, 15 hours laboratory. (192 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**

**Advisory:** Enrollment subject to audition and instructor assignment; this course is included in the Production-Performance family of activity courses; not open to students with credit in THTR 49Y.

**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**

**1 hour lecture, 15 hours laboratory. (192 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; this course is included in the Production-Performance family of activity courses.

**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**

**1 hour lecture, 15 hours laboratory. (192 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 57 ACTOR MARKETING STRATEGIES 4 Units**

**Advisory:** THTR 20A; not open to students with credit in THTR 43G.

**Grade Type:** Letter Grade Only  
**Not Repeatable.**

**4 hours lecture. (48 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 for the presentation of self in various audition settings, and the development of industry standard self-promotion materials.

**FHGE: Non-GE Transferable: CSU**

**THTR 63A FILM & TELEVISION ACTING WORKSHOP 4 Units**

**Advisory:** THTR 20A; this course is included in the Acting family of activity courses.

**Grade Type:** Letter Grade Only  
**Not Repeatable.**

**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 auditioning and 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**

**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**

**3-12 hours laboratory 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**



## VETERINARY TECHNOLOGY

Biological and Health Sciences  
(650) 949-7538 foothill.edu/vettech/

### V T 50A CURRENT TOPICS IN VETERINARY TECHNOLOGY I 1 Unit

**Advisory:** Not open to students with credit in V T 50.

**Grade Type:** Letter Grade Only  
**Not Repeatable.**

**1 hour lecture. (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 program curriculum. Intended for students in the Veterinary Technology Program; enrollment is limited to students accepted in the program.

**FHGE:** Non-GE **Transferable:** CSU

### V T 50B CURRENT TOPICS IN VETERINARY TECHNOLOGY II 1 Unit

**Grade Type:** Letter Grade Only  
**Not Repeatable.**

**1 hour lecture. (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; enrollment is limited to students accepted in the program.

**FHGE:** Non-GE **Transferable:** CSU

### V T 50C CURRENT TOPICS IN VETERINARY TECHNOLOGY III 1 Unit

**Grade Type:** Letter Grade Only  
**Not Repeatable.**

**1 hour lecture. (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; enrollment is limited to students accepted in the program.

**FHGE:** Non-GE **Transferable:** CSU

### V T 50D CURRENT TOPICS IN VETERINARY TECHNOLOGY IV 1 Unit

**Grade Type:** Letter Grade Only  
**Not Repeatable.**

**1 hour lecture. (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; enrollment is limited to students accepted in the program.

**FHGE:** Non-GE **Transferable:** CSU

### V T 50E CURRENT TOPICS IN VETERINARY TECHNOLOGY V 1 Unit

**Grade Type:** Letter Grade Only  
**Not Repeatable.**

**1 hour lecture. (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; enrollment is limited to students accepted in the program.

**FHGE:** Non-GE **Transferable:** CSU

### V T 50F CURRENT TOPICS IN VETERINARY TECHNOLOGY VI 1 Unit

**Grade Type:** Letter Grade Only  
**Not Repeatable.**

**1 hour lecture. (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; enrollment is limited to students accepted in the program.

**FHGE:** Non-GE **Transferable:** CSU

### V T 51 INTRODUCTION TO VETERINARY TECHNOLOGY 2 Units

**Advisory:** Not open to students with credit in APAV 51.

**Grade Type:** Letter Grade Only  
**Not Repeatable.**

**2 hours lecture. (24 hours total per quarter)**

Introduction to the profession of veterinary technology. Orientation to the program requirements and curriculum. Overview of program structure and student services. Review and practice of library skills. Prerequisite course for several courses in 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

**Grade Type:** Letter Grade Only  
**Not Repeatable.**

**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 support to the veterinarian (DVM) and to the registered veterinary technician (RVT). Emphasis is on the practical aspects of front office management, working as part of the veterinary health care team. Entirely online and may be taken as a stand-alone class or may be combined with V T 52B and V T 88A to earn an Online Veterinary Assisting Career Certificate.

**FHGE:** Non-GE **Transferable:** CSU

**V T 52B VETERINARY ASSISTING II 5 Units**  
**Grade Type: Letter Grade Only**  
**Not Repeatable.**  
**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 and V T 88A to earn an Online Veterinary Assisting Career Certificate.  
**FHGE: Non-GE Transferable: CSU**

**V T 53A MEDICAL TERMINOLOGY 2 Units**  
**Advisory: Not open to students with credit in APAV 53A.**  
**Grade Type: Letter Grade Only**  
**Not Repeatable.**  
**2 hours lecture. (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. Intended for students in the Veterinary Technology Program; enrollment is limited to students accepted in the program.  
**FHGE: Non-GE Transferable: CSU**

**V T 53B MEDICAL CALCULATIONS 2 Units**  
**Advisory: Not open to students with credit in APAV 53B.**  
**Grade Type: Letter Grade Only**  
**Not Repeatable.**  
**2 hours lecture. (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. Intended for students in the Veterinary Technology Program; enrollment is limited to students accepted in the program.  
**FHGE: Non-GE Transferable: CSU**

**V T 53C INTRODUCTION TO LARGE ANIMAL CARE 2 Units**  
**Prerequisite: V T 54A.**  
**Grade Type: Letter Grade Only**  
**Not Repeatable.**  
**2 hours lecture. (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. Intended for students in the Veterinary Technology Program; enrollment is limited to students accepted in the program.  
**FHGE: Non-GE Transferable: CSU**

**V T 54A COMPARATIVE VETERINARY ANATOMY & PHYSIOLOGY FOR THE VETERINARY TECHNICIAN 5 Units**  
**Prerequisite: CHEM 30A or equivalent.**  
**Advisory: Not open to students with credit in V T 54A.**  
**Grade Type: Letter Grade Only**  
**Not Repeatable.**  
**4 hours lecture, 3 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; enrollment is limited to students accepted in the program.  
**FHGE: Non-GE Transferable: CSU**

**V T 54B COMPARATIVE VETERINARY ANATOMY & PHYSIOLOGY FOR THE VETERINARY TECHNICIAN 5 Units**  
**Prerequisite: V T 54A.**  
**Advisory: Not open to students with credit in APAV 54B.**  
**Grade Type: Letter Grade Only**  
**Not Repeatable.**  
**4 hours lecture, 3 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 birds, 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; enrollment is limited to students accepted in the program.  
**FHGE: Non-GE Transferable: CSU**

**V T 55 ANIMAL MANAGEMENT & CLINICAL SKILLS I 4 Units**  
**Prerequisite: BIOL 41.**  
**Grade Type: Letter Grade Only**  
**Not Repeatable.**  
**3 hours lecture, 3 hours laboratory. (72 hours total per quarter)**  
Intended for the pre-clinical training of veterinary technology students. The following topics are covered: 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, introduction to principles of surgical nursing and instrumentation, and euthanasia, grief and pet loss support. Intended for students in the Veterinary Technology Program; enrollment is limited to students accepted in the program.  
**FHGE: Non-GE Transferable: CSU**

**V T 56 ANIMAL MANAGEMENT & CLINICAL SKILLS II 4 Units**  
**Prerequisite: V T 55.**  
**Grade Type: Letter Grade Only**  
**Not Repeatable.**  
**3 hours lecture, 3 hours laboratory. (72 hours total per quarter)**  
Intended for the pre-clinical training of veterinary technology students. Survey of basic responsibilities and technical duties of veterinary technicians. Clinical nutrition and feeding of the dog and cat. Basic principles and techniques of wound healing, bandage and suture material. Basic electrocardiography. Venipuncture for catheter placement, blood collection, and intravenous administration of fluids and medications. Troubleshooting of intravenous catheter set-ups. Bandaging and splinting. Introduction to anesthesia: stages of anesthesia, components of anesthetic equipment. Introduction to basic operating room skills and procedures. Intended for students in the Veterinary Technology Program; enrollment is limited to students accepted in the program.  
**FHGE: Non-GE Transferable: CSU**

**V T 60 VETERINARY OFFICE PRACTICE 2 Units**  
**Prerequisite: V T 53A.**  
**Advisory: Not open to students with credit in APAV 60.**  
**Grade Type: Letter Grade Only**  
**Not Repeatable.**  
**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; enrollment is limited to students accepted in the program.  
**FHGE: Non-GE Transferable: CSU**

**V T 61 ANIMAL DISEASES 6 Units**  
**Prerequisite:** BIOL 41.  
**Grade Type:** Letter Grade Only  
**Not Repeatable.**  
**6 hours lecture. (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, and mechanisms of disease; the host-parasite relationship and adaptive and maladaptive responses of the host. Etiology, pathogenesis, clinical signs and clinical nursing 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; enrollment is limited to students accepted in the program.  
**FHGE: Non-GE Transferable: CSU**

**V T 66 EXOTIC ANIMAL CARE 2 Units**  
**Prerequisite:** V T 54B.  
**Advisory:** One of the following: ENGL 1A, 1AH, or 1S & 1T or equivalent.  
**Grade Type:** Letter Grade Only  
**Not Repeatable.**  
**2 hours lecture. (24 hours total per quarter)**  
 Basic understanding of the care, husbandry, clinical procedures, and medical concerns of rabbits, ferrets, guinea pigs, chinchillas, small rodents, birds, snakes, lizards, turtles. Emphasis on clinically relevant materials and activities. Intended for students in the Veterinary Technology Program; enrollment is limited to students accepted in the program.  
**FHGE: Non-GE Transferable: CSU**

**V T 70 FUNDAMENTALS OF VETERINARY DIAGNOSTIC IMAGING 4 Units**  
**Prerequisite:** V T 54B.  
**Grade Type:** Letter Grade Only  
**Not Repeatable.**  
**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. Explanation of MRI, CT, and nuclear medicine appropriate to the veterinary technician. 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; enrollment is limited to students accepted in the 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**  
**Grade Type:** Letter Grade, the student may select Pass/No Pass  
**Not Repeatable.**  
**3-12 hours laboratory 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 2.5 Units**  
**Prerequisite:** V T 70.  
**Grade Type:** Letter Grade Only  
**Not Repeatable.**  
**2 hours lecture, 2 hours laboratory. (48 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 aspects of anesthesia specific to dental patients. Discussion of periodontal disease, modes of therapy, client education and preventive care. Introduction to common dental disorders, 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. Comparative dentistry: dental formulas and clinical applications of dental disease in a variety of domestic and wild animals. Intended for students in the Veterinary Technology Program; enrollment is limited to students accepted in the program.  
**FHGE: Non-GE Transferable: CSU**

**V T 75A ANIMAL CARE SKILLS I 1 Unit**  
**Prerequisite:** V T 51.  
**Advisory:** Not open to students with credit in APAV 75A.  
**Grade Type:** Letter Grade Only  
**Not Repeatable.**  
**3 hours laboratory. (36 hours total per quarter)**  
 Practical application of animal care skills and principles of animal care and management. 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; enrollment is limited to students accepted in the program.  
**FHGE: Non-GE Transferable: CSU**

**V T 75B ANIMAL CARE SKILLS II 1 Unit**  
**Prerequisite:** V T 75A.  
**Advisory:** Not open to students with credit in APAV 75B.  
**Grade Type:** Letter Grade Only  
**Not Repeatable.**  
**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 classes. Students expand their animal care knowledge, skills, and abilities to include skills needed to be successful in clinical internships in the spring quarter. Students are expected to apply knowledge of medical terminology, anatomy and physiology to animal care duties. There is an emphasis on professional behavior, medical record keeping, and clinical procedures with dogs and cats. Intended for students in the Veterinary Technology Program; enrollment is limited to students accepted in the program.  
**FHGE: Non-GE Transferable: CSU**

**V T 75C ANIMAL CARE SKILLS III 1 Unit**  
**Prerequisite:** V T 75B.  
**Grade Type:** Letter Grade Only  
**Not Repeatable.**  
**3 hours laboratory. (36 hours total per quarter)**  
 Third in the series of courses on animal care and handling. Focus on large animal species husbandry and health. Physical examination, nutritional needs, common procedures, economics of horses, and food and fiber species. Restraint, behavior, and handling of large domestic animals. Opportunity to practice skills on live animals during field trips. Intended for students in the Veterinary Technology Program; enrollment is limited to students accepted in the program.  
**FHGE: Non-GE Transferable: CSU**

**V T 81 CLINICAL PATHOLOGY METHODS 5 Units****Prerequisite:** BIOL 41.**Grade Type:** Letter Grade Only**Not Repeatable.****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; enrollment is limited to students accepted in the program.

**FHGE: Non-GE Transferable: CSU****V T 83 PHARMACOLOGY FOR TECHNICIANS 4 Units****Prerequisite:** V T 54B.**Grade Type:** Letter Grade, the student may select Pass/No Pass**Not Repeatable.****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; enrollment is limited to students accepted in the program.

**FHGE: Non-GE Transferable: CSU****V T 84 ANESTHESIOLOGY FOR TECHNICIANS 4 Units****Prerequisite:** V T 83; students may also satisfy the prerequisite with at least three years of experience in a veterinary clinic or laboratory animal setting, and/or a RVT or LAT or higher.**Grade Type:** Letter Grade Only**Not Repeatable.****4 hours lecture. (48 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, maintenance, and recovery of anesthesia. Sedation, analgesia, general anesthesia, and local anesthesia techniques will be discussed. Intended for students in the Veterinary Technology Program; enrollment is limited to students accepted in the program, or by special permission of the instructor.

**FHGE: Non-GE Transferable: CSU****V T 84L VETERINARY ANESTHESIA LABORATORY 2 Units****Corequisite:** V T 84.**Grade Type:** Letter Grade Only**Not Repeatable.****6 hours laboratory. (72 hours total per quarter)**

The veterinary technician's role in patient assessment, preparation, induction, monitoring, maintenance, and recovery of anesthesia. Sedation, analgesia, general anesthesia, and local anesthesia techniques will be practiced and/or demonstrated. Practical applications of pharmacology, including indications, contraindications and effects of common pre-anesthetic and anesthetic agents. Skills pertaining to anesthesia will be practiced. Intended for students in the Veterinary Technology Program; enrollment is limited to students accepted in the program.

**FHGE: Non-GE Transferable: CSU****V T 85 VETERINARY EMERGENCY & CRITICAL CARE 4 Units****Prerequisite:** V T 83.**Grade Type:** Letter Grade Only**Not Repeatable.****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; enrollment is limited to students accepted in the program.

**FHGE: Non-GE Transferable: CSU****V T 86 LABORATORY ANIMAL TECHNOLOGY 4 Units****Prerequisite:** V T 55.**Grade Type:** Letter Grade Only**Not Repeatable.****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" (e.g., 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; enrollment is limited to students accepted in the program.

**FHGE: Non-GE Transferable: CSU****V T 87A ADVANCED ANIMAL CARE SKILLS I 1 Unit****Prerequisite:** V T 75C.**Grade Type:** Letter Grade Only**Not Repeatable.****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 nursing care for common clinical signs. Intended for students in the Veterinary Technology Program; enrollment is limited to students accepted in the program.

**FHGE: Non-GE Transferable: CSU****V T 87B ADVANCED ANIMAL CARE SKILLS II 1 Unit****Prerequisite:** V T 87A.**Grade Type:** Letter Grade Only**Not Repeatable.****3 hours laboratory. (36 hours total per quarter)**

Continuation of V T 87A. Continuing instruction of second-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. Focus is on nursing care of chronic diseases in common domestic animals. Students are expected to apply what was learned in pharmacology and clinical pathology to case studies in this course. Intended for students in the Veterinary Technology Program; enrollment is limited to students accepted in the program.

**FHGE: Non-GE Transferable: CSU**

**V T 88A CLINICAL PRECEPTORSHIP I 2.5 Units****Corequisite:** V T 52A.**Grade Type:** Letter Grade, the student may select Pass/No Pass**Not Repeatable.****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 89 CLINICAL INTERNSHIP I 3 Units****Prerequisites:** V T 55 and 56.**Grade Type:** Letter Grade Only**Not Repeatable.****10 hours clinic. (120 hours total per quarter)**

Off-campus practical clinical work experience in veterinary facilities supervised by licensed veterinarians and registered 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; enrollment is limited to students accepted in the program.

**FHGE: Non-GE Transferable: CSU****V T 91 CLINICAL INTERNSHIP II 3 Units****Prerequisite:** V T 89.**Grade Type:** Letter Grade Only**Not Repeatable.****10 hours clinic. (120 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. Second quarter interns are typically enrolled in pharmacology, clinical pathology and diagnostic imaging. The student must start to integrate and apply the knowledge and skills from these areas of learning into their practice at the internship site. This course documents the 115 hours of practical work experience in a veterinary medical clinical setting required for the students. Intended for students in the Veterinary Technology Program; enrollment is limited to students accepted in the program.

**FHGE: Non-GE Transferable: CSU****V T 92 CLINICAL INTERNSHIP III 3 Units****Prerequisite:** V T 91.**Grade Type:** Letter Grade Only**Not Repeatable.****10 hours clinic. (120 hours total per quarter)**

Off-campus practical clinical work experience in veterinary facilities supervised by licensed veterinarians and registered veterinary technicians. Students must assume more responsibility; act independently with more confidence and proficiency; apply principles of critical thinking to clinical practice and troubleshoot with confidence and good judgment. Practical application of knowledge, skills, and attitudes acquired in the concurrent second year program course work. The student assumes more responsibility for radiology and clinical pathology, medical nursing and common clinical procedures. Emphasis on developing competencies around anesthesia, surgical nursing, and animal diseases. This course meets 115 hours of practical work experience in a veterinary medical clinical setting required. Intended for students in the Veterinary Technology Program; enrollment is limited to students accepted in the program.

**FHGE: Non-GE Transferable: CSU****V T 93 CLINICAL INTERNSHIP IV 3 Units****Prerequisite:** V T 84.**Grade Type:** Letter Grade Only**Not Repeatable.****10 hours clinic. (120 hours total per quarter)**

Off-campus practical clinical work experiences in veterinary facilities supervised by licensed veterinarians and registered veterinary technicians. High-level practical application of knowledge, skills, and abilities 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. This course meets 115 hours of practical work experience in a veterinary medical clinical setting required. Intended for students in the last quarter of the Veterinary Technology Program; enrollment is limited to students accepted in the program.

**FHGE: Non-GE Transferable: CSU****V T 95 VETERINARY TECHNICIAN PROFICIENCY 2 Units****Prerequisite:** V T 84.**Grade Type:** Letter Grade Only**Not Repeatable.****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; enrollment is limited to students accepted in the program.

**FHGE: Non-GE Transferable: CSU****VITICULTURE****Biological and Health Sciences****(650) 949-7249****VITI 90B VINEYARD ESTABLISHMENT 2 Units****Grade Type:** Letter Grade Only**Not Repeatable.****2 hours lecture. (24 hours total per quarter)**

Buying grapevines at a nursery and planting them is but one step in the integrated process of establishing a vineyard. Regional differences, vine growing theories, and historical development are presented, along with variety selection and a discussion of how grapevines grow. The establishment process begins with site evaluation, soil preparation and physical layout. Trellis systems, drip irrigation, cover crops, and deer fences are illustrated. Various types of controls for potential pests and diseases are revealed. And, of course, the vines themselves are described from planting, through training, and into harvest. This course is intended for students in the viticulture program but members of the public and professional community are welcome to enroll.

**FHGE: Non-GE Transferable: CSU****VITI 90C VINEYARD MANAGEMENT 2 Units****Grade Type:** Letter Grade Only**Not Repeatable.****2 hours lecture. (24 hours total per quarter)**

Fertilization needs, irrigation practices, frost protection systems, ground cover requirements, and grape harvest are detailed. Pests, diseases, and other disorders are illustrated to facilitate troubleshooting problematic vineyards. Integrated pest management, organic, and biodynamic practices are forms of control presented. Cultural operations designed to reduce potential problems and the use of pesticides are discussed. License and certificate holders may receive continuing education hours from the California Department of Agriculture. This course is intended for students in the viticulture program but members of the public and professional community are welcome to enroll.

**FHGE: Non-GE Transferable: CSU**

**VITI 90D VINE PRUNING** 1 Unit  
**Grade Type: Letter Grade Only**  
**Not Repeatable.**  
**1 hour lecture. (12 hours total per quarter)**  
 The annual growth cycle and growth habits of grapevines are detailed and applied to vineyard practices specific to the vines themselves. Follow the three year process from planting and through the training process until the vines are mature. Students will travel to a local vineyard to prune actual grapevines under supervision. Pruning shears are required, work clothes and boots are recommended. This course is intended for students in the viticulture program but members of the public and professional community are welcome to enroll.  
**FHGE: Non-GE Transferable: CSU**

**WMN 70R INDEPENDENT STUDY IN WOMEN'S STUDIES** 1 Unit  
**WMN 71R** 2 Units  
**WMN 72R** 3 Units  
**WMN 73R** 4 Units  
**Grade Type: Letter Grade, the student may select Pass/No Pass**  
**Not Repeatable.**  
**3-12 hours laboratory 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**

## WOMEN'S STUDIES

Business and Social Sciences  
 (650) 949-7322 [foothill.edu/womenstudies/](http://foothill.edu/womenstudies/)

**WMN 5 INTRODUCTION TO WOMEN'S STUDIES** 4 Units

**Advisory: Demonstrated proficiency in English by placement as determined by score on the English placement test OR through an equivalent placement process OR completion of ESLL 125 & ESLL 249.**  
**Grade Type: Letter Grade, the student may select Pass/No Pass**  
**Not Repeatable.**

**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: Amer, SocBeh Transferable: UC/CSU**

**WMN 11 WOMEN IN GLOBAL PERSPECTIVE** 4 Units

**Advisory: Demonstrated proficiency in English by placement as determined by score on the English placement test OR through an equivalent placement process OR completion of ESLL 125 & ESLL 249.**  
**Grade Type: Letter Grade, the student may select Pass/No Pass**  
**Not Repeatable.**

**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 21 PSYCHOLOGY OF WOMEN: SEX & GENDER DIFFERENCES** 4 Units

**Advisory: Demonstrated proficiency in English by placement as determined by score on the English placement test OR through an equivalent placement process OR completion of ESLL 125 & ESLL 249; not open to students with credit in PSYC 21 or SOC 21.**  
**Grade Type: Letter Grade, the student may select Pass/No Pass**  
**Not Repeatable.**

**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**